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ORGANISATIONAL, ETHICAL AND LEADERSHIP DETERMINANTS OF QUALITY SERVICE DELIVERY BY HEALTH INFORMATION PROFESSIONALS: A COMPARATIVE ANALYSIS OF TEACHING HOSPITALS IN NORTH-WEST AND NORTH-CENTRAL NIGERIA

I. O Salihu PhD
Department of Health Information Management
Kwara State University,
Toyeenibraheem@Gmail.Com
Orcid Id: 0009-0003-8991-3585

Abstract

Efforts to improve the service quality of health information professionals in Nigerian teaching hospitals often focus on leadership or individual competence, yet the relative importance of organisational and professional factors is unclear. This study compared the determinants of quality service delivery by health information professionals in university teaching hospitals in North-West (NW) and North-Central (NC) Nigeria, using the geopolitical zone as the unit of analysis. A comparative design based on secondary analysis of two matched doctoral surveys conducted in 2022 was adopted: the NW survey examined organisational culture and ethical standard compliance (234 health information managers; 407 patients), while the NC survey examined leadership style and cultural competence (135 health information professionals; 350 patients). Both measured quality service delivery with patients' SERVQUAL ratings. Standardised regression coefficients were compared using Fisher's r-to-z test. In the NW, ethical standard compliance ($r = .350$, $R^2 = .122$, $p < .001$) and organisational culture ($r = .208$, $R^2 = .043$, $p = .001$) significantly predicted quality service delivery, and jointly explained 11.7 per cent of its variance. In the NC, neither leadership style ($r = .000$, $p = .996$) nor cultural competence ($r = .165$, $p = .056$) was significant, and together they explained only 1.5 per cent. Ethical standard compliance was a significantly stronger predictor than leadership style ($z = 3.35$, $p < .001$). At dimension level, the significant predictors were all practice-based and shared: involvement and mission (NW), non-maleficence (NW) and cultural encounter (NC). The study concludes that collective, practice-based factors, especially ethical practice and staff involvement, matter more for service quality than formal leadership style, although all predictors studied explained only a modest share of service quality. It recommends embedding ethical standards and staff involvement in health information management practice and investigating structural factors such as staffing and facilities.

Keywords: Quality service delivery; organisational culture; ethical standard compliance; health information professionals; teaching hospitals; comparative study; Nigeria

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Introduction

Global health policy increasingly recognises that the quality of health services depends on the people who deliver them and the organisations in which they work. Organisational culture, leadership and a competent, motivated workforce are widely regarded as foundations of quality health services (Donabedian, 1988). In teaching hospitals, health information departments must provide accurate records promptly while serving large and diverse patient populations.

The quality of services delivered by health information professionals in teaching hospitals depends on many factors: the resources available to them, their skills and attitudes, the way they are led, and the values and norms of the organisations in which they work. Understanding which of these factors matter most is important for hospital managers and regulators, who have limited resources and must decide whether to invest in leadership development, ethics training, organisational culture change, cultural competence or physical infrastructure.

Two doctoral studies conducted in 2022 examined different sets of determinants of the same outcome, patients' perceived quality of service delivery by health information professionals, in university teaching hospitals in two zones of Nigeria. In the North-West, Umar (2022) examined organisational culture and ethical standard compliance; in the North-Central zone, Salihu (2022) examined leadership style and cultural competence. Their results appeared to differ sharply: the North-West predictors were significant, while the North-Central predictors were not. Taken together, the two studies offer an opportunity to compare the explanatory power of four commonly proposed determinants of service quality across two regional contexts.

This paper compares the determinants of quality service delivery by health information professionals in teaching hospitals in the two zones, treating the geopolitical zone as the unit of analysis, and asks whether organisational and ethical factors are stronger predictors of service quality than leadership and cultural competence.

Objectives

The study sought to:

1. compare the levels of the organisational on cultural competence factors reported in the two zones;
2. compare the strength of the relationship of each factor with quality service delivery across the two zones; and

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3. Identify the dimensions of these factors that significantly predict quality service delivery in each zone.

Hypothesis

H_0: There is no significant difference between the strength of organisational and ethical predictors of quality service delivery (North-West) and leadership and cultural competence predictors (North-Central).

Literature Review and Theoretical Framework

Organisational Culture

Organisational culture refers to the shared values, beliefs and practices that guide behaviour in an organisation. Denison and Mishra (1995) identified four traits of effective cultures: involvement (empowerment, teamwork and capability development), consistency (shared values and coordination), adaptability (responsiveness to customers and change) and mission (a clear sense of direction and purpose). They argued that these traits are related to organisational effectiveness, including service quality.

Schein (2010) described organisational culture at three levels: visible artefacts (such as procedures and physical arrangements), espoused values (stated goals and philosophies) and basic underlying assumptions that members take for granted. In health information departments, culture is visible in how folders are handled, how staff relate to patients and colleagues, and whether service to patients is treated as a priority. Cultures that involve staff and give them a clear sense of mission are expected to motivate them to provide better service.

Ethical Standard Compliance

Ethical standard compliance refers to the extent to which professionals adhere to the ethical principles of their profession. In health care, these are commonly framed by Beauchamp and Childress's (2019) four principles: respect for autonomy, beneficence, non-maleficence and justice. For health information professionals, they translate into practices such as protecting confidentiality, documenting accurately, preventing harm through careless handling of records and treating all patients fairly.

Leadership Style

Leadership style concerns how managers influence staff. Bass and Riggio (2006) distinguished transformational leadership (inspiring and developing staff), transactional leadership

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(exchanging rewards for performance) and laissez-faire leadership (avoiding leadership responsibilities).

A systematic review of nursing leadership found that relational and transformational leadership styles were associated with higher patient satisfaction and fewer adverse events, while task-focused or passive styles were associated with poorer outcomes (Wong & Cummings, 2007).

Cultural Competence

Cultural competence refers to the ability of health professionals to work effectively with patients from different cultures; Campinha-Bacote (2002) described it as a process involving cultural awareness, knowledge, skill, encounters and desire.

Betancourt et al. (2003) distinguished organisational, structural and clinical cultural competence, arguing that cultural competence must be built into the systems and processes of health organisations, not only into individual attitudes. This distinction is relevant to health information professionals, whose interactions with patients occur mainly at registration and records points, where language, naming practices and expectations of privacy may differ between cultural groups.

Theoretical Synthesis

The two studies thus represent two different perspectives: the North-West study focused on collective and normative factors (organisational culture and professional ethics), while the North-Central study focused on leadership and individual competence. Donabedian's (1988) structure–process–outcome model suggests that outcomes such as patients' perceived service quality depend most directly on processes, the actual practices of care, which are shaped by both organisational norms and individual behaviour.

Methodology

Design and Unit of Analysis

The study adopted a comparative research design based on secondary analysis of data from two doctoral studies conducted in the same year, in the same department (Information Resources Management, Babcock University), with closely matched designs: a study of teaching hospitals in North-West Nigeria (Umar, 2022) and a study of university teaching hospitals in North-Central Nigeria (Salihu, 2022). The unit of analysis is the geopolitical zone, represented by its cluster of university teaching hospitals: North-West (NW) and North-Central (NC). The units of observation

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are individual patients and health information professionals within each zone, whose responses were aggregated to zonal estimates.

This comparison is appropriate because the two studies share the same outcome construct, measured from the same source (patients) with the same model (SERVQUAL), used the same response format (a four-point scale), studied the same professional group (health information management staff of teaching hospitals) and collected data in the same year. Table 1 summarises their comparability.

Table 1

Comparability of the Two Zonal Studies

Feature	North-West (NW)	North-Central (NC)
Source study	Umar (2022), PhD thesis, Babcock University	Salihu (2022), PhD thesis, Babcock University
Teaching hospitals	6 (ABUTH Zaria, UDUTH Sokoto, AKTH Kano, FUTH Dutse, Barau Dikko TH Kaduna, Abdullahi Wase TH Kano)	4 (UATH Gwagwalada, UITH Ilorin, JUTH Jos, Benue State TH Makurdi)
Health information professionals: population / sample / analysed	487 / 243 / 234	251 / 154 / 135
Patients: population / sample / analysed	112,737 / 443 / 407	81,361 / 399 / 350
Sampling	Proportionate stratified	Purposive (staff); convenience (patients)
Quality service delivery measure	Patients' SERVQUAL scale, 25 items, 4-point ($\alpha = 0.79$)	Patients' SERVQUAL scale, 27 items, 4-point ($\alpha = 0.87$)
Predictors studied	Organisational culture; ethical standard compliance	Leadership style; cultural competence
Data collection	2022	2022

Note. Data from Umar (2022); Salihu (2022).

Data and Analysis

Summary statistics on the levels of each predictor and the regression results (standardised coefficients, R^2, F and p values) were extracted from the published results of both studies. Because individual-level data were not available, between-zone comparisons were made using tests

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computed from summary statistics: Fisher's r-to-z transformation was used to compare correlation coefficients between independent samples. In simple linear regression, the standardised coefficient (β) equals the correlation coefficient (r), so the reported β values were used as r. 95 per cent confidence intervals for r were also computed. Statistical significance was set at $p < 0.05$. The direction and size of differences, rather than significance alone, were used in interpretation.

Results

Profile of Health Information Professionals

Table 2

Characteristics of Health Information Professionals by Zone

Characteristic	North-West (n = 234)	North-Central (n = 135)	χ^2 (df = 1)	p
Male	134 (57.3%)	59 (43.7%)	6.31	.012
Female	100 (42.7%)	76 (56.3%)		
Up to 10 years' experience	82 (35.0%)	63 (46.7%)	4.85	.028
Bachelor's degree or higher	27 (11.5%)	26 (19.3%)	4.15	.042
Technician cadre	133 (56.8%)	65 (48.1%)	–	–
ND or HND as highest qualification	172 (73.5%)	89 (65.9%)	–	–

Note. Data from Umar (2022) and Salihu (2022); chi-square tests computed by the authors.

Table 2 shows that the workforce profiles of the two zones differed. Health information managers in the North-West were predominantly male (57.3%) and more experienced, with nearly two-thirds having worked for more than 10 years. In the North-Central zone, most respondents were women (56.3%), almost half had 10 years' experience or less, and a higher proportion held a bachelor's degree or higher (19.3% vs 11.5%). In both zones, however, the workforce was dominated by diploma holders and by the technician cadre, reflecting the structure of health information training in Nigeria.

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Levels of the Predictors

Table 3

Levels of the Predictors Reported in the Two Zones (four-point scales)

Zone	Predictor and dimensions	Mean
North-West	Organisational culture (overall)	3.41
	Mission / Involvement / Adaptability / Consistency	3.46 / 3.45 / 3.41 / 3.41
North-West	Ethical standard compliance (overall)	3.41
	Respect for autonomy / Beneficence / Non-maleficence / Justice	3.53 / 3.48 / 3.46 / 3.35
North-Central	Leadership style (overall)	2.69
	Transactional / Transformational / Laissez-faire	2.90 / 2.67 / 2.50
North-Central	Cultural competence (overall)	2.98
	Desire / Awareness / Skills / Knowledge / Encounter	3.31 / 3.10 / 3.04 / 2.87 / 2.59

Note. Data from Umar (2022); Salihu (2022). Predictors were self-reported by health information professionals.

Table 3 shows that health information managers in the North-West reported high levels of organisational culture and ethical compliance (both 3.41), with respect for autonomy rated very high (3.53). In the North-Central zone, health information professionals rated their hospitals' leadership more modestly (2.69), with transactional leadership the most prevalent style (2.90) and laissez-faire leadership also present (2.50). Cultural competence was moderately high (2.98), strongest in cultural desire (3.31) and weakest in cultural encounters (2.59).

Strength of the Predictors

Table 4

Simple Regression of Quality Service Delivery on Each Predictor

Zone	Predictor	n	r (= β)	95% CI for r	R^2	p
North-West	Ethical standard compliance	234	.350	.232 to .458	.122	< .001
North-West	Organisational culture	234	.208	.082 to .328	.043	.001

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Zone	Predictor	n	r (= β)	95% CI for r	R^2	p
North-Central	Cultural competence	135	.165	–.004 to .325	.027	.056
North-Central	Leadership style	135	.000	–.169 to .169	.000	.996

Note. Data from regression results from Umar (2022) and Salihu (2022); confidence intervals computed by the authors.

Table 4 shows that in the North-West both predictors were significantly related to quality service delivery, with ethical standard compliance the stronger (r = .350). In the North-Central zone, cultural competence showed a weak relationship that just failed to reach significance (r = .165, p = .056), and leadership style showed no relationship at all (r = .000). Jointly, organisational culture and ethical standard compliance explained 11.7 per cent of the variance in quality service delivery in the North-West (Adj. R^2 = .117, $F(2, 231) = 16.49$, $p < .001$), whereas leadership style and cultural competence explained only 1.5 per cent in the North-Central zone (Adj. R^2 = .015, $F(2, 132) = 2.04$, p = .134).

Table 5

Fisher's z Comparison of Predictor Strength Across Zones

Comparison (NW predictor vs NC predictor)	r (NW)	r (NC)	z	p
Ethical standard compliance vs Leadership style	.350	.000	3.35	< .001
Organisational culture vs Leadership style	.208	.000	1.93	.053
Ethical standard compliance vs Cultural competence	.350	.165	1.82	.068
Organisational culture vs Cultural competence	.208	.165	0.41	.683

Note. Computed by the authors; n = 234 (NW) and 135 (NC).

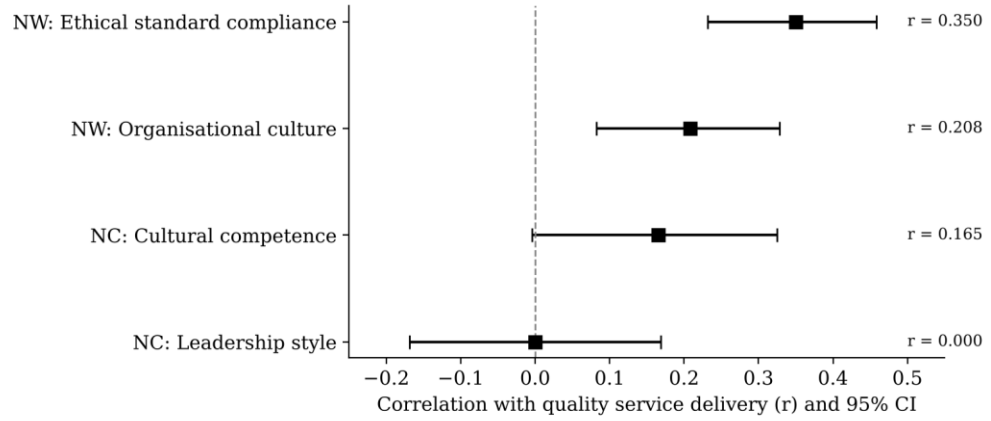
Table 5 shows that ethical standard compliance was a significantly stronger predictor of quality service delivery than leadership style (z = 3.35, p < .001). Organisational culture was stronger than leadership style at the margin of significance (p = .053). Ethical standard compliance was stronger than cultural competence, but the difference was not significant (p = .068), and

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organisational culture and cultural competence were of similar strength (p = .683). The hypothesis was therefore rejected for the comparison between ethical standard compliance and leadership style, and retained for the other comparisons.

Figure 1

Strength of Association Between Each Predictor and Quality Service Delivery, With 95% Confidence Intervals



Note. NW = North-West (n = 234); NC = North-Central (n = 135). Intervals that cross zero indicate a non-significant association. Computed from Umar (2022) and Salihu (2022).

Significant Dimensions

Table 6

Dimensions with Significant Relative Influence on Quality Service Delivery

Zone	Construct	Significant dimension(s)	Non-significant dimensions
North-West	Organisational culture	Involvement (β = .236, p = .001); Mission (β = .145, p = .035)	Adaptability; Consistency
North-West	Ethical standard compliance	Non-maleficence (β = .215, p = .006)	Beneficence; Respect for autonomy; Justice
North-Central	Leadership style	None	Transformational; Transactional; Laissez-faire

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Zone	Construct	Significant dimension(s)	Non-significant dimensions
North-Central	Cultural competence	Cultural encounter (β = .243, p = .032)	Awareness; Knowledge; Skills; Desire

Note. Data from multiple regression results from Umar (2022) and Salihu (2022).

Table 6 shows that in each zone only a few dimensions had a significant independent influence. All of them describe what staff actually do in their daily work: being involved in decisions and teamwork (involvement), working towards a shared purpose (mission), avoiding harm through careful handling of records (non-maleficence) and actually interacting with patients of different cultures (cultural encounter). None of the leadership styles, and none of the attitudinal or knowledge-based dimensions (such as cultural awareness, knowledge and desire), had a significant influence.

Discussion

The main finding is that collective and practice-based factors, especially ethical standard compliance and organisational culture, were more strongly related to quality service delivery than the leadership style of hospital management. Ethical compliance was a significantly stronger predictor than leadership style. This suggests that, for health information services, what matters most to patients is not how senior managers lead, but whether frontline staff consistently follow professional standards: keeping records accurately, protecting confidentiality and avoiding careless handling that can harm patients. This supports Donabedian's (1988) view that outcomes depend most directly on processes of care.

The absence of any leadership effect in the North-Central zone is notable. One explanation is that leadership style was measured at the level of hospital management, which is distant from the daily interactions between health information staff and patients. Another is that leadership in these hospitals was predominantly transactional, with a moderate presence of laissez-faire leadership, and may not have been strong enough to make a difference. Leadership may also influence service quality indirectly, by shaping organisational culture and ethical climate, rather than directly; this would be consistent with the stronger effects of organisational culture observed in the North-West.

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The dimension-level results reinforce this interpretation. In both zones, the significant predictors were behavioural and practice-based: involvement and mission (Denison & Mishra, 1995), non-maleficence (Beauchamp & Childress, 2019) and cultural encounter (Campinha-Bacote, 2002). Dimensions that capture attitudes or knowledge, such as cultural awareness, knowledge and desire, did not predict service quality. In other words, patients' experience of service is shaped by what staff do and how they work together, rather than by what they know or intend.

At the same time, all the predictors studied explained only a modest share of quality service delivery: at most about 12 per cent in the North-West and less than 3 per cent in the North-Central zone. This indicates that most of the variation in service quality is explained by other factors. Both studies reported structural barriers, including shortage of skilled staff, poor motivation, lack of computerised records and lack of filing space (Umar, 2022; Salihu, 2022), which are likely to be powerful determinants of service quality and should be included in future models.

The differences in workforce profile between the zones also deserve attention. North-West respondents were more experienced and rated their own ethical compliance and organisational culture very highly (both 3.41 on a four-point scale), close to the top of the scale. Such high self-ratings may partly reflect a tendency to present oneself favourably. North-Central respondents, who were younger in service, rated their leadership more critically (2.69). Self-report measures of ethics and culture should therefore be complemented by observation, audits of record handling or peer assessment in future studies.

Conclusion

Comparing teaching hospitals in North-West and North-Central Nigeria shows that ethical standard compliance and organisational culture are more strongly associated with the quality of health information services than leadership style and cultural competence. Ethical compliance was a significantly stronger predictor than leadership style, and in both zones the dimensions that mattered were practice-based: involvement, mission, non-maleficence and cultural encounter. However, these factors together explained only a small proportion of service quality, pointing to the importance of structural factors such as staffing, motivation and facilities.

Recommendations

1. Teaching hospitals and the Health Records Officers Registration Board of Nigeria should strengthen ethical practice among health information professionals through regular ethics

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training, clear standard operating procedures and monitoring of compliance, with particular attention to avoiding harm from careless handling of records.

2. Heads of health information departments should involve staff in decision-making and teamwork and communicate the department's mission clearly, as these were the organisational culture traits linked to better service.
3. Cultural competence programmes should emphasise real interaction with patients of diverse backgrounds (cultural encounters), rather than awareness or knowledge alone.
4. Leadership development for hospital and departmental managers should focus on building an ethical and participative culture within health information departments, since leadership style alone did not predict service quality.
5. Hospital managements should address structural barriers, including staffing, motivation, filing space and computerisation, which are likely to account for much of the unexplained variation in service quality.

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