Evidence Based Library and Information Practice

Organizational Factors as Predictors of Knowledge Management Practices in Federal University Libraries in Nigeria

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Article abstract

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Methods – The study was based on a correlational research design. Twenty heads of university libraries in Nigeria responded to a structured questionnaire developed by the researcher. The questionnaire was validated by experts and its internal reliability was 0.78 obtained through Cronbach's alpha procedures. The data collected were analyzed using Mean, Standard Deviation, One-Way ANOVA, Pearson's Product Moment Correlation Coefficient, and regression analysis.

Results – The study found that management support and collaboration were the most significant predictors of knowledge management practices in federal university libraries in Nigeria. Even though human resources policy and rewards systems had positive correlations with knowledge management practices, their correlation coefficients were not significant.

Conclusion – The success of knowledge management in university libraries in Nigeria depends on some contextual factors such as the support given by the management staff and the extent of collaboration among staff.

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Research Article

Organizational Factors as Predictors of Knowledge Management Practices in Federal University Libraries in Nigeria

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Abstract

Objective – University libraries in Nigeria are facing challenges arising from poor funding, increasing user demands, and a competitive information environment. Knowledge management has been accepted by information professionals as a viable management tool, but issues surrounding its application require empirical investigation. The aim of this study is to determine the organizational factors that are correlates and predictors of knowledge management practices in federal university libraries in Nigeria.

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management practices, their correlation coefficients were not significant.

Conclusion – The success of knowledge management in university libraries in Nigeria depends on some contextual factors such as the support given by the management staff and the extent of collaboration among staff.

Introduction

The information environment in which academic libraries operate today is changing rapidly. It is also clear that this changing information environment is largely due to the internet and digital revolution, thus creating new roles for librarians. Baruchson-Arbib and Bronstein (2002) have identified three roles for information professionals arising from the new information environment. First, library managers have to secure access to information not available in their libraries because no library is self-sufficient and capable of providing all the information needed by users. Second, information professionals are expected to provide user-centred services aimed at providing the right information to the right user. Third, LIS professionals should be more proactive and assertive in the new information environment. Knowledge management is a necessity as a result of these shifting roles (Maponya, 2004). Inkinen, Kiano, and Vanhala (2015) defined knowledge management practices as a set of management activities that enable an organization to deliver value from its knowledge resources.

University libraries today should provide services to fulfil the roles created by the new information environment. Unfortunately, university libraries in Nigeria lack adequate information resources, have poorly organized collections, lack internet connectivity, have poorly developed electronic resources, and suffer from decreasing budgetary allocations (Igbo & Imo, 2011). Mabawonku (2004) stated that the information resources of the Nigerian university libraries were "overstretched" and "inadequate" (p. 67). He added that most of the

books were outdated and journal subscriptions irregular. The solution may lie with knowledge management which has the potential to help libraries to deliver quality services and to be more innovative (Islam, Agarwal, & Ikeda, 2017; Obeidat, Al-Suradi, Masa'deh, & Tarhini, 2016; Plessis, 2007; Shang, Lin, & Wu, 2009). However, since the emergence of knowledge management over two decades ago, much attention in knowledge management studies has been on technological solutions (Brun, 2005; DeTienne, Dyer, Hoopes, & Harris, 2004; Yang, 2007). Though knowledge management depends on people management and human-related factors, there is a lack of empirical evidence on enablers for knowledge management success in university libraries (Ajiferuke, 2003). The aim of this paper is to contribute to the knowledge management literature through a quantitative analysis of the organizational factors that predict knowledge management practices in university libraries based on the views of university librarians. Because librarians have different views of knowledge management, this topic was approached from a specific viewpoint that resulted in a relatively small sample size. That is, instead of considering the views of all academic librarians, the study considered only the views of university librarians. These university librarians are library directors and are expected to play the role of knowledge management officers in their libraries. Specifically, this paper seeks to determine: (1) the relationship between organizational factors and knowledge management practices in federal university libraries in Nigeria, and (2) the organizational factors that predict knowledge management practices. Based on these specific objectives, the following research questions were formulated:

1. Which knowledge management practices are used in federal university libraries in Nigeria?
2. Which organizational factors for knowledge management practices are used in university libraries?
3. How do organizational factors correlate with and predict knowledge management practices?

Review of the Literature

Knowledge Management

Knowledge management has no accepted definition. As a result, scholars from different disciplines are debating the meaning of knowledge management from different schools of thought and different dimensions (Nonaka &Takeuchi, 1995).

The scholars affiliated with these schools of thought have different perceptions of knowledge management. Sveiby (1996) summarized these schools of thought into two. According to Sveiby, the first school of thought believed that knowledge management was about the management of information. Researchers in this group viewed knowledge as objects that could be identified and handled or processed in any information system. They also equated knowledge with information access with a focus on building and managing knowledge stocks (Alavi & Leidner, 2001). By seeing knowledge management as the management of information, these researchers believed that knowledge management was all about technology. The second school of thought believed that knowledge management was about management of people (Sveiby, 1996). The researchers in this group also believed that knowledge management was concerned with knowledge flows or knowledge processes in organizations. They maintained that these knowledge processes are found within the organizational environment. This may be clearly understood from the dimensions of knowledge management.

The dimensions of knowledge management, according to Brun (2005), include people, process, and technology. Okunoye (2003) and Handzic (2001) both identified processes and enablers as dimensions of knowledge management. According to Okunoye, "when we talk about knowledge management, we are primarily talking about supporting the knowledge processes with enablers" (p. 34). The enablers in this definition are regarded as organizational factors. The implication of Okunoye's definition is that, first, the management of knowledge begins with the identification of the internal processes of the organization. Second, the enablers or organizational factors that support the processes should be identified.

Knowledge Management Process

The knowledge management process, according to Davenport (1993), includes acquisition, creation, packaging, and application or re-use of knowledge. Galagan (1997) expanded this and proposed a knowledge management process that consisted of gathering new knowledge, accessing knowledge, representing knowledge, embedding knowledge, transferring knowledge, using knowledge, facilitating knowledge, and measurement. Rufai and Seliaman (2004) listed the elements of the knowledge management process as creating knowledge, capturing knowledge, representing knowledge, updating knowledge, disseminating knowledge, and validating knowledge. According to Rufai and Seliaman, knowledge is created as people determine new ways of doing things or develop know-how. Sometimes if knowledge did not reside within the organization, external knowledge could be brought in. The knowledge that was created needed to be stored in its raw form in a database. Most organizations used many different types of knowledge repositories to capture new knowledge (Wang, 2002).

Table 1

Emergent Content Categories of Knowledge Management Practices

Categories of knowledge management practices	Description (from theory-based literature)
Knowledge identification	This refers to the knowledge activities aimed at identifying users' needs and requirements for the purpose of providing them with a variety of quality services. Activities underlying knowledge identification include establishing contacts with users, studying the university curricula, participating in teaching and research in the university, and conducting user surveys (Balague, Duren, & Saarti, 2015; ILO, 2004; Maponya, 2004).
Knowledge acquisition	This refers to activities directed at seeking and obtaining knowledge from external sources and also from the internal environment. These activities include networking with other libraries; attending training programmes, conferences, seminars and workshops; using library collections; and collating internal profile of staff (Balague et al., 2015; ILO, 2004; Maponya, 2004).
Knowledge creation	This refers to the analysis of knowledge gathered from internal and external sources for the purpose of creating new knowledge. This analysis takes the form of cataloguing of online information resources, creation of databases of experts, indexing of knowledge generated in the university, and building knowledge repositories (Balague et al., 2015; ILO, 2004; Maponya, 2004).
Knowledge dissemination	This refers to activities aimed at making knowledge resources and services accessible to users. This can be achieved by using library alert systems, library mailing lists, new technologies, groupware, internet, library presentations, virtual tours of the library, intranet, and library guides (Balague et al., 2015; ILO, 2004; Maponya, 2004).

Wang further argued that new knowledge must be placed in context to be actionable and be made available in a useful format to anyone in the organization who needed it. Maponya (2004) drew on the previous literature to identify the key dimensions of knowledge management processes as acquiring, capturing, creation, and sharing of knowledge.

Applying knowledge management successfully in a university library requires the selection of knowledge management processes that cover completely the range of library activities or operations and services. According to Ugwu, Idoko, and Enem (2013), the key to knowledge management is capturing the knowledge of library processes or how libraries get their work done. The knowledge management processes

selected for this study were adapted from the International Labour Organization (ILO) (2004) model. The knowledge management processes as identified by the Inspection Unit of the ILO consisted of the identification of required knowledge, capturing knowledge, organizing knowledge, and sharing knowledge. The meaning and descriptions of these knowledge processes are shown in Table 1; in addition, see Appendix 1 for the item measures of the categories of knowledge management process.

Organizational Factors

Some authors have tried to identify the factors that could influence knowledge management. For instance, the following factors have been

Table 2

Emergent Content Categories of Organizational Factors

Categories of organizational factors	Description (from theory-based literature)
Management support	This refers to the extent to which knowledge management efforts are promoted by the library leadership, where the library leadership refers to the individual or individuals responsible for allocating resources for knowledge management and for specifying knowledge management initiatives for the library, explaining the importance of knowledge management to staff, building trust among staff, developing a written knowledge management policy or formulating knowledge management goals as well as leading by example (Thomas, 2006; Von Krogh, Nonaka, & Rechsteiner, 2011).
Human resources development	This refers to the activities that are intended to encourage staff to participate in knowledge management initiatives of the library. These activities include training of staff to acquire knowledge management competencies, rotating staff on the job, ensuring that staff are placed in the right positions in the library, and developing appropriate procedures for staff retention (Syed-Ikhsan & Rowland, 2004; Thomas, 2006).
Reward systems	Reward systems consist of activities that motivate staff to embrace knowledge management, or mechanisms developed in the library to recognize and appreciate the knowledge behaviour of staff. These activities or mechanisms include recognition of staff achievement, appreciation of knowledge management efforts of staff, and monetary rewards such as incentives and other benefits (Hasanali, 2006; Thomas, 2006).
Collaboration	This refers to the extent to which individuals communicate, cooperate, and help one another through sharing of knowledge and expertise. This can be encouraged through social networks such as teams, work groups, and communities of practice and through mentoring of staff and effective communication flows in the library (Syed-Ikhsan & Rowland, 2004; Thomas, 2006).

found to influence knowledge management: information systems, organizational structure, reward systems, processes, people, and leadership (Gupta & Govindarajan, 2000; Holoweztki, 2002; Martin, 2000). Thomas (2006) suggested that organizations needed a small number of the following factors: top management leadership, human resources policy, compensation schemes, collaboration, and measurement. Other studies have identified these factors as culture, technology, leadership, human resources practices, and innovation

(Donate & Guadamillas, 2011; Yusuf & Wanjau, 2014). Holsapple and Joshi (2000) carried out a literature review that yielded eight factors that potentially influenced knowledge management in organizations. The authors later expanded these factors to produce 16 factors which were grouped into three as the major kinds of forces influencing knowledge management in organizations, namely managerial influence, resource influence, and environmental influence. It was from these studies that the organizational factors for this study were selected. The factors

include management support, human resources development, reward systems, and collaboration. The meaning and descriptions of these factors are shown in Table 2; in addition, see Appendix 1 for the item measures of the categories of organizational factors.

Organizational Factors and Knowledge Management Process

Several researchers have explored the relationship between organizational factors and knowledge management processes (Brewer & Brewer, 2010; Donate & Guadamillas, 2011; Rosmaini &Woods, 2007; Schulte &Wang, 2004; Singh, 2008; Thomas, 2006). Positive interactions were found between human resources activities and knowledge management activities (Brewer & Brewer, 2010; Cabrera & Cabrera, 2005). Brewer and Brewer identified the human resources activities as teamwork, promotion of positive attitudes, socialization programmes, team performance appraisal, and reward system. Thomas's study revealed positive and significant relationships between organizational factors and knowledge management activities. Thomas found these factors to consist of management support, human resources policy, collaboration, and reward system. Donate and Guadamillas (2011) provided empirical evidence on the relationship between knowledge management and organizational elements such as culture, leadership, human resources practices, and innovation. Other factors that have been found to correlate positively with knowledge management activities include leadership (Singh, 2008), communication flows (Rosmaini &Woods, 2007), and collaboration and training (Schulte &Wang, 2004). Some authors have also found that reward systems are very effective in motivating knowledge workers to partake in knowledge management activities (Al-Adaileh & Al-Atawi, 2011; Chua, 2009; Hansen, Nohria, & Tiemy, 1999). Ajiferuke (2003) and Bouthillier and Shearer (2002) have advocated that similar studies should be carried out in a university library environment. Based

on these studies, the following hypotheses were formulated:

H1: There will be a significant joint relationship between organizational factors and knowledge management practices in university libraries in Nigeria.

H2: There will be a significant relative relationship between organizational factors and knowledge management practices in university libraries in Nigeria.

Methods

Research Type

A quantitative research approach was adopted in this study. Leedy and Ormrod (2005) stated that quantitative methodology is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena and further added that it may be distinguished as being a traditional, experimental, or positivist approach. Thus, quantitative methodology is suitable for this study as it establishes the relationships between variables or helps to test hypotheses or to determine the predictive values of variables. Further, the most suitable design for this study based on this approach is a correlational research design. Correlational research is used to determine the relationships between two or more variables, ordinarily through the use of correlation coefficients (Joyner, Rouse, & Glatthorn, 2013). Kumar (2014) stated that the main purpose of a correlational study is to discover or establish the existence of a relationship or association or interdependence between two or more aspects of a situation. This design was chosen because it would help to determine the relationship between the organizational factors as independent variables and knowledge management practices in university libraries as the dependent variable.

Measures

Scales for the measurement of knowledge management processes and organizational factors were drawn from prior literature. To measure these elements, the researcher used a five-point Likert scale that ranged from 1 = strongly disagree to 5 = strongly agree. The organizational factors identified by Thomas (2006) were utilized in this paper: management support, human resources policy, reward systems, and collaboration. Measures assessing management support were developed from prior studies (Thomas, 2006; Von Krogh et al., 2011) that encompassed two functional dimensions, namely, stating organizational goals and building trust among staff. The second factor, human resources policy, was measured through job placement and staff training. The measurement items of these organizational elements were drawn from studies by Syed-Ikhsan and Rowland (2004) and Thomas (2006). Further, item measures relating to reward systems were developed from previous studies on extrinsic and intrinsic reward systems (Hasanali, 2000; Thomas, 2006). Measures for collaboration were also developed from previous studies (Syed-Ikhsan & Rowland, 2004; Thomas, 2006) that dealt with two of its aspects, namely learning activities and communication flows. The measures of the dependent variable, knowledge management practices or knowledge management process, were based on the International Labour Organization's (2004) study on knowledge management process. Four categories of knowledge management process were adapted from this study, namely knowledge identification, knowledge acquisition, knowledge creation, and knowledge dissemination. Further, item measures for each of the categories of knowledge management process were developed from previous research literature (Balague et al., 2015; Maponya, 2004).

Research Participants and Data Collection

A survey questionnaire entitled "Organizational Factors as Predictors of KM Questionnaire" (see Appendix 1) was used to collect data for hypotheses testing. Before implementing the survey, the instrument was reviewed by four experts—three of whom were senior lecturers in the field of library and information science and the fourth was a professor of educational measurement and evaluation all from the University of Nigeria, Nsukka—in order to identify problems with wording, content, and question ambiguity. After some changes were made based on their suggestions, the modified questionnaire was piloted on 10 management staff of the University of Nigeria, Nsukka library system so as to determine the internal consistency of the research instrument using Cronbach's alpha procedures. Cronbach's alpha is one numerical coefficient used to measure the reliability of summated scales such as Likert scales. It estimates the internal consistency of scales (Gliem & Gliem, 2003). Since a 5-point Likert scale was used to measure the responses of the participants, the researcher found Cronbach's alpha the most appropriate procedure for establishing internal consistency of the research instrument for this study. The scales used in this study were found to be reliable as their Cronbach's alpha values were 0.78 and 0.86 for knowledge management process and organizational factors, respectively.

The copies of the questionnaire were sent via email to all the university librarians at the federal university libraries in Nigeria. These libraries were chosen because they were supposed to have established library and information services with fully developed library operations. There are presently 33 federal university libraries corresponding to the number of federal universities in Nigeria. The university librarians were chosen because of their experience in library operations and services. Introductory letters and the survey were emailed to 29 university librarians whose email addresses were obtained from the attendance list of 33 university librarians from the federal university libraries who attended the 2015 meeting of the Committee of University Librarians of Nigerian Universities. Attendance

at this meeting consisted of university librarians from federal, state, and private universities in Nigeria. No ethical clearance was required for this study. However, the researcher assured the participants of their safety and anonymity. In order to protect the identity of the subjects, no names, email addresses, or library names were gathered. Furthermore, each participant was asked to voluntarily participate in this study, spend 10 to 15 minutes responding to the questionnaire, and return the survey within 10 days. In total, 20 (67%) of the subjects completed and returned the survey.

Data Analysis

To summarize the data collected on knowledge management practices and organizational factors, means and standard deviations were used and the mean scores were ranked. The Pearson's Product Moment Correlation Coefficient was used to determine the relationships between organizational factors and knowledge management practices. The two hypotheses (H1 and H2) were tested at 0.05 probability levels using multiple regressions and ANOVA. All the statistical tests used in this study were computed with the aid of Statistical Packages in Social Sciences (SPSS).

Results

What knowledge management practices are in use in university libraries in Nigeria?

The knowledge management practices in federal university libraries in Nigeria are as described and presented in Table 3. To describe the responses on the knowledge management practices, the mean and standard deviation were estimated for each item. Table 3 shows that the highest responses in knowledge management activities were in the area of knowledge

acquisition, which involves using library resources (Mean = 3.49, SD = 0.61), online resources (Mean = 3.22, SD = 0.72), and consultation with colleagues (Mean = 3.03, SD = 0.77). The next highest knowledge management activity was participation of librarians in the teaching and research activities in the university (Mean = 3.16, SD = 0.92), which falls in the knowledge identification domain. In the area of knowledge dissemination, the highest knowledge management activity was library presentations and demonstrations (Mean = 2.94; SD = 0.98).

What organizational factors for knowledge management are in use in university libraries in Nigeria?

The purpose of Table 4 is to describe the organizational factors for knowledge management practices in federal university libraries in Nigeria. The analysis of data depicted in Table 4 shows that there are factors in the university library environment in Nigeria that are likely to promote knowledge management activities. The most important among these factors include mentoring of staff (Mean = 3.57, SD = 0.77), interest in the job (Mean = 3.48, SD = 0.72), recording of staff achievements (Mean = 3.36, SD= 0.63), enhancing job satisfaction (Mean = 3.28, SD = 0.66), and rotating staff on the job (Mean = 3.27, SD = 0.77). From these major factors, mentoring of staff is concerned with the nature of collaboration in the library. Interest in the job as well as recording staff achievements and enhancing staff job satisfaction refers to the nature of reward systems, whereas rotation of staff on the job and emphasizing the importance of knowledge management relate to human resources policy and management support, respectively.

Table 3

Means, Standard Deviations, and Ranks of Responses on Knowledge Management Processes

KM process	Mean	SD	Rank
Knowledge identification			
Participating in the teaching and research activities in the university	3.16	0.92	1
Contact with users	2.83	0.75	2
Survey results and academic programmes	2.82	0.73	3
Overall mean for knowledge identification	2.95	0.80	
Knowledge acquisition			
Library collections as source of knowledge	3.49	0.61	1
Internet as source of knowledge	3.22	0.72	2
Consultations with colleagues, interviews and experience	3.03	0.77	3
Overall mean for knowledge acquisition	3.25	0.70	
Knowledge creation			
Creating databases	2.66	1.05	1
Cataloguing of online resources	2.62	0.82	2
Indexing of knowledge generated in the university	2.52	0.79	3
Overall mean for knowledge creation	2.60	0.87	
Knowledge dissemination			
Library presentations and demonstrations	2.94	0.98	1
Use of library notices, phones, email, library alert system and fax	2.92	0.97	2
Use of university newsletters	2.55	1.15	3
Overall mean for knowledge dissemination	2.80	1.03	

Table 4

Means, Standard Deviations, and Ranks of Responses on Organizational Factors

Organizational factors	Mean	SD	Rank
Management support			
Emphasizing the importance of knowledge management	3.36	0.72	1
Welcoming contributions from staff	3.21	0.79	2
Identifying knowledge gaps and updating library policies regularly	3.20	0.72	3
Aligning knowledge management policy with the library's vision	3.13	0.67	4
Maintaining an open door policy	3.08	0.87	5
Making knowledge management policy available to staff	2.91	0.78	6
Having a written knowledge management policy	2.86	0.74	7
Overall mean for management support	3.11	0.76	
Human resources policy			
Recording of staff achievement	3.36	0.63	1
Rotating staff on the job	3.27	0.77	2
Allowing staff to undertake formal training	3.20	0.66	3
Sponsoring staff to conferences and workshops	3.11	0.68	4
Identifying staff with valuable tacit knowledge	2.99	0.67	5
Encouraging self-improvement of staff	2.95	0.85	6
Short courses on knowledge management for staff	2.80	0.73	7
Overall mean for human resources policy	3.05	0.73	
Reward system			
Increasing interest in the job	3.48	0.72	1
Enhancing job satisfaction	3.28	0.66	2
Providing positive feedback on the job	3.12	0.63	3
Conducting staff annual performance appraisals	2.76	0.76	4
Providing other incentives and benefits to staff	2.66	0.70	5
Overall mean for reward system	3.11	0.68	
Collaboration			
Mentoring of staff	3.57	0.77	1
Support for both top-down and bottom-up communication	2.89	0.94	2
Formulation of communities of practice or research groups	2.80	0.87	3
Encouraging staff to help one another	2.56	0.75	4
Support for top-down communication only	2.47	0.79	5
Support for bottom-up communication only	2.42	0.72	6
Overall mean for collaboration	2.79	0.81	

Table 5

Means, Standard Deviations, and Correlations between Organizational Factors and KM Practices

	Variables	M	SD	1	2	3	4	5	6	7	8
1	Knowledge identification	2.95	0.80	1.00							
2	Knowledge acquisition	3.25	0.70	.431	1.00						
3	Knowledge organization	2.60	0.87	.362	.432	1.00					
4	Knowledge dissemination	2.80	1.03	.503	.376	.467	1.00				
5	Management support	3.11	0.76	.627	.347	.455	.540	1.00			
6	Human resources dev.	3.05	0.73	.583	.243	.331	.386	.666	1.00		
7	Reward systems	3.11	0.68	.581	.297	.231	.401	.652	.636	1.00	
8	Collaboration	2.79	0.81	.497	.413	.355	.565	.384	.424	.533	1.00

Table 6

Summary of One-Way ANOVA of the Relationship between Organizational Factors and KM Practices

Model	Sum of squares	Df	Mean square	F	Sig
Regression	9,626.081	3	3,208.694	2.79	0.021
Residual	18,392.408	16	1,149.526		
Total	28,018.489	19			

Table 7

Regression Analysis of the Relative Contributions of Organizational Factors to Knowledge Management Practices

	Unstandardized coefficient		Standardized coefficient	T	Sig.
Model	B	Std Error	Beta		
Constant	14.671	2.693	-	5.522	0.000
Management support	.254	.090	.337	3.122	.002
Human resources Dev.	.177	.109	.178	1.634	.106
Reward system	.128	.104	.138	1.237	.219
Collaboration	.245	.074	.218	2.440	.017

Adj. R = .5648; Adj. R^2 = .319; Standard Error of Estimate = 9.708

What are the correlates of knowledge management practices?

In this study, the organizational factors are the independent variables whereas the dependent variables are the knowledge management practices. Table 5 shows a correlation matrix demonstrating the relationship between organizational factors and knowledge management practices.

1. The mean scores on the knowledge management variables ranged from 2.60 to 3.25, indicating that in the federal university libraries in Nigeria there is some level of knowledge management practices with supportive organizational factors, but that these are not strongly present.
2. The high standard deviation scores on knowledge organization and knowledge dissemination showed that the opinions of the respondents were polarized, or rather that the respondents were having issues with knowledge organization and dissemination. This might have influenced the mean scores, or such a situation might be responsible for the reporting of some level of knowledge management activities in the university libraries.
3. The mean scores on the organizational elements ranged from 2.79 to 3.11, indicating that these elements were not strongly utilized to provide support for knowledge management activities in the university libraries.
4. The respondents' opinions on the organizational factors did not show wide variability. The coefficient of variation was as low as 16%.
5. The correlation matrix depicted in Table 5 revealed a positive correlation between organizational factors and knowledge management practices.
6. Knowledge identification had the strongest positive correlation with organizational factors. The correlation

coefficient between these variables ranged from 0.50 to 0.63.
7. Management support had the strongest positive correlation with knowledge management practices. The correlation coefficient between management support and knowledge management variables ranged from 0.35 to 0.63.
8. Knowledge acquisition had the weakest positive correlation with organizational factors. The correlation coefficient between these variables ranged from 0.24 to 0.41.
9. Reward system had the weakest positive correlation with knowledge management variables. The correlation coefficient between reward systems and knowledge management variables ranged from 0.23 to 0.58.

Hypotheses Testing (HI and H2)

Joint Relationship between Organizational Factors and Knowledge Management Practices (H1)

H1 was formulated to test at 0.05 probability level the joint relationship between organizational factors and knowledge management practices. The analysis was done using One-Way ANOVA. Table 6 shows a joint relationship between organizational factors and knowledge management practices. The result of the One-Way ANOVA revealed that the F-test was significant at 0.05 probability levels. This implies that at least one of the organizational factors was a significant predictor. This provides support for H1. Therefore, the combined effect of the organizational factors on knowledge management practices was significant.

Relative Relationship between Organizational Factors and Knowledge Management Practices (H2)

H2 was formulated to test at 0.05 probability level the relative relationship between organizational factors and knowledge management practices. This hypothesis was

formulated to provide answers to the fourth research question: what are the predictors of knowledge management practices? Regression analysis was employed in the analysis. Table 7 shows the results of the regression analysis on the individual contributions, or the predictive values of the organizational factors in relation to knowledge management practices in university libraries in Nigeria. The knowledge management process was regressed on the organizational factors. The factors, as shown in Table 7, with the most significant contributions are management support (Beta = 0.337, t = 3.122, p < 0.05) and collaboration (Beta = 0.218, t = 2.440, p < 0.05). Other factors like human resources policy and reward systems showed no significant contributions to knowledge management practices. These factors accounted for 32% of the variance in knowledge management practices in federal university libraries in Nigeria. This evidence shows that H2 is not fully supported because reward systems and human resources policy were not significant predictors.

Discussion

The results of the study showed the important measures of knowledge management practices and those of organizational factors as well as the correlates and predictors of knowledge management practices in federal university libraries in Nigeria.

Knowledge Management Practices

The findings of this study revealed that knowledge identification, knowledge acquisition, knowledge creation, and knowledge dissemination are important measures of knowledge management activities in federal university libraries in Nigeria. The responses of the university librarians on each of these measures indicate that university libraries are gradually engaging in knowledge management activities. The greatest areas of knowledge management activities were knowledge acquisition and knowledge dissemination. The

specific activities carried out in the area of knowledge acquisition consist mainly of using library resources and online resources for knowledge services. The libraries were equally engaged in library presentation and demonstrations as a knowledge dissemination activity. However, emphasis on knowledge management process appears to be more on manual operations than automated systems. These results are not surprising because technological infrastructures have not been fully developed in university libraries in Nigeria. Second, many librarians in these libraries have yet to come to terms with the use of web 2.0 and web 3.0 in providing library and information services. The findings support the KM process in academic libraries identified by Maponya (2004) and Balague et al. (2015). According to Maponya, the knowledge management process in academic libraries involves the capturing, sharing, or dissemination and utilization of knowledge. Maponya further identified specific knowledge management activities in academic libraries as participation in the teaching and research activities of the university (knowledge identification), collating internal profiles of academic librarians (knowledge creation), establishing knowledge link or contacts (knowledge acquisition), and using both internal and external media to disseminate knowledge.

Organizational Factors

The findings also revealed that management support, human resources policy, reward system, and collaboration constituted the organizational dimensions of the knowledge management implementation process in university libraries in Nigeria. The mean scores obtained on the organizational elements show that university librarians have neutral responses about their roles in knowledge management. However, the highest responses of the librarians on the organizational factors used for knowledge management practices are in the areas of providing management support and having a structured reward system that defines specific intrinsic and extrinsic reward activities

to encourage staff participate in knowledge management. These findings support Mosoti and Masheka's (2010) study that maintained that knowledge management should be implemented as part of organizational leadership. The findings are also in conformity with the studies by King (2000), Thomas (2006), Gold, Malhotra, and Segars (2001), Holowetzki (2002), Holsapple and Joshi (2000), and Yassin, Salim, and Salari (2013) that laid the foundation for the empirical investigations of the organizational related factors for knowledge management success and identified such factors as leadership, organizational culture, human resources activities, communication flows, and non-hierarchical organizational structure.

Correlates and Predictors of Knowledge Management Practices

The positive relationship between organizational factors and knowledge management practices is in conformity with the results of similar studies in other public organizations (Thomas, 2006). This finding is not unexpected because LIS professionals have accepted knowledge management as either a re-branding of librarianship and information management or a new dimension of both disciplines (Husain & Nazim, 2013).The factors with the most significant contributions are management support and collaboration. This finding is not consistent with those of Thomas (2006) that showed a significant correlation between organizational factors and knowledge management systems. The possible explanations for these contradictory results may be that the respondents could not distinguish between management support and such factors like human resources policy and reward systems since both might be included in the management tools needed to facilitate knowledge management. Second, the respondents might have felt that knowledge management issues revolved around management support and collaboration. These findings show that management support and collaboration are two critical success factors for knowledge

management practices in federal university libraries in Nigeria. This means that university librarians are expected to provide management support and foster collaboration among staff for the success of knowledge management practices.

Practical Implications of the Findings

This study has three implications for university libraries in Nigeria. First, the study reveals that knowledge identification has the most positive correlation with organizational factors. This implies that university libraries should pay more attention to identifying the needs of users in their knowledge management initiatives. More knowledge activities in this area should be intensified to ensure that user needs are not only identified but also met. To identify user needs, librarians should be encouraged to participate in teaching and research in the university and to maintain regular contact with users. Second, the study reveals that management support is the most significant predictor of knowledge management practices. This means that the success of knowledge management depends largely on the extent of support provided by the library leadership. Providing knowledge management leadership has been supported in the literature as a necessary condition for knowledge management success (Singh, 2008). The present study reveals that this support takes several forms of commitments from the library leadership such as welcoming contributions from staff, updating library policies and procedures, and maintaining an open door policy. These leadership activities or commitments will help to build trust among the library staff. Further, library leadership must try to explain the importance of knowledge management to staff and ensure that knowledge management policy is aligned with the library's vision. Explaining the importance of knowledge management to staff is crucial because its understanding will help in the formulation of knowledge management policies or goals for the purpose of integrating them into the libraries' vision. Finally, the study also reveals a significant correlation between collaboration

and knowledge management practices. This implies that learning and communication are required for the success of knowledge management in the university libraries. This learning should take the form of group learning where staff are allowed to engage in mentoring and encouraged to help one another, or where staff are helped to form research groups as well as communities of practice. An effective communication system is equally important; a system that encourages top-down and bottom-up communication is supported by this study.

The study also has implications for researchers interested in knowledge management and managing university libraries in the era of change. The information environment is changing rapidly, and it is threatening the survival of academic libraries the world over. Research has been ongoing in this regard from total quality management through learning organizations to knowledge management now. More research is therefore needed in the area of knowledge management in libraries to update current practice and provide enhanced services to library users.

Limitations of the Study

The following may be considered as the limitations of this paper. First, the number of university librarians studied was small, and this may have affected the findings. As a result, the findings are not generalizable. Future research could benefit from using larger samples by involving all the university librarians in Nigerian universities. Second, common organizational elements for knowledge management process have been analyzed, but specific conditions may be necessary for clearer understanding of the relationships between these elements and the knowledge management process. As has been obtained from this study, human resources policy or practices and reward systems did not interact significantly with the knowledge management process. Future studies could look in greater depth at the relationships between specific human resources practices and

the knowledge management process, or specific compensation schemes and the knowledge management process.

Third, a quantitative technique was used as the main data collection method. Self-reported data collection techniques such as questionnaires are associated with quantitative techniques and may create a response bias. Studies have shown that self-reported measures also create methods effects (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Methods effects have the potential to bias correlations and regression weights and, as such, correlated errors often affect the significance of statistical tests (Sharma, Yetton, & Crawford, 2009). To this effect, it is possible that the support for all the hypotheses, which were tested at 0.05 significance levels, could be inflated. Though it is unlikely that respondents would be able to anticipate the patterns of relationships among the variables studied, the researcher tried to minimize methods bias by ensuring the anonymity of the respondents and by withholding any forms of incentives during data collection. However, it is suggested that future research in this area should apply Harman's (1960) single factor and marker variable to statistically test common methods bias. It is also suggested that future research could consider using multiple methods of data collection, which should include more qualitative techniques.

Fourth, the dimensions of the knowledge management process chosen in this study might have affected the findings as several dimensions of the knowledge management process can be found in the knowledge management literature. This study may have overlooked other important dimensions that could have correlated significantly with the identified organizational elements or factors. Future studies could eliminate this kind of method effect by enhancing the validity of the measurement scale through convergent and discriminant validity tests. The essence of these tests is to enable the researcher to obtain good measures of what he or she wishes to measure.

Finally, further information was not provided as explanations to some of the item measures of the knowledge management categories and those of organizational factors. Though the item measures were validated and their internal reliabilities determined, wrong interpretations of these measures by the participants could have some influence on the findings. Future studies could address this issue by providing additional information to help the participants respond with less difficulty to the questionnaire items.

Conclusion and Recommendations

Based on the findings of the study, the following recommendations are made:

1. A knowledge management strategy should be formulated for knowledge management practices in federal university libraries in Nigeria.
2. The strategies for knowledge management practices should consist of knowledge identification, acquisition, organization, and dissemination.
3. Organizational commitment for knowledge management practices in university libraries should include management support and collaboration.
4. Research should be intensified on knowledge management in libraries to uncover more contextual factors needed for knowledge management success.

Furthermore, though both management support and collaboration have significant correlations with knowledge management practices, the percentage contribution of these factors to knowledge management (32%) was not strong enough. This means that more activities or efforts are still needed in the two organizational dimensions for efficient knowledge management practices in university libraries in Nigeria.

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Appendix

Questionnaire

Instruction: Choose as appropriate in the boxes provided in sections A and B as shown below:

1. Strongly agree = 5
2. Agree = 4
3. Neutral = 3
4. Disagree = 2
5. Strongly disagree =1

Section A: Knowledge Management (KM) process

s/n	Indicate your level of agreement on KM activities in your library	1	2	3	4	5
	Identifies knowledge through:					
1	Contact with users					
2	Participating in the teaching and research activities in the university					
3	Survey results and academic programmes					
	Acquires knowledge through:					
4	Consultation with colleagues, interviews and personal experience					
5	Library collection					
6	Internet resources					
	Creates knowledge by:					
7	Creating different databases to add value					
8	Indexing knowledge generated in the university					
9	Cataloguing of online resources to enhance access					
	Disseminates knowledge through:					
10	Library presentation and demonstrations					
11	Use of library notice, phones, email, library alert system and fax					
12	University newsletter					
	Other (specify)					

Section B: Organizational factors for Knowledge Management (KM)

s/n	Indicate your level of agreement on the following organizational activities are ongoing in your library for KM	1	2	3	4	5
	Management support					
1	My library has a written KM policy					
2	Aligns KM policy with the library's vision					
3	Makes KM policy available to staff					
4	Emphasizes the importance of KM					
5	Maintains open door policy					
6	Welcomes contributions from staff					
7	Identifies knowledge gaps and updating library policies regularly					
	Human resources policy or practices					
8	Sponsors staff to conferences/workshops					
9	Encourages self-improvement of staff					

10	Approves formal training of staff					
11	Approves short courses in knowledge management for staff					
12	Rotates staff on the job					
13	Identifies staff with valuable tacit knowledge					
	Reward systems					
14	Records staff achievements					
15	Increases staff interest in the job					
16	Enhances job satisfaction					
17	Provides positive feedback					
18	Holds annual performance appraisals of staff					
19	Provides incentives to staff from time to time					
	Collaboration					
20	My library has communities of practice or research groups					
21	Mentoring of staff is encouraged					
22	Encourages staff to help one another					
23	Supports top-down communication only					
24	Supports bottom –up communication only					
25	Supports both top-down and bottom- up communication					
	Other (specify)					