

A STUDY OF KNOWLEDGE CREATION MECHANISM IN NIGERIAN UNIVERSITY LIBRARIES FROM NONAKA'S PERSPECTIVE

BY

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ABSTRACT

The paper investigates knowledge creation mechanism in Nigerian university libraries, using self-developed, pre-tested and validated copies of a questionnaire as instrument of study. The purpose of the study was to provide the guidelines to managers in Nigerian university libraries in order to enhance knowledge creation initiative. The study revealed that all the four methods of knowledge creation propounded by Nonaka were contributing to the knowledge creation, though at different degrees with socialization having the highest mean score while internalization has the least mean score and this implied that knowledge sharing among employees in the studied university libraries is very remarkable. The result of the study further confirmed that knowledge creation in Nigerian university libraries was very high as at the time of this study. Based on these findings, the paper recommended that managers in Nigerian university libraries should create strategies for proper documentation and retrieval of official documents, continuous promotion of friendly environment through which socialization can be made stronger for further knowledge sharing that may lead to knowledge creation in the workplace.

Key words: knowledge creation, knowledge management, socialization, externalization, combination, internalization, Nigerian University Libraries

INTRODUCTION

Library is a strong mechanism by which the University achieves its aims and objectives of extending the frontiers of knowledge. Knowledge constitutes an indispensable and tangible asset of the organization which gives an organization the enablement to compete favourably with its rivals in the knowledge economy of today. Thus, organizations are striving to make sure that knowledge created in and outside the organizations is shared among the staff within the organization. From the knowledge management system perspective, knowledge can be considered to be a public good, an asset available

to all members of staff regardless whether the members have contributed to its constitution or not.

There are two schools of thought that have been identified in the process of knowledge creation; one school believing that for knowledge to be shared, it has to be first created and the second school of thought believes that to create knowledge is to share knowledge. Thus, when sharing knowledge, knowledge is in turn being created. One may probably conclude that the school of thought whose belief of creating knowledge is sharing knowledge is perhaps more realistic on the premise that it is when an individual share his skills, experiences and expertise with others that knowledge is covertly and overtly, created. Sagsan (2013) belongs to the former school of thought which believes that knowledge has to be first created before it can be shared while the latter school of thought whose belief is that for knowledge to be created, it has to be shared first.

LITERATURE REVIEW

Knowledge creation

Knowledge creation is one of the sub-sets of knowledge management. Others are knowledge sharing, knowledge utilization and knowledge storage. While knowledge sharing leads to knowledge creation, knowledge creation in turns leads to knowledge utilization, thus the three are interconnected and inseparable. Within the knowledge management parlance, knowledge is the commodity being traded and carefully protected for emancipation of success and national growth.

Creation of knowledge often refers to the creation of new social knowledge through researches which are conducted in universities, government agencies and private sector think tanks. The mission of librarians and library management is to improve the society by facilitating the creation of knowledge through information exploitation. Within the library parlance, the knowledge about library users' behaviour, their information needs, knowledge about library routine works, knowledge about library vendors, knowledge about library best practices, information from external environments, such as from other libraries constitute what lead to the creation of a new knowledge. Ugwu, Ekere and Ekere (2014) carried out a study on the knowledge processes for successful application of knowledge management in university libraries in Nigeria and reported that staff in Nigerian university libraries engage in knowledge creation is to a small extent and slightly above average in knowledge dissemination. Asogwa (2012) opined that knowledge of the library's range of operations such as library users and their information seeking behaviour, library collections, library facilities and technologies form the sum total through which knowledge is constantly created, and knowledge being created leads to the improvement of library services to its users. Asogwa stressed further that academic librarians participate in knowledge creation through the teaching activities such as library instructional programmes, compilation of bibliographies, preparation of access tools such as creation of library catalogue, indexing and abstracting services and in research activities.

Much literature on knowledge management commonly identifies two known types of knowledge as tacit and explicit. However, Koenig (2012) criticized this categorization, stressing that it is rather too simplistic and more importantly, it is misleading. Koenig therefore provides another categorization as explicit, implicit, and tacit as a substitute for the previously known two types of knowledge -

explicit and tacit. Stressing further, Koenig (2012) defined explicit knowledge as the information or knowledge that is set out a tangible form. The implicit knowledge is what he referred to as the information or knowledge that is not set out in tangible form but could be made explicit, and the tacit knowledge is what he defines as the information or knowledge that would extremely difficult in setting out in tangible form. Polanyi (1967) and Nonaka and Takeuchi (1995) cited by Jennex (2008) stressed that tacit knowledge is that which is understood within a knower's mind and which cannot be directly expressed by data or knowledge representations and is commonly understood as unstructured knowledge. Explicit knowledge on the other hand is the knowledge which can be directly expressed by knowledge representations and is commonly known as structured knowledge. Knowledge transfer in an organization occurs when members of an organization pass tacit and explicit knowledge to each other. Eveler (2009) stated that explicit and tacit knowledge management refers to the practice, in which information is identified, created, represented, and distributed. Explicit knowledge is easily transmittable knowledge that can be quantified, counted, organized and measured. It exists in readily available media forms such as manuals, encyclopedias, newspapers, and cyber space. New technologies relying on the internet such as e-mail, video conference, blackberries, laptops, wireless communication, blogs, chat rooms and wikis, have far surpassed the goal and of providing quality realms for rapid exchange of explicit information. Tacit knowledge refers to knowledge that people carry in their minds and is often difficult, if not impossible, to articulate through conventional means of knowledge exchange. In another contribution, Hara (2007) cited by Islam and Khan (2014) stated that there are three types of knowledge that may be shared and these are: book knowledge, practical knowledge and cultural knowledge. However, this categorization seems not to be complete as there are more to be shared than book knowledge. Therefore, the present researcher is of the opinion that rather than say book knowledge, it would have been better to say explicit knowledge such from the printed format books, scholarly journals, reference publications and so on. In the case of the practical knowledge this consists of tacit knowledge gained from the working experience while the cultural knowledge is derived from the organizational culture in a particular organization.

Creating knowledge is an important aspect of knowledge management and the process of sharing brings about knowledge creation. Awazu (2005) submitted that "creating knowledge is a significant aspect of any knowledge management programme", and argued further that successful knowledge management in a competitive business environment requires that an organization should possess certain capabilities. In particular, the organization must be able to create, transfer, store, retrieve, and apply knowledge. Tsoukas (1996), Tsoukas and Vladimirou, (2001) cited in Edwards (2007) stated that "knowledge sharing is shaped by the normative expectations of the work process, associated experiences of those involved and situational context when strategy choices are enacted". Fiol and Lyles, (1985), Nonaka and Takeuchi, (1995) cited by Anand (2006) observed that "knowledge is internalized information about cause-effect relationship that is the result of learning and experience". Knowledge creation or organization learning is defined as the "detection of errors and anomalies, investigation of casual relationships, and corrections made in light of the results" (Argyris and Schon, 1978 cited by Anand, 2006). The terms knowledge creation and organizational learning, according

to Argote et al., (2003), Easterby-Smith and Lyles, (2003) cited by Anand (2006) “are closely related and used almost interchangeably in the literature”. Spender and Grant, (1996) cited by Anand (2006) stressed that, “most organizational knowledge originates in individuals”. Individual knowledge must be synthesized, integrated and preserved to create organizational knowledge which in turn provides strategic competitive advantage (Nonaka, 1994 cited by Anand 2006). Thus, environments that facilitate interactions among individuals in turn facilitate organizational knowledge creation (Reagans, et al, 2005 cited by Anand, 2006). Nonaka and Takeuchi (1995) cited by Jennex (2008) proposed four modes of knowledge creation and transfer, often referred to as the SECI model, that is socialization, externalization, combination and internalization.

Socialization (Tacit - tacit) is the process of sharing individual experiences. Tacit knowledge may be obtained without using language but through observation, imitation, and practice. The socialization mechanism combines individual knowledge and expertise and creates a common understanding about the process being investigated (Fiol, 1994; Nonaka et al, 1994; Weick and Robers, 1993 cited by Anand, 2006). Socialization practices enable individuals to express to each other ideas in the light of their experiences. “The socialization mechanism” in the words of Anand (2006) “is targeted via informal organization – level activities such as company picnics, and by creating environments such as coffee-room, and other relaxation areas that encourage casual discussions”. In addition there are “formal organizational- level practices such as job rotation” (Kane et al, 2005 cited by Anand, 2006). and apprenticeships that play a role in the conversion of both explicit and tacit knowledge to tacit knowledge. Thus, some practices serve dual purposes of socialization and internalization (explicit - tacit).

Externalization (Tacit - Explicit) is the process of articulating tacit knowledge in the form of explicit ideas, taking the shapes of metaphors, analogies, concepts, hypotheses, or models. Anand (2006) stated that “while socialization enable process stakeholders to synthesize tacit ideas and generate more tacit ideas, the externalization mechanism enables explicit expressions of these tacit ideas in the form of language and visual schemata that can be communicated”. Externalization practices convert tacit knowledge (held by individuals and the group) into explicit forms such as written descriptions, objective numbers, or pictures and diagrams. Externalization practices enable individuals to express and summarize a view explicitly the knowledge they have created jointly through the exchange and synthesis of tacit knowledge, thereby creating common understanding.

Combination (Explicit - Explicit) is the process of systemizing concepts into a knowledge system by combining different bodies of explicit knowledge. Explicit knowledge is transferred through media such as documents, meetings, e-mail, and/or phone conversations. Categorization of this knowledge can lead to the generation of a new knowledge. Through the combination mechanism of knowledge creation, explicit knowledge becomes justified knowledge for project team members, that is, team members see explicit relationships between sets of process elements through data analysis and measurement of critical metrics. In the words of Linderman et al, (2004) cited by Anand (2006), “Combination practices are made up of explicit knowledge, reconfiguring and systematizing it to result

in new explicit knowledge”. Zhang et al, (2004) cited by Anand (2006) submitted that “combination practices involve sorting, adding, combining and categorizing explicit knowledge”.

Internalization (Explicit - Tacit) is the process of converting explicit knowledge to tacit knowledge and is closely related to learning by doing. The internalization mechanism according to Anand (2006) “constituted the embodiment of explicit knowledge gained by individuals in the activities they perform as part of the process”. Internalization practices consist of learning-by-doing activities like training on the job and observation of someone applying the explicit knowledge in doing their job.

OBJECTIVES OF THE STUDY

To accomplish the aim of the paper, the study is guided with the following objectives:

1. To determine knowledge creation strategies in Nigerian University Libraries, based on the Nonaka’s model
2. To identify which of the four tenets of knowledge creation model has the highest impact?

RESEARCH QUESTIONS

1. What is the contribution of socialization to the knowledge creation in Nigerian University Libraries?
2. What is the contribution externalization to the knowledge creation in Nigerian University Libraries?
3. What is the contribution of combination to the knowledge creation among library personnel in Nigerian University Libraries?
4. What is contribution of internalization to the knowledge creation in Nigerian university libraries?

JUSTIFICATION OF THE STUDY

In the present knowledge economy, knowledge has become a commodity that has to be produced like other commodities before it can be used for other purposes. While other products are produced through the well-known factors of production knowledge is, on the other hand being produced through the interaction of members of staff in the workplace with the use of available facilities and structures. Knowledge creation is one of the important tenets of knowledge management cycle but while there is a lot of study on the other aspects of knowledge management, there appears to be a dearth of literature on knowledge creation. It is against this backdrop that this study is being embarked upon to examine knowledge creation mechanism in Nigerian University Libraries and thereby contributing to the body of knowledge in librarianship with regards to knowledge management.

METHODOLOGY

The research design employed for this study was a descriptive survey. The researcher considered this method as appropriate based on the fact that the population of study from the selected Nigerian University Libraries was located in different geographical area. Inferences about relations among the variables were made without any direct intervention from concomitant variation of independent

and dependent variables. In addition, no artificial setting was created for the study. Copies of a questionnaire as the research instrument were served on the population of the study which comprised the academic librarians and non-academic staff. The questionnaire had five measuring scale of Strongly Agree =5, Agree =4, Strongly Disagree =3, Disagree =2 and Undecided= 1. The sample size is 674 personnel consisting of 409 academic librarians and 265 non-academic staff working in the selected university libraries across the four geo-political zones. A random sampling technique was used to select four geo-political zones out of the six geo-political zones in Nigeria. The same method was used to select libraries from each of the Federal, State and Private Universities from the four geo-political zones selected for this study vis-a-vis North-Central, North-West, South-South and South-West.

DATA ANALYSIS AND INTERPRETATION

Research Question one: What is the contribution of socialization to the knowledge creation in Nigerian University Libraries?

Table 1: Level of Socialization in Nigerian University Libraries

S/N	SOCIALIZATION	SA	A	D	SD	U	Mean	S.D
1	In team discussions I actively share my experiences with others	199 48.8%	185 45.3%	9 2.2%	4 1.0%	11 2.7%	4.37	0.81
2	I share my work experience with others in the workplace	175 42.9%	206 50.5%	5 1.2%	6 1.5%	16 3.9%	4.27	0.88
3	At seminar presentations, we share experiences	160 39.2%	213 52.2%	8 2.0%	9 2.2%	18 4.4%	4.20	0.93
4	During discussions, I bring out some concepts, thought or ideas	143 35.0%	233 57.1%	11 2.7%	5 1.2%	16 3.9%	4.18	0.87
5	During discussions, I find out others' opinions, thought and other information	155 38.0%	215 52.7%	11 2.7%	7 1.7%	20 4.9%	4.17	0.94
6	We usually share experiences in the coffee-room	62 15.2%	156 38.2%	95 23.3%	50 12.3%	45 11.0%	3.34	1.20
7	Before group discussions, I collect necessary information to enhance contributions	128 31.4%	213 52.2%	33 8.1%	8 2.0%	26 6.4%	4.00	1.02
	Grand Mean	4.08						

Key: Strongly Agree =5, Agree = 4, Strongly Disagree =3, Disagree = 2 and Undecided= 1

Table 1 above revealed the knowledge creation through socialization method in selected University Libraries. From the above data, it shows that social interaction among the employees is robust and this implied that knowledge sharing among employees in Nigerian university libraries is high, commendable and overtly contributing to knowledge creation in Nigerian University Libraries since it has been argued earlier in this paper that knowledge sharing enhances knowledge creation. In conclusion, with the overall reported Grand Mean = 4.08 on a scale of 5 it implied that socialization

as a method of knowledge creation in Nigerian University Libraries is very high and thereby greatly contributing to knowledge creation.

Research Question two: What is the contribution of combination to the knowledge creation in Nigerian University Libraries?

Table 2: Level of combination in Nigerian University Libraries

S/N	COMBINATION	SA	A	D	SD	U	MEAN	S.D
1	I use my experience in solving problems	154 37.7%	219 53.7%	21 5.1%	5 1.2%	9 2.2%	4.24	0.79
2	I collect new information, and make connection of new and old knowledge to work up new concepts	161 39.5%	210 51.5%	16 3.9%	8 2.0%	13 3.2%	4.22	0.87
3	During the discussions, I help organize ideas and make conclusions to facilitate the discussions	112 27.5%	249 61.0%	21 5.1%	7 1.7%	19 4.7%	4.05	0.90
4	After every event, I organize and make a summary of what has happened	94 23.0%	249 61.0%	35 8.6%	6 1.5%	24 5.9%	3.94	0.95
5	During discussions, I organize everyone's thought in my mind	87 21.3%	239 58.6%	40 9.8%	16 3.9%	26 6.4%	3.85	1.01
	Grand Mean 4.06							

Key: Strongly Agree =5, Agree = 4, Strongly Disagree =3, Disagree = 2 and Undecided= 1

Table 2 depicts the knowledge creation through combination method in Nigerian Libraries. The data confirmed that employees in Nigerian university libraries were making adequate use of documented organizational activities and meetings in their routine jobs by converting explicit knowledge to explicit knowledge as method of creating further knowledge. By inference, employees in Nigerian university libraries were employing the practice of assimilation by making proper use of available and documented organizational knowledge that is being shared in the place of work. With the overall reported Grand Mean = 4.06 on a scale of 5, it can be concluded that combination method is greatly contributing to knowledge creation in Nigerian University Libraries.

Research Question three: What is the contribution of externalization to the knowledge creation in Nigerian University Libraries?

Table 3: Level of externalization in Nigerian University Libraries

S/N	EXTERNALIZATION	SA	A	D	SD	U	Mean	S.D
1	When others cannot understand me, I usually give examples to help illustrate my idea	118 28.9%	217 53.2%	36 8.8%	9 2.2%	28 6.9%	3.95	1.04
2	I describe professional or technical terms in conversational language to help communicate in a team	103 25.2%	238 58.3%	35 8.6%	4 1.0%	28 6.9%	3.94	1.00
3	When others cannot express themselves clearly, I usually help them clarify their points	106 26.0%	229 56.1%	36 8.8%	16 3.9%	21 5.1%	3.94	0.98
4	When express abstract concepts, I explain with examples	96 23.5%	235 57.6%	37 9.1%	20 4.9%	20 4.9%	3.90	0.98
5	Most of the time, I transcribe some of the unorganized thoughts into concrete ideas	96 23.5%	232 56.9%	32 7.8%	17 4.2%	31 7.6%	3.85	1.07
Grand Mean							3.92	

Key: Strongly Agree =5, Agree = 4, Strongly Disagree =3, Disagree = 2 and Undecided= 1

Table 3 above revealed the knowledge creation through externalization method in Nigerian University Libraries. From the available data, it can be deduced that employees in Nigerian university libraries were being helpful to one another in terms of explaining difficult concepts to one another and thereby translating it into written forms such as paper writing and policy decision taking and thus converting tacit knowledge to explicit knowledge. This further confirmed that social interaction vis-à-vis teamwork exists among employees in Nigerian university libraries as at the time of this study and with the reported Grand Mean = 3.92 on a scale of 5 indicates that though externalization is equally contributing to knowledge creation in Nigerian university libraries but at a slow tempo when compared to socialization and combination methods and this indicates that people may probably finding it difficult to share their tacit knowledge in written format.

Research Question four: What is the contribution of internalization to the knowledge creation in Nigerian University Libraries?

Table 4: Level of internalization in Nigerian University Libraries

S/N	INTERNALIZATION	SA	A	D	SD	U	Mean	S.D
1	After hearing a new idea or concept, I compare it with my experience to help me comprehend the meaning	127 31.1%	214 52.5%	35 8.6%	10 2.5%	22 5.4%	4.01	0.99
2	When communicating with others, I give them enough time to think about what we have just discussed	109 26.7%	220 53.9%	44 10.8%	16 3.9%	19 4.7%	3.94	0.97
3	I understand others' thoughts better by repeating what they have said	95 23.3%	211 51.7%	70 17.2%	18 4.4%	14 3.4%	3.87	0.94

4	I tell others what I think to make sure my idea is the same as theirs	86 21.1%	229 56.1%	46 11.3%	25 6.1%	22 5.4%	3.81	1.01
5	When I have finished saying something, I ask the other person if it is necessary to repeat	90 22.1%	214 52.5%	61 15.0%	16 3.9%	27 6.6%	3.79	1.04
Grand Mean							3.89	

Key: Strongly Agree =5, Agree = 4, Strongly Disagree =3, Disagree = 2 and Undecided= 1

Table 4 above revealed the knowledge creation through internalization method in Nigerian University Libraries. With the above data, it can be deduced that level at which employees in Nigerian university libraries apply their on- the- job- training experience and observation into practice vis-à-vis their routine job is very low and thereby contributing at a very less significant level to knowledge creation as it can be seen from the overall reported Grand Mean = 3.89 on a scale of 5.

DISCUSSION OF MAJOR FINDINGS

Table 5: Ranking of the four tenets of knowledge creation mechanism

S/N	VARIABLES	X	SD	SCORING
1	Socialization	4.08	0.95	1
2	Combination	4.06	0.91	3
3	Externalization	3.92	1.02	2
4	Internalization	3.89	0.99	4
OVERALL GRAND MEAN: 3.99, SD = 0.97				

Table 5 revealed levels at which socialization, combination, externalization and internalization as propounded by Nonaka are contributing to knowledge creation in Nigerian university libraries. As it is shown, socialization and combination methods have the highest mean scores = 4.08, SD = 0.95 and 4.06, SD = 0.91, respectively and thereby largely contributing to knowledge creation as against externalization and internalization that are having the mean score = 3.92, SD =1.02 and 3.89, SD =0.99, respectively and thereby contributing less to knowledge creation in Nigerian university libraries. However, with the overall grand mean score = 3.99, SD= 0.97 on a scale of 4, it is logical therefore, to conclude that knowledge creation in Nigerian university libraries is very high as at the time of this study and thus implied that knowledge sharing among employees in Nigerian university libraries is very remarkable as it has been argued earlier in this paper that knowledge sharing boosts knowledge creation.

This finding corroborate the discovery of Ugwu, Ekere and Ekere (2014), Islam and Khan (2014), and Hosseini and Hashempour (2012). Islam and Khan (2014) in their study of factors affecting knowledge sharing practices in Dhaka University Library reported that individuals generate knowledge by exchange of their ideas and experience through socialization and research while Ugwu, Ekere and Ekere's (2014) study also confirmed that university libraries in Nigeria were engaging in knowledge creation to a small extent and slightly above average in knowledge dissemination activities. In their

own study, Hosseini and Hashempour (2012) acknowledged that knowledge sharing leads to creation of new knowledge and improve the effectiveness in organizations, pointing out that staff in Nigerian university libraries engaged in knowledge creation activities mostly through socialization methods.

CONCLUSION AND RECOMMENDATION

The paper had attempted to examine knowledge creation mechanism, based on Nonaka model, in Nigerian university libraries. It was discovered that socialization has the highest grand mean score of 4.08. This implied that there is remarkable interaction among staff of the studied libraries, and this may promote knowledge sharing practices among the employees. However, for internalization to have the least grand mean score of 3.89 could imply that employees of Nigerian university libraries were not making adequate use of the organizational documented knowledge which may be due to factors such as poor organization of official documents or inability of the employees to understand the documented knowledge or the sum total of the aforementioned factors. Based on these findings, the paper therefore recommends that managers in Nigerian university libraries should create strategies that may include but not limited to proper documentation and retrieval of official documents, promoting friendly environment and provision of facilities such as establishment of relaxation centres through which socialization can be further strengthened; thereby directly promoting knowledge sharing for the advancement of knowledge creation in the workplace.

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