

Olateju Jumoke Ajanaku
Western University, London, ON, Canada

ORGANIZATIONAL CULTURE AND KNOWLEDGE MANAGEMENT PROCESS IN NURSING PRACTICE

Abstract

This study investigated the relationship between organizational culture and knowledge management process (acquisition, conversion, application, and protection) among registered nurses at Obafemi Awolowo Teaching Hospitals Complex in Ile-Ife, Nigeria. Employing a quantitative descriptive survey, a proportionate stratified sampling method was utilized to select a sample size of 126 registered nurses from a total of 756. Questionnaires were administered and a total of 111 questionnaires were collected for analysis resulting in a response rate of 89.5%. Pearson correlation analysis revealed significant and positive relationships between organizational culture and the four dimensions of knowledge management process. The findings underscore the crucial role of organizational culture in supporting effective knowledge management within healthcare delivery. This research contributes to understanding knowledge management as a strategic tool for improving health outcomes and advocates for the integration of supportive cultures to optimize nursing care delivery within the context of South-West Nigeria.

Keywords: Knowledge management process; Organizational culture; Registered nurses; Teaching hospital; Healthcare; South-West Nigeria; Nursing care delivery

Introduction

The emergence of the knowledge-based economy underscores the pivotal role of knowledge in organizational performance, especially within the highly knowledge-intensive healthcare sector (Jeon et al., 2011). Healthcare institutions, particularly hospitals, face the compelling challenge of optimizing resource utilization and maintaining the highest standards of nursing services for patient care. Healthcare in which nurses constitute a significant portion of the workforce, is one of the most knowledge-intensive industries of the world and this understanding is reflected in the ways knowledge is applied and managed in daily work healthcare practices. Prioritizing organizational strategies to manage knowledge in nursing practice is crucial. The quality of care rendered by nurses has a direct link to healthcare performance, as their knowledge is important for decision-making in daily patient care (Godsey et al., 2020). In the dynamic landscape of healthcare, effective utilization and management of nurses' knowledge are crucial, impacting patient outcomes, safety, and the overall quality of care.

Studies underscore the importance of a knowledge-based culture for successful knowledge management, especially within nursing contexts (Weldetsadik et al., 2019). In Nigeria, nurses

contend with delivering high-quality patient care. Prompting the need for effective management including knowledge management, to optimize resources and improve healthcare delivery. This study seeks to fill an empirical evidence gap in investigating knowledge management in Nigerian healthcare, concentrating on nursing practitioners. It specifically explores how organizational culture may facilitate or hinder knowledge management process among nursing practitioners within the context of patient care in a developing country.

Knowledge Management in Nursing

Knowledge is the foundation of all management processes. Nurses draw on knowledge from various sources to inform their practice. Knowledge management describes how knowledge is acquired, created, codified, and used within organizations (Shujahat et al., 2019). The goal of knowledge management is to provide appropriate tools, technologies, strategies, and processes to turn data and information into valuable knowledge assets. Chiu and Chen (2016) underscore the vital role of knowledge management in healthcare, specifically among knowledge workers emphasizing the creation, codification, and utilization of knowledge to achieve organizational objectives. Gold et al. (2001) categorized a comprehensive description of the different perspectives of the knowledge management process into four broad aspects- acquisition, conversion, application, and protection process. Among these process, knowledge creation and transfer can be viewed as complementary and interwoven because depends on transfer, while transfer often results in the creation of new knowledge.

Knowledge acquisition involves obtaining knowledge from internal and external sources facilitating the creation of tacit and explicit knowledge within the organizational framework (Gonzalez & Martins, 2017). The knowledge conversion process transforms existing knowledge into intellectual capital, enhancing individual and organizational knowledge (Gold et al., 2001). Given the sensitive nature of healthcare data, information security is paramount (Anderson & Wilson, 2009). In the healthcare context, nurses play a critical role in the acquisition and dissemination of knowledge, making clinical knowledge management in nursing practice increasingly crucial (Ghosh & Scott, 2005). The knowledge management process dimension encompassing acquisition, conversion, application, and protection, reflects the multifaceted nature of knowledge utilization in healthcare settings, ultimately influencing the quality of patient care (Koushazade et al., 2015).

Linking organizational culture and knowledge management

Organizational culture described by Tsai (2011) as the shared values, beliefs, or perceptions held by employees within an organization, holds importance in healthcare, particularly within hospital settings. It plays a crucial role in shaping the vision, values, and collaborative attitudes that influence interactions and relationships, ultimately impacting organizational outcomes. Organisational culture is one of the most important factors for the successful implementation of knowledge management efforts emphasizing the need for a transition towards a knowledge-

oriented culture in healthcare (Lee, 2017). Being an enabler of knowledge in the organization, culture is a major determinant of organizational outcomes.

Healthcare systems, particularly within hospital settings, represent knowledge-intensive environments, necessitating a culture that encourages the creation, sharing, and application of knowledge among employees (Lee, 2017). The effective implementation of successful knowledge management has faced constraints due to the distinctive organizational culture prevalent in hospital settings and limited awareness of the diverse benefits associated with knowledge management among employees. Nurses, as frontline healthcare professionals providing direct patient care, hold a pivotal role in influencing the overall culture of a healthcare organization positively (Flaubert et al., 2021). Therefore, organizations in healthcare should actively establish and foster an appropriate culture that encourages the seamless flow of knowledge management process within the organization.

Objectives

The study aims to investigate the relationship between organizational culture and knowledge management process among registered nurses working at Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC) in Ile-Ife, South-West Nigeria. In this research we seek to answer the question: Is there a relationship between organizational culture and knowledge management process of the registered nurses in OAUTHC, Ile-Ife, Nigeria?

Research Hypothesis

In this study, the following hypotheses were tested:

H1: Organizational culture and knowledge acquisition are significantly related in nursing care delivery.

H2: Organizational culture and knowledge conversion are significantly related in nursing care delivery.

H3: Organizational culture and knowledge application are significantly related in nursing care delivery.

H4: Organizational culture and knowledge protection are significantly related in nursing care delivery.

Methodology

The study employed a survey research design, and a positivist approach. A positivist approach assumes, a priori, that there are discoverable relationships between organizational culture and knowledge management process. Stratified sampling procedures were employed in the selection of participants. The target population (n=756) included registered nurses in OAUTHC. The population was stratified according to the clinical units. The total sample size (n=124) was determined using Krejcie and Morgan's (1970) sample table. Each clinical unit was used as a

stratum according to its medical function. Proportionate allocation was employed to select participants from each stratum.

Closed-ended questionnaires were employed as the quantitative data collection instrument for this study. Drawing from existing literature, the measurement scales for the variables were adapted from Gold et al. (2001) as well as Ghosh and Scott (2005) leading to a list of thirty-nine measurement items. The variables under investigation encompassed organizational culture and the four dimensions of the knowledge management process (acquisition, conversion, application, and protection). Each variable was assessed using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Organizational culture was evaluated through 7 items, while the four dimensions of knowledge management process were assessed through 8 items.

Before the main study, the questionnaire was pretested on one hundred and ten (110) registered nurses who met the inclusion criteria and worked in various clinical units across two selected hospitals not included in the study. The purpose of the pretest was to evaluate and refine the questionnaire, aiming to minimize any discrepancies or issues. Out of the one hundred and twenty-four (124) questionnaires that were administered, one hundred and one (111) were considered for analysis resulting in a response of 89.5%. Data analysis was done using SPSS 29 software.

Ethical considerations

In adherence to research ethics, the study received approval from the ethics committee of the selected hospital as well as other relevant regulatory bodies. In addition, written informed consent was obtained from all participants.

Data Analysis and Results

Reliability, and validity tests

The reliability of the constructs was assessed using Cronbach's alpha. The Cronbach's alpha value was between 0.851 and 0.951 (as presented in Table 1) which is above the generally accepted threshold of 0.70. To ensure construct validity, the model and measures were developed and refined through the utilization of multiple data sources, including literature and expert opinions. The discriminant validity was conducted using factor analysis and examining the correlation matrix among constructs. High correlations between items (0.7 or higher) measuring the same construct indicate good convergent validity. The factor analysis showed high factor loadings (0.5 and higher) on their respective factors which indicates good convergent validity.

Descriptive Statistics and Normality Assessment

The mean scores out of a possible total score of 40 (as shown in Table 1) indicate that, on average, registered nurses in the study demonstrate moderate abilities in knowledge acquisition (29.71), conversion (30.51), and application (27.44), with a substantial level of competency in knowledge protection (27.85), yet indicating potential areas for improvement, particularly in knowledge

application. Additionally, the mean score of 24.28 out of a possible total score of 35 for organizational culture, indicates a moderately positive perception among registered nurses. The standard deviation of knowledge acquisition scores indicates a relatively high degree of variability while the scores of knowledge conversion and knowledge application exhibit a moderate amount of variability. Interestingly, knowledge protection scores show a relatively low degree of variability. The perceptions of organizational culture among registered nurses exhibit a moderate degree amount of variability indicated by the standard deviation.

The assessment of normality distribution for the interval variables was determined by employing skewness and kurtosis tests as described by Idris et al. (2016). Based on the results of the statistics, in Table 1, the skewness and kurtosis values are assumed to be within an acceptable range for normality taking into consideration the sample size.

Table 1: Descriptive Statistics and Normality Assessment

Constructs	Total items	Mean	Std. Deviation	Skewness	Kurtosis	Cronbach's Alpha
Knowledge acquisition	40	29.71	8.81	1.92	10.43	0.85
Knowledge conversion	40	30.51	8.58	-0.71	-0.28	0.91
Knowledge application	40	27.44	7.65	1.94	15.31	0.95
Knowledge protection	40	27.85	6.38	-0.67	-0.10	0.88
Organizational culture	35	24.28	3.60	-0.86	1.30	0.83

The internal consistency within constructs enhanced the measurement reliability. Lower correlations between constructs indicated distinctiveness while some exhibited moderate correlations suggesting their interconnectedness. Lower correlations between the constructs suggest divergent validity. The suitability for factor analysis assessed through Kaiser-Meyer-Okin (KMO) and Bartlett's Test of Sphericity (BTS) justified the application of factor analysis, as evidenced by KMO values above 0.6 and significant BTS in Table 2, indicating the adequate data suitability and significant relationships among the variable.

Table 2: KMO and Bartlett's test of sphericity

Constructs	Kaiser-Meyer-Okin (KMO)	Bartlett's test of Sphericity (BTS)
Organizational culture	0.743	$\chi^2=419.753$, df=21, sig= <.001
Knowledge acquisition	0.897	$\chi^2=510.062$, df=28, sig= <.001
Knowledge conversion	0.889	$\chi^2=849.137$, df=28, sig=<.001

Knowledge application	0.927	$\chi^2=756.430$, df=28, sig=<.001
Knowledge protection	0.846	$\chi^2=438.381$, df=28, sig=<.001
df, degree of freedom; χ^2 , Approx Chi-square		

Validation of Research Hypotheses

The bivariate correlations analysis conducted to test the hypotheses in the study revealed significant relationships between organizational culture and the dimensions of knowledge management process. The results in Table 3 showed that, at a 0.01 significance level, the correlation matrix revealed positive and statistically significant relationships. Organizational culture exhibited moderate and positive correlation with knowledge conversion ($r=0.384$, $p<0.001$) and knowledge protection ($r=0.381$, $p<0.001$). However, organizational culture exhibited a strong and positive correlation with knowledge acquisition ($r=0.449$, $p<0.001$) and knowledge application ($r=0.487$, $p<0.001$). This implies that as organizational culture increases, there is a tendency for knowledge acquisition, conversion, application, and protection to also increase. Thus, based on the findings, the hypotheses H1- H4 were accepted emphasizing that organizational culture has the greatest impact on KM acquisition and application.

The results further revealed the interconnectedness of knowledge management process. At the 0.01 significance level, knowledge acquisition revealed positive and statistically significant correlations with knowledge conversion ($r=0.541$, $p<0.001$), knowledge application ($r = 0.410$, $p<0.001$), and knowledge protection ($r=0.530$, $p<0.001$). This suggests that as knowledge acquisition increases, knowledge conversion, application, and protection also tend to increase. These findings imply a coherent relationship between knowledge acquisition and the dimensions of knowledge management process.

A strong and statistically significant positive correlation was observed between knowledge conversion and knowledge application ($r= 0.560$, $p< 0.001$), as well as knowledge protection ($r= 0.692$, $p< 0.001$). These findings underscore a compelling tendency for knowledge application and protection to increase with increased knowledge conversion.

Additionally, a strong and statistically significant positive correlation ($r= 0.597$, $p< 0.001$) was observed between knowledge application and knowledge protection, signifying a strong association between these two dimensions as they both increase.

Table 3: Correlations

		KA	KC	KAP	KP	OC
KA	Pearson Correlation	1	.541**	.410**	.530**	.449**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	111	111	111	111	111
KC	Pearson Correlation	.541**	1	.560**	.692**	.384**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001

	N	111	111	111	111	111
KAP	Pearson Correlation	.410**	.560**	1	.597**	.487**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	111	111	111	111	111
KP	Pearson Correlation	.530**	.692**	.597**	1	.381**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	111	111	111	111	111
OC	Pearson Correlation	.449**	.384**	.487**	.381**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	111	111	111	111	111
**. Correlation is significant at the 0.01 level (2-tailed).						
KA, knowledge acquisition; KC, knowledge conversion; KAP. Knowledge application; KP, knowledge protection; OC, organisational culture						

Discussion

The study investigated the influence of organizational culture on the knowledge management process of acquisition, conversion, application, and protection, among registered nurses at OAUTHC in Ile-Ife, Nigeria using a descriptive, cross-sectional survey. The results of the bivariate correlations analysis revealed a positive and significant relationship between organizational culture and knowledge management process. The implication is that a positive organizational culture characterized by support for learning, open communication, and knowledge sharing is associated with knowledge acquisition among nurses. The positive correlation between organizational culture and knowledge acquisition suggests that a supportive and conducive organizational culture within OAUTHC promotes the process of acquiring new knowledge among registered nurses.

Similarly, the significant positive correlation between organizational culture and each of knowledge conversion and knowledge application and a significant positive correlation between knowledge conversion and knowledge application indicate that the cultural norms and values within OAUTHC facilitate the effective conversion of acquired knowledge into practical applications. This suggests that a culture that encourages collaboration, open communication, and innovation among nurses fosters the exchange and transformation of knowledge into actionable insights for patient care. Furthermore, this supportive culture, which prioritizes evidence-based decision-making, accountability, teamwork, and empowerment, also enables nurses to effectively apply their knowledge in addressing patient needs, thus improving patient outcomes, and delivering high-quality care. A related study Mlambo et al. (2021) conducted a meta-synthesis of the literature on nurses' continuing professional development, and reported that continual learning, both informal and informal, results in the acquisition of knowledge and skills transfer by the practicing nurse to stay updated with the latest evidence-based practices.

The significant positive correlation between organizational culture and knowledge protection suggests that a strong organizational culture within OAUTHC supports the efforts to safeguard valuable knowledge assets and intellectual property. This may involve policies, procedures, and practices aimed at ensuring confidentiality, data security, and the preservation of critical knowledge resources. This indicates that a positive organizational culture that prioritizes integrity, professionalism, and respect for privacy can contribute to a strong culture of compliance and accountability among nurses, ensuring secure handling and protection of patient data while adhering to ethical and legal standard. The findings align with Mirbalouchzahi et al. (2016) in their study of the relationship between organizational culture and knowledge management among nurses in Iranshahr hospitals, which indicated a significant direct relationship between organizational culture and knowledge management. Additionally, studies by Stock et al. (2010) and Ababneh and Hatamleh (2013) reported a positive relationship between organizational culture and knowledge management dimensions, with implications for patient safety and the need for an innovative organizational culture. Rezaei et al. (2021) further underscored the significance of organizational culture, organizational structure, management support, human resources, and technology in realizing the benefits of knowledge management.

Conclusions

The findings of this study emphasize the integral role of organizational culture in facilitating knowledge management process within nursing care settings and positioning knowledge management as a strategic approach for health improvement. It can be concluded that cultivating a positive and supportive organizational culture can enhance nurses' ability to acquire, convert, apply, and protect knowledge, ultimately leading to improved patient outcomes and organizational success. Furthermore, the results highlight the importance of organizational culture as an important driver of knowledge management practices to enhance nursing care delivery.

This study was conducted at OAUTHC in Ile-Ife, Nigeria, and was focused on registered nurses. For this reason, it is hoped that future research can be carried out in more hospitals and target other health professionals. Further research can also focus on specific knowledge management practices and how the mechanisms reflect in nursing practices.

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