Influence of Relational Capital on Academic Staff Performance in Federal Universities in Southwest, Nigeria

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Abstract
This study investigates the influence of relational capital on academic staff performance in federal universities in Southwest, Nigeria. A cross-sectional survey design was undertaken using a structured questionnaire administered to academic staff in four purposively selected federal universities comprising Federal University of Technology, Akure (FUTA), Obafemi Awolowo University, Ile-Ife (OAU), University of Ibadan (UI) and University of Lagos (UNILAG). The selection of four (4) federal universities in the Southwest region of Nigeria is based on their age and premier academic ranking. Five hundred copies of questionnaire were distributed and 462 copies were returned. The study finds that networks and collaborations (relational capital) together with sustained investment in individual capability (human capital) are the principal levers for improving teaching quality and broader academic performance in the sampled federal universities. The collaboration dimension had a significant positive effect on teaching quality ($\beta = 0.613$, $t = 12.64$, $p < 0.001$), while the information-sharing dimension positively influenced community service ($\beta = 0.491$, $t = 14.34$, $p < 0.001$). The study concludes that strong professional networks, collaborative partnerships, and institutional relationships are central to improving academic outcomes. It contributes to knowledge by empirically validating the social capital theory by demonstrating the importance of relational capital in enhancing teaching and community service in resource-constrained university systems. The study recommends that university management and policymakers invest in collaborative platforms, international linkages, and knowledge-sharing mechanisms to strengthen relational capital and improve academic staff performance.
Keywords: Intellectual Capital, Relational Capital, Social Capital Theory, Academic Staff Performance, Community Service

Introduction

In today's competitive and rapidly transforming global environment, creativity and innovation have become pivotal to organizational competitiveness. Within the contemporary knowledge economy, intellectual capital (IC) plays a crucial role in fostering innovation, competitiveness, and sustainable organizational development across business, institutional, and academic domains (Secundo et al., 2020; Abimbola & Esan, 2023). Over the past few decades, the global economy has gradually transitioned from an industry-based system emphasizing tangible assets to a knowledge-driven economy that prioritizes intangible resources such as intellectual capital (Inyada,

2018; Mahmoud et al., 2020). This shift aligns with the evolution of production systems that seek to maintain the natural and social equilibrium of the global ecosystem (Edwards, 2021; Abimbola & Esan, 2023).

Intellectual capital has emerged as a critical driver of organizational performance and competitive advantage in knowledge-based economies worldwide (Rehman et al., 2021; Coutinho, 2022). It has been identified as a vital business asset that produces exceptional financial performance (Aziz et al., 2025). In higher education, intellectual capital denotes the aggregate worth of faculty expertise (human capital), the organisational frameworks and digital infrastructures that facilitate teaching and research (structural capital), and the networks, alliances, and reputation that link universities to external stakeholders (relational capital). Together, these three elements determine the ability of institutions for innovation, research superiority, and societal influence (Russo et al., 2025; Singla & Rastogi, 2025).

The elements of intellectual capital, consisting of human capital, structural capital, and relational capital, must be developed simultaneously and influence each other (Todericiu & Şerban, 2015; Istikhoroh, et al., 2024). Among these elements, relational capital has emerged as an essential focus, particularly, within the global knowledge economy and higher education. Relational capital, facilitates the establishment of connections with external organizations, thereby enhancing institutional reputation and creating numerous opportunities. It manifests through active cooperation among faculties, collaborative research and teaching partnerships locally and internationally, and engagement with industry, government agencies, and community organizations (Mahmoud, et al., 2020; Abimbola & Esan, 2023).

Traditionally, universities have focused on two primary missions: teaching and research. However, in recent years, their operating environments have evolved significantly, accompanied by increasing societal expectations for universities to translate research outcomes into benefits for the broader community (Martín-Alcázar et al., 2019). The role of academic staff in higher education institutions is therefore critical, as they shape the academic landscape through teaching, research, and community engagement, and intellectual capital, particularly relational capital, is a determinant of their performance (Shahzad et al., 2014; Al-Tahat et al., 2019; Mukaro et al., 2023).

Martín-Alcázar et al (2019) argued that knowledge is created through multiple mediators, including universities, research centres, and businesses, and is subsequently transferred and absorbed by other organizations that combine it with productive resources to enhance their performance. Academic staff performance, typically measured by teaching quality, research output, and community service, is significantly influenced by these relational networks. Such networks enable access to diverse knowledge pools, joint project facilitation, and professional development opportunities, which collectively enhance instructional effectiveness and societal impact (Pedro et al., 2019; Chatterji & Kiran, 2017; Nabunya, 2021). Strengthening relational capital can empower academic staff to excel in teaching, research and community service, ultimately contributing to the overall success of these institutions in the educational sector. By fostering strong relationships and engaging in meaningful collaborations, universities can create an environment that not only supports their faculty and staff but also contributes to their overall success and reputation (Mahmoud et al., 2020; Pedro et al., 2020; Mohammad-Shafiee et al., 2023).

Statement of the Problem

Despite its recognized importance, relational capital remains underutilized in many developing countries, including Nigerian federal universities, where challenges such as limited infrastructure and resource constraints persist. Nigerian universities still face weak professional networks, poor university–industry linkages, and inadequate institutional support, which hinder academic staff productivity and innovation, research visibility (Igiri et al., 2021; Mahmoud, 2020). Insufficient intellectual capital has been linked to reduced research output, low international visibility, and limited adoption of modern pedagogical approaches (Valero & Van Reenen, 2019; De Matos Pedro et al., 2022). While several studies have examined relational capital in various sectors of the economy, such as the banking sector, manufacturing and service sectors (e.g., Lopes-Costa & Munoz-Canavate,

2015; Wanambiro et al., 2018; Peces & Trillo, 2019; Paoloni et al., 2019; Mahmoud, 2020), few studies have specifically addressed how relational capital influences academic staff performance particularly in Nigerian federal universities. This study, therefore, aims to address this gap in the existing literature with a view to identifying how relational capital can enhance academic productivity and institutional success.

This study investigates the role of relational capital in shaping academic staff performance in federal universities in Southwest Nigeria. Addressing the gap in the literature, it offers valuable insights for policymakers to regulate and monitor university education more effectively. The findings also provide practical guidance for universities to leverage relational capital strategically, aiming to boost academic productivity and institutional success.

Relational Capital and Academic Staff Performance in Higher Education Institutions

Higher education institutions play a central role in promoting sustainable development through knowledge dissemination, industry collaboration, and research publication. Universities, in particular, contribute to advancing social, economic, and environmental sustainability (Bayuo et al., 2020; Iqbal & Piwowar-Sulej, 2022). Institutions' relational capital represents the network of relationships between academic staff, management, students, research collaborators, funding agencies, and the wider academic community. This network constitutes an essential intangible asset that significantly influences academic staff performance in teaching, research, and community service (Supriyanto et al., 2024).

Relational capital enhances teaching by promoting collaboration and knowledge sharing among faculty, which improves pedagogy and curriculum design (Ramírez & Tejada, 2023). Additionally, strong staff-student and staff-management relationships also create supportive environments that encourage creativity and learning. In research performance, RC facilitates collaboration across institutions and disciplines, increasing opportunities for co-authorship, access to funding, and publication in high-impact journals, while academic networks with international reach contribute to greater research visibility and global engagement (Garcia-Merino et al., 2014; Jameel et al., 2020).

In community service, relational capital enables academic staff to engage effectively with external stakeholders such as industries, NGOs, and government agencies, thereby enhancing societal impact and reinforcing public trust (Okafor & Uchenna, 2024). However, the benefits of relational capital depend heavily on institutional support and culture. Weak professional networks, bureaucratic hurdles, and poor leadership can impede collaboration and knowledge exchange (Igiri et al., 2021; Mahmoud, 2020). To fully leverage relational capital, universities must develop policies that strengthen professional linkages and promote international engagement.

Methodology

This study employed a quantitative survey research design, which is suitable for collecting standardised data from a large and geographically dispersed population (Ghanad, 2023). The study used the survey method, which involved the use of structured questionnaire to gather data from academic staff at selected federal universities in Southwest Nigeria. The research was carried out in the Southwest geopolitical zone of Nigeria, comprising Ekiti, Lagos, Ogun, Ondo, Osun, and Oyo States. The region was selected due to its long-established and reputable federal universities. The study population consisted of 6,622 academic staff across six federal universities in the region. Four universities comprising Federal University of Technology, Akure (FUTA), Obafemi Awolowo University (OAU) Ile-Ife, University of Ibadan (UI), and University of Lagos (UNILAG) were purposively selected based on their age and ranking by the National Universities Commission, forming the accessible population.

Using the Krejcie and Morgan (1970) sample size determination table, a minimum sample size of 362 respondents was required for the study population. To account for potential non-response and incomplete questionnaire, a 20% contingency was added, resulting in an adjusted sample size of 434. Although 434 questionnaire were

methodologically required, 500 were distributed to further enhance response adequacy; however, analyses were based on valid responses obtained. The study adopted a multi-stage sampling technique while faculties in each university were stratified, and academic staff were randomly sampled. A total of 462 questionnaire were returned and found usable, representing a 92.4% response rate (see Table 4.1). The response rate of 92.4 percent achieved in this study is considered highly satisfactory and adequate for statistical analysis. According to Moser and Kalton (2017), a survey response rate above 30–40 percent can be deemed acceptable, as it minimises non-response bias and ensures representativeness of the data. The high level of participation in this study suggests that the respondents were sufficiently motivated to provide reliable information, thereby strengthening the credibility of the findings.

Table 3.1: Response rate of questionnaires

Item	**Number**
Questionnaires distributed	500
Questionnaires retrieved (used for analysis)	462
Response rate (%)	92.4

Source: Researcher's Field Report (2025)

The research instrument captured demographic information and items on human, structural, and relational capital using a five-point Likert scale. All items were adapted from established literature. The validity of the questionnaire was evaluated using face and content validation from experts in Human Resources and Project Management, whose recommendations enhanced the clarity, relevance, and alignment of the items with the study objectives while constructs reliability was confirmed through acceptable Cronbach's alpha values indicating internal consistency. Descriptive analysis of the study used mean ranking and standard deviation with the Statistical Package for Social Sciences (SPSS), while inferential statistical analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SMART-PLS.

Findings and Discussions

Data Presentation

The results of this study are presented and discussed in line with the specific objective that guided the investigation.

Demographic Characteristics of Respondents

The demographic characteristics of the respondents provide useful background information for understanding the results of the study.

Table 4.1: **Demographic characteristics of respondents**

Variable	**Category**	**Frequency (n)**	**Percent (%)**
Institution	FUTA	145	31.39
	UI	105	22.73
	OAU	134	29.00
	UNILAG	78	16.88
Age (years)	< 30	72	15.6
	30–40	143	31.0
	40–50	144	31.2
	50–60	83	18.0
	Above 60	20	4.3
Gender	Male	249	53.9
	Female	213	46.1
Marital status	Single	111	24.0

	Married	312	67.5
	Divorced	19	4.1
	Widowed	17	3.7
	Separated	3	0.6
Educational qualification	B.Sc./B.Tech	27	5.8
	M.Sc./M.Tech	64	13.9
	PhD	371	80.3
Length of service	< 10 years	179	38.7
	10–20 years	184	39.8
	20–30 years	81	17.5
	Above 30 years	18	3.9
Rank	Professor	43	9.3
	Associate Professor/Reader	70	15.2
	Senior Lecturer	91	19.7
	Lecturer I	89	19.3
	Lecturer II	102	22.1
	Assistant Lecturer	67	14.5

***FUTA**: Federal University of Technology, Akure
***UI**: University of Ibadan
***OAU**: Obafemi Awolowo University
***UNILAG**: University of Lagos
Source: Researcher's Field Report (2025)

Table 4.1 summarizes respondents' profiles by institution, age, gender, marital status, education, years of service, and rank. The high representation of academic staff from FUTA and OAU, comprising over 60.39% of the sample, highlights the key roles played by universities in shaping intellectual capital in the Southwest, Nigeria. Their substantial academic populations provide a robust basis for examining intellectual capital and staff performance, enhancing the findings' relevance within technology-driven and research-intensive settings.

The age distribution, with most respondents aged 30–50, indicates that the majority of academic staff in federal universities are mid-career, actively engaged in teaching, research, and community service which are core to academic performance. It also suggests strong potential for knowledge production and innovation. The small proportion of participants over 60 years old indicates that the findings mainly reflect younger and mid-career workforce. The gender composition, showing slightly more males than females, mirrors national academic gender imbalances, highlighting the need for policies promoting gender equity in academic appointments to enhance collaboration and institutional outcomes within Nigerian universities.

The marital status distribution, predominantly married respondents, indicates that most academic staff are likely to be balancing professional commitments with family responsibilities. This may impact their participation in intellectual capital development activities such as conferences, seminars, or international collaborations, where family commitments could limit mobility. The high proportion of PhD holders (80.3%) is a strength for the universities, as it establishes the availability of highly qualified staff capable of engaging in advanced teaching and research. Conversely, the small percentage of staff with only B.Sc. or M.Sc. qualifications points to a potential career progression bottleneck that may restrict their full contribution to intellectual capital development within their institutions.

Years of service reveal a balanced representation of early-career (under 10 years) and mid-career (10–20 years) academics, which fosters a mix of fresh perspectives and established expertise conducive to mentorship and sustained academic excellence. However, the low proportion of those with over 30 years of service, raises

concerns about succession planning, as senior academics with valuable institutional memory and leadership experience are fewer.

Rank distribution reflects the typical academic pyramid, with high concentration at the lower and middle levels (Lecturer II, Lecturer I, Senior Lecturer), emphasising the need for capacity building and institutional support to facilitate advancement into senior ranks, where strategic leadership and greater contributions to intellectual capital are expected.

Effect of relational capital on academic staff performance in federal universities in the study area

Measurement Model for relational capital and academic staff performance

The study assessed the measurement quality of the Relational Capital constructs and the academic staff performance indicators prior to testing structural relationships. The model comprised two first-order, reflective sub-constructs of relational capital and three outcome sub-constructs of academic-staff performance. More specifically, the exogenous variable is Relational Capital (denoted bRC) and is represented in the model by two reflective dimensions: bRC (Collaboration), measured by items bRC1–bRC4 that capture joint working, inter-faculty cooperation and collaborative activities; and bRC (Information), measured by items bRC5, bRC6, bRC7, bRC9, bRC10 and bRC11 that capture the availability and sharing of informational resources, outreach and web/portal provision. The endogenous academic-staff performance construct is operationalised by three subconstructs: community service (cCS, items cCS1–cCS6), research quality measured by total publications (cRQ4, single indicator), and teaching quality (cTQ) which, following exploratory factor analysis, is treated as a composite reflective scale (cTQ) formed from the teaching items retained in the measurement model. This specification mirrors the questionnaire and the factor-reduction process described earlier; indicators that performed poorly in the outer model were removed before the present assessment.

Table 4.2: Extent of Relational Capital

SN	Item	SD	DA	SWD	AG	SA	MEDIAN	MEAN	MODE	LRK	GRK
1	bRC1	23	13	90	243	93	4.000	3.801	4.000	5	12
2	bRC2	7	9	68	236	142	4.000	4.076	4.000	1	5
3	bRC3	31	9	87	212	123	4.000	3.838	4.000	4	11
4	bRC4	12	14	76	270	90	4.000	3.892	4.000	3	10
5	bRC5	46	44	130	155	87	4.000	3.418	4.000	8	17
6	bRC6	33	34	125	170	100	4.000	3.584	4.000	6	14
7	bRC7	26	34	163	189	50	4.000	3.439	4.000	7	16
8	bRC8	28	23	56	189	166	4.000	3.957	4.000	2	7
9	bRC9	93	68	72	146	83	3.000	3.126	4.000	9	22
10	bRC10	108	56	67	143	88	3.500	3.102	4.000	10	23
11	bRC11	102	72	52	170	66	4.000	3.056	4.000	11	24

*LRK is the ranking of individual indicators of each of the subconstructs of Intellectual Capital

* GRK overall ranking of all indicators considering all subconstructs of intellectual capital

Source: Researcher's Field Report (2025)

When relational capital was considered as a single higher-order construct (Aggregated model) in Table 4.2 and Figure 4.1, the results were consistent with the disaggregated findings. Relational capital exerted a strong and highly significant effect on community service ($\beta = 0.551$, $t = 12.828$, $p < 0.001$; $f^2 = 0.436$, large; $R^2 = 0.303$, substantial) and teaching quality ($\beta = 0.534$, $t = 8.794$, $p < 0.001$; $f^2 = 0.398$, large; $R^2 = 0.285$, substantial). By contrast, the path to research output was entirely insignificant ($\beta = 0.008$, $t = 0.185$, $p = 0.854$; $f^2 \approx 0$; $R^2 \approx 0$).

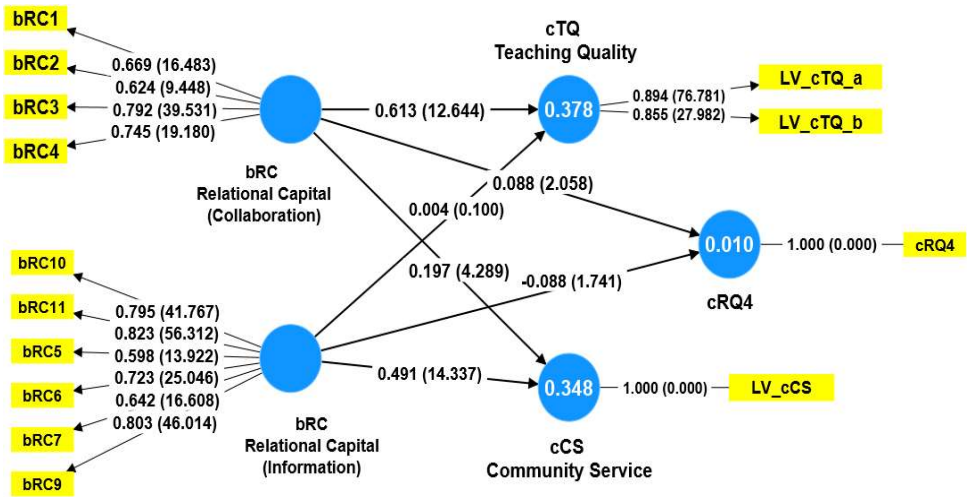

Figure 4.1 Structural Model for Relational Capital and Academic Staff Performance (Disaggregated)

Overall, the results demonstrate that relational capital, especially collaboration between universities (bRC3: "There is co-operation between the university and other universities," and bRC4: "There is collaboration between the university and universities from different countries"), is the most critical predictor of teaching quality. Similarly, information systems are central to explaining community service.

Discussion in Relation to the Literature

The findings that collaboration enhances teaching quality align with Edvinsson and Malone (1997), who argued that intellectual capital frameworks emphasise relational ties as fundamental to knowledge sharing and teaching performance. Similarly, Fauzi, et al. (2019) reported that institutions with richer networks of collaboration tend to exhibit higher teaching effectiveness due to the cross-fertilisation of ideas and exposure to best practices. The present study supports this by showing that collaboration has the largest effect on teaching quality ($f^2 = 0.532$).

The strong association between information resources and community service corroborates the observations of Li et al., (2025) who demonstrated that shifting from a narrowly competitive approaches to more collaborative strategies can enhance academic-community partnerships, thereby complementing research excellence. Sardo et al. (2018) also documented that information capital is crucial in extending academic contributions beyond campus walls. In the Nigerian context, this suggests that well-maintained websites, databases, and communication platforms are critical for enabling academics to deliver effective community services.

In contrast, relational capital was not a significant driver of research productivity, a finding that diverges from Rothgang & Lageman (2018), who emphasised the role of networks in stimulating joint research. The negligible R^2 (0.010) in this study suggests that structural capital and funding conditions may be stronger determinants of research output in federal universities. This finding resonates more with Jameel, et al., (2020), who cautioned that while networks facilitate knowledge exchange, research productivity is ultimately resource-intensive and contingent on structural supports.

Overall, the discussion suggests that while relational capital strengthens teaching and service functions, it is insufficient on its own to increase publication outputs in the Nigerian federal universities. The positive significant relationship between the relational capital and teaching and community service performance is supported with the findings of Albulescu & Albulescu (2014); Mahmoud, et al., (2020); and Wanambiro, et al., (2018).

Implications of Findings

The implications of these findings are significant for university management and policy. First, the large effects of collaboration on teaching quality imply that federal universities should actively cultivate inter-institutional partnerships and international collaborations. Policies that promote academic exchange programmes, joint teaching initiatives, and cross-border collaborations can have a transformative impact on teaching effectiveness. Furthermore, the significant impact of information systems on community service underscores the need for universities to invest in resilient digital infrastructures, including well-designed websites, online repositories, and public communication platforms. By doing so, universities not only support their staff's outreach but also strengthen their societal impact and visibility.

Moreover, the findings show that relational capital alone is insufficient for driving research productivity. This implies that efforts to enhance publication output must go beyond collaboration and information sharing, requiring structural supports such as improved research funding, access to laboratories, incentives for publication, and reduced teaching load to allow time for research.

In sum, the findings highlight that relational capital is a crucial factor for teaching and community engagement but a weak predictor of research outputs in Nigerian federal universities. Therefore, policymakers should adopt a balanced strategy that leverages relational strengths for pedagogy and outreach while simultaneously addressing the structural shortcomings that hinder research productivity.

Conclusion and Recommendation

The study concludes that relational capital significantly enhances academic staff performance in federal universities in Southwest Nigeria, particularly improving teaching quality and community service through collaboration and information sharing. The findings reveal that both the collaboration and information-sharing dimensions of relational capital have strong positive effects on teaching quality and community service performance. However, the study found that the influence of relational capital's impact on research performance is limited, indicating that other factors like funding and institutional support play a larger role. Relational capital is identified as the most crucial dimension of intellectual capital for academic success and societal relevance in Nigerian universities.

Recommendations include prioritizing relational capital development as a strategic asset by promoting collaborative partnerships at various levels, providing incentives for joint research and teaching initiatives, and establishing institutional frameworks such as exchange programs to sustain collaborations. Universities should also leverage alumni, professional associations, and industry links to expand relational capital. Government agencies such as the NUC and TETFund should also design policies and funding mechanisms that encourage inter-university collaborations and knowledge-sharing platforms, recognising relational capital as a key driver of academic staff performance and institutional competitiveness.

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