CINEFORUM
ISSN: 0009-7039
Vol. 65. No. 2, 2025

How Does Academic Allowance Affect Academic Staff Performance in Selected Private Universities in North-Central Nigeria?

Kudirat MUSA; Akeem Adewale BAKARE; Saji GEORGE; Friday Iyaji ISAH; Adeniyi OYABAMBI
Department of Business Administration, Nile University of Nigeria. Abuja, Nigeria[12345]

20222533@nileuniversity.edu.ng; akeem.bakare@nileuniversity.edu.ng: saji.george@nileuniversity.edu.ng; 20222421@nileuniversity.edu.ng; 243470048@nileuniversity.edu.ng;
Corresponding email: akeem.bakare@nileuniversity.edu.ng

Abstract
This study examines the impact of academic allowances on performance at seven private universities in North-Central Nigeria. A survey of 408 academic staff utilised random and purposive sampling methods. Multiple regression analysis assessed the relationship between allowances and academic performance facets: research output, teaching effectiveness, community service, and industry collaboration. Findings indicate that allowances positively correlate with overall performance, research output, teaching effectiveness, and industry collaboration, suggesting that incentives like research grants and conference sponsorships are crucial for boosting performance. However, a notable negative relationship exists between allowances and community service involvement, indicating that high allowances may decrease participation in community activities. The study concludes that academic allowances significantly influence staff performance. To maintain high research engagement, administrators should implement a comprehensive support framework including mentorship, research funding access, reduced administrative tasks, and workload management. This strategy will motivate staff and create a research-friendly environment, improving institutional reputation and competitiveness. Additionally, community engagement should be valued in performance assessments to prevent trade-offs.
Keywords: Academic Allowances; Teaching effectiveness; Research Output; Community Service; Industry Collaboration: Private Universities

Introduction
The effectiveness of a university system, whether in developed or developing nations, hinges significantly on its role in human capital development and societal progress. Universities worldwide are expected to fulfil the "tripod" of research, teaching, and community service, with a growing focus on industry partnerships as a fourth pillar (Ayandiji, 2023; Salisu & Olatunji, 2024). These duties are vital to the university's mission of promoting intellectual development, spurring innovation, and supporting socioeconomic change. Nonetheless, how well universities meet these obligations can differ markedly, especially between institutions in developed nations and those in sub-Saharan Africa (Obasi & Musa, 2022).

In Nigeria and other parts of Africa, private universities are crucial in enhancing access to higher education and offering varied academic programs. However, many of these institutions still struggle to differentiate themselves from public universities in terms of academic quality and faculty performance (Adebayo & Onuoha, 2023). According to global university rankings, only a few African universities achieve competitive standings, highlighting shortcomings in key performance metrics like research output, teaching effectiveness, and strategic collaborations (Martínez-Garrido & Murillo, 2022).

Academic staff are fundamental to the performance of universities. Their responsibilities—encompassing research, teaching, community service, and increasingly, engagement with industry—are essential for the success of these institutions (Rodrígueza & Rubiob, 2016; Lawal & Eze, 2025). Nevertheless, concerns persist regarding the productivity of Nigerian academic staff. Research by Mbachu and Unachukwu (2022) and Olumide et al. (2023) points out ongoing issues such as inadequate reward systems, insufficient research funding, overwhelming teaching workloads, lack of proper mentoring, and poor academic environments. These factors directly influence the performance metrics of academic staff, particularly in private universities, which often reflect the structural inefficiencies found in public institutions.

Reward systems, especially academic allowances, are crucial in motivating staff commitment and performance. Otohinoyi et al. (2023) explain that academic allowances, such as those awarded for research and additional academic responsibilities, aim to compensate staff for increased workloads and foster scholarly activities. However, numerous private universities in Nigeria have either stagnated with outdated allowance structures or inadequately executed competitive incentive programs that align with current market expectations and academic standards (Umar & Okonkwo, 2024). This deficiency has decreased performance in critical areas like research participation and collaboration with industry.

Joshua et al. (2020) describe allowances as financial benefits distinct from salaries, aimed at addressing specific roles or challenges. These allowances are crucial in aligning institutional needs with staff capabilities within universities. The lack of tailored academic allowances in private universities, compounded by funding that heavily depends on tuition fees, has limited both institutional advancement and staff development. As Adegbite and Musa (2023) indicate, establishing effective collaborations with industries and international academic institutions could create new funding avenues and improve performance. However, many private universities in Nigeria's North-Central region have not thoroughly pursued these opportunities.

Given this, it is important to examine the relationship between reward systems, especially academic allowances, and the performance of academic staff. This study focuses on certain private universities in North-Central Nigeria, a region with limited empirical research on this issue. It aims to analyse how academic allowances influence the crucial performance areas of academic personnel. Therefore, the following research hypotheses are established:

H1: Academic allowances positively influence research output.
H2: Academic allowances significantly influence teaching effectiveness.
H3: Academic allowances directly impact community service involvement.
H4 Academic allowances are directly associated with industry collaboration involvement

Literature Review

Academic Allowance

Academic allowance denotes a type of financial support offered to academic staff on top of their academic allowances, designed to assist with specific work-related duties and commitments. As noted by Førland and Roxå (2023), these allowances are extra financial benefits provided by employers to mitigate certain employee costs or to acknowledge additional contributions in the workplace. Joshua et al. (2020) elaborate that these benefits can include transport, housing, leave, lunch, and responsibility allowances, all intended to improve employee well-being and motivation in addition to the standard salary. In universities, these allowances hold particular significance owing to the diverse roles academic staff assume in teaching, research, administration, and community service (Sumartini et al., 2021). Higher education institutions, particularly in Nigeria, have crafted various allowance categories suited to the distinct requirements of faculty members. This includes, but is not limited to, earned academic allowance (EAA), which compensates staff for excessive workloads, along with teaching allowances, responsibility allowances, and support for professional development or training (Otohinoyi, Idris, & Adejo, 2023). Earned academic allowances have gained notable attention in discussions surrounding remuneration equity and workload balance within Nigerian universities.

The structure and range of academic allowances show marked differences between public and private universities. Public universities typically have standardized programs often aligned with federal or state pay scales, while private institutions present a wider array of allowance options (Ojo & Lawal, 2024). Some private universities implement competitive reward systems that include extensive allowance packages for housing, transportation, research incentives, and educational support, whereas others adopt the limitations typical of the public sector (Umar & Okonkwo, 2024). Moreover, the strategic implementation of academic allowances has been associated with increased staff motivation and improved performance outcomes. As noted by Salisu and Olatunji (2024), institutions that connect financial incentives, such as allowances, with performance targets often enjoy enhanced productivity in research output, teaching effectiveness, and faculty retention. Nonetheless, issues remain regarding the transparency, sufficiency, and timeliness of these allowances, especially in institutions facing funding challenges.

In conclusion, according to the perspectives highlighted by the scholars, academic allowances play a crucial role in shaping human resource management practices within higher education institutions. Properly structuring and managing these allowances affects not only staff welfare but also the overall performance, competitiveness, and sustainability of both public and private sectors.

Academic Staff Performance

Academic staff performance is defined as the degree to which they fulfil their designated responsibilities, which include research, teaching, community service, and collaboration with industry (Olanipon et al., 2023; Ddungu, 2018; Victor & Babatunde, 2014). These criteria serve as the basis for assessing academic staff across various institutions and are suitable for this study. In the present study, we utilise four indicators- research outputs, teaching effectiveness, community service participation, and industry collaboration- to evaluate academic staff performance, as detailed below:

Research output

Research outputs represent the tangible results of systematic studies aimed at generating new knowledge or insights. These outputs encompass a range of materials that highlight the results of research activities, including journal articles, books, datasets, and creative works (University of Melbourne Library, n.d.). The University of Melbourne defines research outputs as the products generated throughout a research project, which comprise journal articles, conference papers, books, book chapters, research data, software, protocols, and artistic creations (University of Melbourne Library, n.d.). This broad definition acknowledges the diverse ways in which research is disseminated in contemporary society academia.

Research outputs can be classified into two main categories: traditional and non-traditional. Traditional outputs include peer-reviewed journal articles, books, book chapters, and conference proceedings. On the other hand, non-traditional research outputs (NTROs), also referred to as Artistic and Practice-Based Research Outputs (APROs), encompass creative forms such as visual art, performances, films, and curated exhibitions (University of Melbourne Library, n.d.). The evaluation of research outputs generally emphasises both quantity and quality. Quantitative indicators involve counting total publications and citations, while qualitative assessments look at the significance and impact of the research. Bibliometric databases, such as Scopus and Web of Science, are commonly employed to track publication metrics (National Science Board, 2023).

Open Access (OA) publishing has become more prominent, with research showing that OA publications attract a broader range of citations from various institutions, countries, and research domains (Zhang & Wang, 2023). This trend signifies a movement towards making research outputs more accessible and widely shared. Additionally, there is greater appreciation for the incorporation of research findings into policy and practice. For example, studies that guide sustainable business practices or influence public health initiatives highlight the tangible effects of scholarly work (Financial Times, 2024).

Teaching effectiveness

Teaching effectiveness in higher education is a multifaceted concept that encompasses educators' capacity to foster meaningful learning experiences, promote student engagement, and facilitate academic achievement. It demands an integration of pedagogical knowledge, teaching strategies, and interpersonal abilities crucial for student development (Shaath & Abed, 2024). As highlighted by Mastrokoukou et al. (2022), effective teaching requires the adaptability to alter instructional approaches within learning environments, ensuring that teaching caters to the diverse needs of all students. This adaptability is vital for accommodating the range of backgrounds, skills, and learning styles present in higher education settings.

The understanding of teaching effectiveness differs across various educational settings and cultures. A study by Shaath and Abed (2024) at Birzeit University revealed that students view effective teaching as involving clear communication, expertise in the subject matter, and the capacity to foster an inclusive learning environment. This underscores the significance of both how content is delivered and how a supportive classroom atmosphere is nurtured. In the context of Australian higher education, effective teaching is frequently evaluated using frameworks that prioritise student-centered learning, reflective practices, and ongoing enhancement. Mastrokoukou et al. (2022) note that teaching effectiveness is associated with actively engaging students, utilising diverse instructional strategies, and contributing to the wider educational landscape community.

In addition, the effectiveness of teaching is influenced not only by student results but also by the educator's dedication to professional growth and teamwork with peers. Involvement in scholarly endeavours connected to teaching and learning, along with participation in institutional programs, is seen as a vital aspect of effective instruction (Shaath & Abed, 2024). Ultimately, teaching effectiveness is a dynamic and context-sensitive construct that demands educators to be reflective practitioners, attentive to student needs, and committed to continual professional development.

Community Service Involvement

Community service involvement by academic staff entails university faculty actively participating in initiatives that meet societal needs, promote community development, and connect academia with society at large. This involvement includes activities like community-based research, service-learning, public lectures, and collaborations with local organizations, all aimed at applying academic knowledge to address real-world issues (Eldardiry et al., 2021). The role of academic staff in community service has transformed into a core aspect of higher education institutions' missions. Eldardiry et al. (2021) point out that this participation boosts universities' social responsibility and aids in societal well-being. Likewise, Dori (2018) notes that faculty engagement in the community encourages mutual learning and empowers communities through shared knowledge.

While significant, academic staff encounter several challenges in engaging with community service. These obstacles include cultural differences, inadequate institutional support, limited resources, and a lack of recognition in promotion criteria (Gorski & Mehta, 2015; Dori, 2018). To

overcome these barriers, it is essential to implement institutional policies that appreciate and reward community involvement, allocate necessary resources, and provide professional development opportunities for faculty to acquire the skills required for meaningful community engagement (Eldardiry et al., 2021). Additionally, incorporating community service into the academic curriculum through service-learning and co-curricular activities has been effective in fostering civic responsibility among students and enhancing the relevance of academic programs (Dori, 2018). This integration not only benefits the community but also enriches the educational experience, promoting a culture of engagement within the institution.

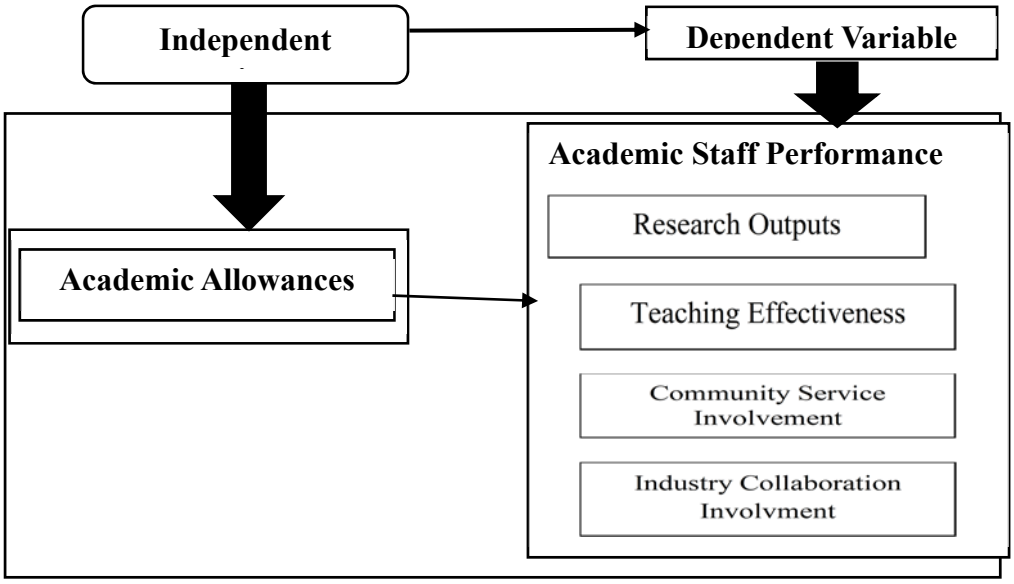
Industry Collaboration Involvement

According to Musa et al. (2025) define involvement of academic staff in industry collaboration as all forms of synergy between academia and the corporate sector aimed at advancing their shared interests in research, teaching, and the enhancement of industry practices. Industry collaboration involvement entails the proactive engagement of academic staff with industry partners to promote knowledge sharing, technological progress, and innovation. This collaboration can take various forms, such as joint research projects, consultancy, internships, and the creation of industry-relevant curricula. The primary goal of these partnerships is to close the gap between theoretical research and its practical applications, thereby enhancing outcomes for both academia and industry (Yang & Chen, 2024). The importance of academic-industry collaboration is increasingly acknowledged across multiple regions and fields. In Nigeria, for example, Abiona et al. (2023) note that such partnerships in business education have resulted in improved teaching methods, instructional techniques, and student career development. Likewise, in Malaysia, Azman et al. (2019) examine how university-industry partnerships contribute to the nation's evolution into a knowledge and innovation-driven economy, despite facing obstacles like cultural differences and insufficient institutional support.

Nonetheless, various obstacles impede effective collaboration. These obstacles include disparities in organizational culture, conflicting objectives, and insufficient reward systems for academic personnel involved in industry partnerships (Azman et al., 2019). To tackle these challenges, it is vital to create clear policies, offer institutional support, and acknowledge the contributions of academic staff in these collaborations. Furthermore, successful partnerships between industry and academia frequently yield reciprocal benefits, such as increased research outputs, enhanced student employability, and greater innovation capacity within industries (Yang & Chen, 2024). These collaborations not only aid in the professional growth of academic staff but also significantly contribute to solving societal issues through applied research and innovation.

Conceptual Framework

Figure 1: Conceptual framework for Academic allowances on academic staff performance



Source: Author's conceptualisation 2025

Figure 1: Conceptual framework shows "direct effect of Academic allowances on academic staff performance measured by research output, teaching effectiveness, community service involvement, and industry collaboration involvement.

Methodology

A survey was carried out to collect data to examine the significance of the proposed connections between academic allowances and the performance of academic staff. The survey consisted of 25 items along with five essential demographic questions focused on gender, marital status, age group, educational qualifications, and academic status. The items evaluated include five relating to academic allowances and five for each aspect of academic performance: teaching, research, community service engagement, and collaboration with industry. These items were adapted and modified from prior research (Jackson, 2018; LaFortune, Rothstein, and Schanzenbach, 2018; Hanushek et al, 2019; García & Han, 2022). The research utilised a five-point rating scale for the items, where 1 denotes strong disagreement and 5 represents strong agreement.

The study's population consists of academic staff from seven private tertiary institutions in North-Central Nigeria: University of Mkar, Mkar; Salem University, Lokoja; Landmark University, Omu-Aran; Bingham University, Karu; Edusoko University, Bida; Karl-Kumm University, Vom; and Nile University of Nigeria. In total, there are 496 academic personnel distributed as follows:

University of Mkar - 152; Salem University - 146; Landmark University - 352; Bingham University - 362; Edusoko University - 98; Karl-Kumm University - 68; and Nile University of Nigeria - 318. The sampling method combined simple random and purposive sampling, giving each target an equal chance of selection. Using Cochran's (1997) sampling formula, the sample size was calculated to be 429. Based on the classification by Osborne and Costello (2004), which rates sample sizes as follows: 50 (Very Poor), 100 (Poor), 200 (Fair), 300 (Good), 500 (Very Good), and 1000 or more units (Excellent), the sample size of 429 is rated as "Very Good." Of these, 21 responses were excluded for being disproportionate or incomplete, resulting in 408 usable responses and a response rate of 95%. The researchers, assisted by compensated enumerators, visited the institutions to administer the questionnaire directly. Furthermore, surveys were conducted over two months and three weeks at different times of the day to enhance the reliability of data collection instruments. All participants voluntarily consented to participate in the study.

3.3 Model and estimation methods

The empirical model aims to investigate the effect of academic allowances on the academic staff performance at chosen private universities in North-Central Nigeria. It is outlined as follows:

$$ASP_i = \sigma_0 + \sigma_1 AAi + \sigma_2 SEX_i + \sigma_3 CDR_i + \sigma_4 EQF_i + \sigma_5 MS_i + \varepsilon_i \quad (1)$$

Where: *ASP* denotes Academic Staff Performance measured by Research Output (RO), Teaching Effectiveness (TE), Community Service Involvement (CSI, and Industry Collaboration Involvement (ICI); *AA* denotes Academic Allowance; *SEX* is sex of the respondents; *CDR* is cadre of the selected employees; *EQF* is educational qualification; and *MS* denotes marital status. σ_0, σ_{1-5} are parameters of the variables, i is surveyed employees and ε is the error term. Table 3.6 presents the equation's a priori expectations and expected signs.

Table 1: A'priori Expectation of the objective

S/N	Explanatory variables	Dependent Variable	
		Academic Staff Performance (ASP)	
		Expected signs	A'priori
1.	Academic Allowance (AA)	+	$\sigma_1 > 0$
2.	Sex (SEX)	+	$\sigma_2 >/< 0$
3.	Cadre (CDR)	+	$\sigma_3 > 0$
4.	Education qualification (EQF)	+	$\sigma_4 > 0$
5.	Marital status (MS)	+	$\sigma_5 > 0$

Note: σ_{1-5} are parameters.
Source: Author Computation (2025).

4. Results and Discussion of Findings

4.1 Descriptive statistics, demographic information and correlation analysis

The descriptive analysis of indicators used to examine the links between basic salary and academic staff performance in the North-Central Nigerian education sector is summarised in Table 2. The table presents key statistics, including mean, standard deviation, maximum and minimum values, Kurtosis, skewness, and observations for each variable, providing insights into their distribution and variability. The mean rating for academic allowance is 3.280, with a standard deviation of 0.593, suggesting moderate variability. The maximum score of 4.6 and minimum of 2.6 show a wider range compared to the others. This positive skewness (0.872) indicates a slight bias towards lower ratings, while the Kurtosis (0.155) suggests a distribution close to normal.

For academic staff performance measures, the overall academic staff performance has an average rating of 3.455 and a standard deviation of 0.731, indicating moderate variability. The ratings range from 1.95 to 4.15, with a negative skewness (-1.361) showing a tilt towards higher scores. The positive Kurtosis (0.355) suggests a slightly peaked distribution, indicating consistency among respondents. The mean rating for research output is 3.790, with a standard deviation of 1.083, indicating significant variation among respondents. The range from 1.2 to 5 reflects diverse experiences. The negative skewness (-0.945) highlights a tendency towards higher ratings, while the near-zero Kurtosis (0.150) suggests a distribution close to normal. Teaching effectiveness has the highest mean rating of 4.109, with a standard deviation of 1.182, indicating notable variability. The strong negative skewness (-1.868) reflects a bias towards higher ratings, and the positive Kurtosis (2.354) suggests a sharper peak, indicating consensus among many respondents. Community service involvement has a mean of 3.055, with a standard deviation of 0.647, showing moderate variability. The range spans from 1.6 to 4, with a near-zero skewness (-0.269) indicating a symmetric distribution and a negative Kurtosis (-0.220) showing a flatter-than-normal curve. The mean rating for industry collaboration involvement is 2.864, with a standard deviation of 0.753, reflecting moderate variation. The range from 1.8 to 4.2 indicates differing experiences. The positive skewness (0.302) shows a slight tilt towards lower ratings, while the negative Kurtosis (-1.040) reflects a flatter distribution.

Table 2: Descriptive statistics and demographic information

Signs	Variable measurements	Mean	Std Dev.	Max.	Min.	Kurtosis	Skewness	Obs.
aa	Academic allowance on a scale of 1-5	3.280	0.593	4.6	2.6	0.155	0.872	408
asp	Academic staff performance on a scale of 1-5	3.455	0.731	4.15	1.95	0.355	-1.361	408
ro	Research output on a scale of 1-5	3.790	1.083	5	1.2	0.150	-0.945	408
te	Teaching effectiveness on a scale of 1-5	4.109	1.182	5	1	2.354	-1.868	408
csi	Community service involvement on a scale of 1-5	3.055	0.647	4	1.6	-0.220	-0.269	408
ici	Industry collaboration involvement on a scale of 1-5	2.864	0.753	4.2	1.8	-1.040	0.302	408
gen	Gender, (if male, 1, and 0, if otherwise)	0.757	0.429	1	0	-0.550	-1.205	408
	Marital status							
ms1	Single (if single, 1, and 0, if otherwise)	0.262	0.440	1	0	-0.827	1.085	408
ms2	Married (if married, 1, and 0, if otherwise)	0.637	0.481	1	0	-1.680	-0.573	408
ms3	Others (if others, 1, and 0, if otherwise)	0.100	0.301	1	0	5.140	2.667	408
	Age group							
age1	Below 30 years, (if < 30yrs, 1, and 0, if otherwise)	0.037	0.188	1	0	22.528	4.941	408
age2	31-40yrs, (if 31-40yrs, 1, and 0, if otherwise)	0.140	0.347	1	0	2.364	2.086	408
age3	41-50yrs, (if 41-50yrs, 1, and 0, if otherwise)	0.284	0.452	1	0	-1.084	0.960	408
age4	51-60yrs, (if 51-60yrs, 1, and 0, if otherwise)	0.507	0.501	1	0	-2.009	-0.030	408
age5	61-70yrs, (if 61-70yrs, 1, and 0, if otherwise)	0.032	0.176	1	0	26.759	5.351	408
edu	Education, (if PhD, 1, and 0, if otherwise)	0.824	0.382	1	0	0.907	-1.704	408
	Academic status							
as1	Professor, (if < 30yrs, 1, and 0, if otherwise)	0.176	0.382	1	0	0.907	1.704	408
as2	Associate professor, (if < 30yrs, 1, and 0, if otherwise)	0.287	0.453	1	0	-1.110	0.946	408
as3	Senior lecturer, (if < 30yrs, 1, and 0, if otherwise)	0.252	0.435	1	0	-0.695	1.144	408
as4	Lecturer I, (if < 30yrs, 1, and 0, if otherwise)	0.108	0.311	1	0	4.463	2.538	408
as5	Assistant Lecturer, (if < 30yrs, 1, and 0, if otherwise)	0.176	0.382	1	0	0.907	1.704	408

Note: Min. is minimum; Max. denotes maximum; Std. Dev. means standard deviation; Obs. is observation.

Source: Authors' computation from Field Survey (2024).

The descriptive statistics for demographic and professional characteristics of respondents are presented in the table. The average for gender indicates that 75.7% of respondents are male, with a skewness of -1.205, suggesting a predominance of male respondents. Regarding marital status, the majority are married (63.7%) with a standard deviation of 0.481, while 26.2% are single, and 10.0% fall into other categories, the latter having high skewness (2.667) and Kurtosis (5.140) due to fewer observations. In terms of age distribution, the largest group is 51–60 years (50.7%), followed by 41–50 years (28.4%), while the youngest (below 30 years) and oldest (61–70 years) groups represent only 3.7% and 3.2%, respectively, with extreme Kurtosis values for the youngest (22.528) and oldest (26.759) groups reflecting their rarity. Educational qualifications show a high proportion of PhD holders (82.4%), with low variation (Std. Dev = 0.382) and a negatively skewed distribution (-1.704), indicating a majority of highly trained respondents. In academic status, 28.7% are associate professors, 25.2% senior lecturers, and 17.6% professors or assistant lecturers. Only 10.8% are Lecturer I, with high skewness (2.538) and Kurtosis (4.463) reflecting the smaller representation. Overall, the data highlights that the respondents are predominantly male, married, in the 51–60 age group, with postgraduate qualifications, and most occupy mid- to senior-level academic positions such as associate professors and senior lecturers.

In Table 3, academic allowance shows a weaker correlation with academic staff performance (0.224). This suggests that while allowances are linked to salaries and workplace conditions, their direct impact on staff performance is less significant. Research funding exhibits moderate correlations with teaching effectiveness (0.034) and community service involvement (0.543), reflecting its influence on external engagements, although its correlation with academic staff performance is lower (0.345). Furthermore, the correlation results between confounding variables and academic staff performance indices highlight several interesting relationships. The low correlation values in the table indicate the lack of multicollinearity issues within the data. Variables with correlation coefficients over 0.8 are classified as belonging to the same group of indicators, which will not be estimated concurrently in a model.

Table 3: Correlation matrix

	Aa	*asp*	*ro*	*te*	*csi*	*ici*	*gen*	*ms1*	*ms2*	*age2*	*age3*	*age4*	*age5*	*edu*	*as1*	*as2*	*as3*
aa	1																
asp	0.224	1															
ro	0.462	0.894	1														
te	0.119	0.847	0.668	1													
csi	0.027	0.628	0.486	0.349	1												
ici	-0.003	0.727	0.567	0.459	0.333	1											
gen	0.194	-0.033	0.147	-0.027	-0.109	-0.201	1										
ms1	0.160	-0.077	0.053	-0.154	-0.020	-0.118	0.169	1									
ms2	-0.163	-0.021	-0.100	0.056	-0.076	0.040	-0.118	-0.790	1								
age2	0.032	-0.170	-0.045	0.006	-0.137	-0.488	0.014	0.210	-0.108	1							
age3	-0.101	0.203	0.211	0.332	-0.343	0.258	0.002	-0.178	0.295	-0.254	1						
age4	0.012	0.043	-0.055	-0.273	0.536	0.215	-0.089	0.097	-0.295	-0.409	-0.640	1					
age5	0.404	0.123	0.203	0.075	0.097	-0.015	0.103	-0.108	0.137	-0.073	-0.114	-0.184	1				
edu	0.082	0.353	0.271	0.069	0.342	0.580	-0.067	-0.133	0.025	-0.871	0.292	0.470	0.084	1			
as1	0.606	0.228	0.318	0.162	0.303	-0.087	0.067	0.177	-0.440	-0.187	-0.292	0.289	0.392	0.214	1		
as2	-0.096	0.207	-0.009	0.169	0.109	0.456	-0.362	-0.181	0.298	-0.256	0.465	-0.156	-0.115	0.294	-0.294	1	
as3	-0.326	0.407	0.333	0.396	0.096	0.396	0.118	-0.141	0.098	-0.234	0.184	0.076	-0.105	0.269	-0.269	-0.368	1
as4	-0.047	-0.717	-0.511	-0.916	-0.245	-0.400	0.197	0.080	-0.001	-0.140	-0.219	0.343	-0.063	0.161	-0.161	-0.220	-0.202

Note: bs - aa - Academic allowance, asp - Academic staff performance, ro - Research output, te - Teaching effectiveness, csi - Community service involvement, ici - Industry collaboration involvement, gen - Gender, ms1 - Single, ms2 - Married, age2 - 31-40yrs, age3 - 41-50yrs, age4 - 51-60yrs, age5 - 61-70yrs, edu - education qualification, as1 - Professor, as2 - Associate professor, as3 - Senior lecturer, and as4 - Lecturer I.
Source: Author computation from Field Survey (2024).

Multiple regression results of academic allowance on academic staff performance in a selected private university in Northcentral Nigeria

In this section, the empirical results from Table 4 provide insights into the effects of academic allowance on various dimensions of academic staff performance, measured by overall performance, research output, teaching effectiveness, community service involvement, and industry collaboration involvement. Each coefficient reflects the strength and direction of the relationship, with the significance levels underscoring the reliability of these findings. The coefficient of 0.207 for academic allowance and overall academic staff performance indicates a significant and positive relationship. This result suggests that an increase in academic allowance contributes to improved overall performance, highlighting the motivational effect of financial

incentives in enhancing the collective productivity of academic staff. The relatively small standard error (0.028) associated with this coefficient further reinforces the precision of this estimate.

The coefficient for research output is 0.709, which is both statistically significant and considerably higher than that for overall performance. This finding implies that academic allowances substantially positively affect research output. The provision of adequate academic allowances may enable staff to focus more on scholarly activities by reducing financial constraints associated with research, such as access to journals, research tools, and conference participation. The low standard error (0.063) further validates the robustness of this relationship. Teaching effectiveness is also positively influenced by academic allowance, as reflected by the coefficient of 0.146, which is statistically significant. Although this effect is smaller than that on research output, it suggests that financial incentives can improve the quality of teaching, possibly by motivating staff to devote more time and effort to class preparation and delivery. The small standard error (0.021) indicates a precise estimate of this relationship.

Interestingly, the coefficient for community service involvement is -0.421, indicating a significant negative relationship. This result suggests that higher academic allowances may reduce academic staff participation in community service activities. A possible explanation is that staff members might prioritize personal and professional development over community engagement when financial rewards are tied more closely to research and teaching performance. The standard error (0.042) confirms the reliability of this finding. Academic allowance has a significant positive effect on industry collaboration involvement, with a coefficient of 0.394. This relationship highlights that better financial incentives encourage staff to engage more actively with industries, fostering collaborations that benefit both the university and external stakeholders. The relatively small standard error (0.035) ensures confidence in the estimate. Thus, the results demonstrate that academic allowance significantly enhances overall staff performance, research output, teaching effectiveness, and industry collaboration, while negatively influencing community service involvement.

Table 4 also displays the parameter estimates for demographic factors such as gender, marital status, age, educational degree, and academic status. The regression results provide valuable insights into how demographic factors influence academic staff performance across various metrics: overall staff performance, research output, teaching effectiveness, community service involvement, and industry collaboration involvement. Using the benchmarks of female gender, other marital statuses, age less than 30 years, Master's degree holders, and assistant lecturers as reference categories, the results highlight significant variations among different demographic groups.

Table 4.6: Regression Result of Academic Allowance and Academic Staff Performance in selected Private University in Northcentral Nigeria

Variables	**Dependent Variable:** Academic Staff Performance				
	Overall Staff Performance	**Research Output**	**Teaching Effectiveness**	**Community Service Involvement**	**Industry Collaboration Involvement**
	1	**2**	**3**	**4**	**5**
Academic Allowance	0.207***	0.709***	0.146***	-0.421***	0.394***
	(0.028)	(0.063)	(0.021)	(0.042)	(0.035)
Gender: Male	0.309***	0.464***	0.465***	0.344***	-0.037
	(0.042)	(0.092)	(0.037)	(0.059)	(0.049)
Marital Status: Single	0.002	0.159**	-0.215***	0.328***	-0.265***
	(0.037)	(0.078)	(0.033)	(0.046)	(0.040)
Married	0.079**	0.167**	0.093***	0.616***	-0.559***
	(0.035)	(0.076)	(0.035)	(0.041)	(0.061)
Age: 31 – 40 years	1.155***	2.065***	1.078***	1.761***	-0.285***
	(0.054)	(0.118)	(0.028)	(0.072)	(0.042)
41 – 50 years	-0.245***	0.113	0.412***	-0.754***	-0.750***
	(0.040)	(0.093)	(0.042)	(0.047)	(0.052)
51 – 60 years	0.118**	0.088	0.310***	0.335***	-0.261***
	(0.049)	(0.103)	(0.026)	(0.073)	(0.038)
Educational qualification: PhD	0.989***	0.726***	0.695***	0.797***	0.610***
	(0.237)	(0.230)	(0.173)	(0.219)	(0.138)
Academic status: Professor	1.586***	2.381***	1.109***	2.642***	0.212***
	(0.057)	(0.125)	(0.041)	(0.084)	(0.071)
Associate Professor	1.887***	2.280***	1.034***	2.356***	1.876***
	(0.042)	(0.101)	(0.047)	(0.047)	(0.061)
Senior Lecturer	2.051***	2.959***	1.442***	2.014***	1.788***
	(0.046)	(0.104)	(0.036)	(0.053)	(0.061)
Lecturer I	-0.214***	0.489***	-2.486***	1.022***	0.117***
	(0.048)	(0.100)	(0.034)	(0.080)	(0.043)
Constant	1.023***	-1.276***	2.264***	1.734***	1.370***
	(0.109)	(0.225)	(0.065)	(0.173)	(0.075)
Adj. R-squared	0.899	0.757	0.969	0.770	0.808
Fishers test	93.63***	95.99***	105.20***	124.29***	132.48***
Observations	408	408	408	408	408

Note: Standard errors (robust) are reported in parentheses; *, **, *** signify significance levels of 10%, 5%, and 1% respectively.

Source: Author's computation from Field Survey (2025).

The results in Table 4 above show that male respondents perform significantly better than their female counterparts in overall staff performance (0.309), research output (0.464), teaching effectiveness (0.465), and community service involvement (0.344). However, there is no significant difference in their industry collaboration involvement (-0.037). This suggests that while gender differences exist in several performance areas, both genders contribute comparably to external collaborations. In terms of marital status, single respondents exhibit positive associations with research output (0.159) and community service involvement (0.328), but negative associations with teaching effectiveness (-0.215) and industry collaboration (-0.265). Married respondents show positive and significant contributions to overall staff performance (0.079), research output (0.167), teaching effectiveness (0.093), and community service involvement (0.616), but a negative relationship with industry collaboration (-0.559). These results indicate that married staff balance academic responsibilities effectively, while singles may excel in external community activities.

Age plays a critical role in determining performance. Respondents aged 31–40 years show substantial positive effects across all performance metrics except industry collaboration involvement (-0.285), with particularly high contributions to research output (2.065) and community service involvement (1.761). Respondents aged 41–50 years perform well in teaching effectiveness (0.412) but show negative effects on overall staff performance (-0.245) and both community service (-0.754) and industry collaboration involvement (-0.750). Those aged 51–60 years demonstrate moderate positive effects on overall staff performance (0.118), teaching effectiveness (0.310), and community service (0.335), but exhibit a negative association with industry collaboration (-0.261). These findings highlight that younger and middle-aged staff are often more engaged and productive across several areas than their older counterparts. However, older staff contribute consistently to teaching and community service.

Educational qualifications significantly influence all performance metrics. PhD degree holders outperform Master's degree holders in overall staff performance (0.989), research output (0.726), teaching effectiveness (0.695), community service involvement (0.797), and industry collaboration (0.610). These results emphasise the importance of advanced education in enhancing productivity across academic roles. Academic rank also plays a critical role, with professors, associate professors, and senior lecturers outperforming assistant lecturers across all metrics. Senior lecturers exhibit the highest coefficients for overall staff performance (2.051) and research output (2.959), while professors and associate professors contribute significantly to community service involvement (2.642 and 2.356, respectively). Lecturer I shows significant negative effects on teaching effectiveness (-2.486) but positive contributions to research output (0.489) and community service involvement (1.022), suggesting that lower academic ranks may face challenges in certain areas while excelling in others.

In addition, Fisher's test confirmed the statistical significance of the predicted coefficients for the models, with a significance level of 5%. This suggests that academic allowance significantly

influences academic staff performance at selected private universities in Northcentral Nigeria. Furthermore, the models demonstrate a high level of explanatory ability, as evidenced by the findings of the adjusted R-squared. The coefficient of determination indicates that the academic allowance accounted for about 75% of the overall variation in academic staff performance in a selected Private University in Northcentral Nigeria.

Discussion of Findings

This study's findings confirm that academic allowances are vital for improving academic staff performance in private universities in Northcentral Nigeria, specifically by enhancing research productivity and scholarly contributions. Financial assistance enables lecturers to concentrate on research, leading to more publications and greater academic involvement, which in turn bolsters the institution's reputation and global presence. This supports earlier research by Sumartini et al. (2021), Ldama and Nasiru (2020), and Førland and Roxå (2023), all of which highlighted how financial incentives can motivate increases in research output, innovation, and professional influence. Conversely, perspectives like those offered by Mamminanga et al. (2023) argue that performance allowances alone may not significantly enhance educational staff performance without accompanying intrinsic motivation and institutional support. Additionally, systemic issues in Nigeria, such as underfunding, insufficient mentorship, and excessive workloads, further limit research participation (Okoduwa et al., 2021). These results highlight the necessity for a comprehensive approach that combines financial incentives with supportive institutional environments to improve academic performance effectively.

The research indicates that academic allowances positively affect teaching effectiveness by acting as motivational tools that boost lecturers' commitment to instruction, improve learning outcomes, and increase overall student satisfaction. Studies by Aminullahi and Olojuola (2021) and Ldama and Nasiru (2020) back the idea that financial incentives alleviate workload stress, enhance engagement, and promote creativity, resulting in higher teaching quality. Likewise, Oddfrid and Torgny (2023) and Hafeez et al. (2022) assert that allowances not only recognise performance but also help create a supportive atmosphere that promotes academic excellence. Nonetheless, some perspectives warn that financial incentives alone may not ensure sustained teaching effectiveness. Kim and Lee (2022) found that excessive dependence on monetary rewards might encourage superficial compliance instead of fostering genuine pedagogical innovation, especially if incentives lack accompanying professional development or clear performance standards. Similarly, Mensah and Adegbite (2023) contend that non-monetary motivators, such as recognition, career advancement, and intrinsic satisfaction, frequently have a more lasting effect on teaching commitment than allowances. Thus, while academic allowances play a crucial role in boosting performance, a comprehensive strategy that combines financial, professional, and intrinsic motivators is vital for achieving long-term teaching effectiveness in higher education.

The findings reveal a notable negative correlation between academic allowances and participation in community service, suggesting a possible trade-off in faculty priorities when incentives primarily focus on research and teaching. This implies that financial rewards for academic tasks may inadvertently diminish involvement in community efforts, as faculty concentrate on activities that provide observable institutional benefits. This observation aligns with previous worries posed by Eldardiry et al. (2021) and Wassermann and Miglietti (2023), who pointed out that performance-based systems frequently overlook less quantifiable contributions, such as outreach and mentorship. Conversely, research by Kim and Yu (2022) indicates that incorporating community service into performance assessments can maintain faculty engagement, highlighting the influence of institutional culture and policy on behavior. Similarly, Owolabi and Onuoha (2021) contend that intrinsic motivation and collective values—particularly prevalent in African settings—can enhance engagement, though the absence of formal acknowledgement may impede long-term participation. Together, these insights emphasise the necessity of crafting comprehensive incentive systems that foster a balanced academic portfolio, ensuring that research productivity does not undermine civic and community responsibilities.

The findings indicate that although academic allowances are crucial for fostering industry collaboration—leading to applied research, innovation, internships, and external funding—they may unintentionally discourage academic staff from engaging in community service. Financial incentives linked to research and corporate partnerships have been found to enhance academic relevance and industrial results (Zhang & Chen, 2023; Siew & Ai, 2023), but this emphasis might sideline voluntary or non-incentivized activities. Wassermann and Miglietti (2023) caution that performance-based funding models frequently neglect the importance of community engagement, resulting in its marginalization. Conversely, Kim and Yu (2022) provide a counterargument, proposing that integrated performance evaluations—incorporating community service along with research and collaboration—promote a more balanced academic involvement. These insights highlight the dual impact of academic allowances: while they significantly boost institutional and economic growth through industry connections, they also reveal a pressing need for comprehensive incentive frameworks that uphold the civic and service missions of higher education.

5. Conclusion and Recommendations

This study examines how academic allowances impact performance at seven private universities in North-Central Nigeria. The analysis shows a complex effect on staff performance. Using regression analysis, it finds that incentives like research grants and conference sponsorships are vital for enhancing performance, particularly in increasing research output and promoting engagement with external partners through collaborations and effective teaching. However, academic allowances correlate with reduced community service involvement, suggesting that well-compensated staff may prefer direct institutional rewards over community engagement.

Consequently, the study concludes that academic allowances significantly affect staff performance in these universities. It emphasises that incentives are essential for improving teaching quality, boosting research productivity, and encouraging partnerships. Therefore, private universities should prioritise developing organised academic allowances to enhance research efforts and professional growth, ultimately improving rankings and academic excellence.

On the policy front, the study recommends that:

i. University administrators should adopt a holistic support framework that includes mentorship programs, access to research funding, reduced administrative burdens, and workload balancing to sustain high research engagement. This integrated approach will not only motivate staff but will also foster a research-conducive environment that enhances institutional reputation and academic competitiveness on a global scale.

ii. Incorporate community engagement in incentive frameworks by acknowledging community service, mentorship, and outreach as important academic contributions in performance assessments, thereby avoiding trade-offs.

iii. Connect incentives to measurable results and promote equity and inclusivity by establishing clear performance metrics for teaching effectiveness, which encompass student feedback, peer evaluations, and innovative teaching methods. Additionally, create allowance structures that reflect discipline-specific workload differences to ensure a fair distribution of responsibilities across academic units.

iv. Encourage Holistic Collaboration by broadening the range of academic allowances to cover collaborative results like patents, industry training initiatives, and consulting services.

This study identifies key limitations that can aid scholars in expanding future research. By concentrating solely on private universities in North-Central Nigeria, the generalizability to public institutions or other areas is restricted. Moreover, the analysis overlooked non-financial variables (such as institutional policies and personal motivations) that may influence salary effects. Consequently, future research should examine the impact of non-financial factors like institutional culture and workload distribution on teaching quality. Additionally, it should investigate the long-term effects of academic allowances on performance to determine causality. Future studies need to assess qualitative aspects of community service involvement to develop tailored incentive frameworks. Lastly, future research should accommodate non-academic university staff and examine other industries, including banking and oil and gas.

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