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ASSESSMENT OF KNOWLEDGE SHARING AMONG UNDERGRADUATE STUDENTS IN AMBROSE ALLI UNIVERSITY, EKPOMA, NIGERIA

AIYEBELEHIN, JAMES AFEBUAMEH
Lecturer,
Department of Library and Information Science,
Ambrose Alli University, Ekpoma.
editorscommunicate@gmail.com or jamesaferich@yahoo.com

ABSTRACT
With the increasing emphasis on collaborative work in organizations today, universities around the world have been structuring their curriculum to engage students in collaborative learning. Most universities in Nigeria have not paid attention to this aspect of learning. This study therefore investigated knowledge sharing among undergraduates in Ambrose Alli University. A descriptive survey research design was adopted and questionnaire and interview were used for data collection. The sample for the study was drawn from the population through multi-stage sampling whereby three (3) faculties were randomly selected and thereafter a total sample size of 250 students was drawn using random sampling techniques. A total of 222 copies of questionnaires were retrieved and analyzed using tables, percentages and frequency counts. The study found that the major sources of knowledge include the course instructors, the internet and classmates as indicated by 100%, 95% and 82% of the respondents, respectively. Learning from others, as indicated by 93.6% of respondents, was a major motivation for knowledge sharing. Furthermore, 85.5% of respondents feel it is important to share knowledge with other students for the benefit of all, even as Telephone (97.7%) and Online chat (91.4%) topped the preferred channels for sharing knowledge. Knowledge sharing among undergraduates is an aspect of knowledge management that needs to be encouraged to stimulate increased excellent academic performance among students in the 21st century. To this end, it was recommended that lecturers should give more group assignments to students to create an atmosphere for knowledge sharing
Keywords: *Knowledge sharing, Behaviour, Undergraduate students, Channels, Barriers*

Introduction

Knowledge is today regarded as a factor of production together with land, labor and capital. As the world moves towards a "knowledge-based economy", knowledge is being considered as the main driver of this new economy. The success of economies in the future is going to be based on how companies or organizations acquire, use, leverage and manage knowledge effectively (Bircham-Connoly, *et al*., 2005). Knowledge Management itself is the management of knowledge that can improve a range of organizational performance characteristics by allowing an organization to be more effective in its activities (Jay, 2009). Knowledge sharing is part of the knowledge management system of an organization (Abdel-Rahman & Ayman, 2011). Knowledge sharing and knowledge management are not similar. Knowledge sharing is one method for both making sure that knowledge is available and delivered at the right time. Knowledge sharing can be regarded as one of the key enablers in knowledge management practice. Knowledge sharing has been the most commonly discussed activity of knowledge management. The term knowledge sharing nowadays has become dominant in organizations. This is because through knowledge sharing organization can maintain or improve their performance from time to time.

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With increasing demand for better performance from students to get the type of grades needed in the labour market, there is a greater need for knowledge sharing among undergraduates. It is no wonder then that team work and interaction are fast becoming prevalent in higher level of education and the use of computer system as a medium to support and enable collaborative learning is becoming an increasingly popular topic in research on online and information education. Also, studies have shown that student learning can be enriched through team interaction by using educational technology and collaborative learning. Collaborative learning in the form of knowledge sharing brings out the best in students even as they better one another through team work. Furthermore, research has demonstrated that students can learn effectively when they work in teams where they can perceive different ideas and collaborate to achieve solutions for team projects (Nassuora, 2011).

Besides this, knowledge sharing is also a natural process occurring in any academic institutions. It has played a vital role in the transfer of essential knowledge among lecturers and students in the lecture theatres, workshops and tutorials. In addition to lecturer-centric approaches, several new instruction strategies such as problem oriented teaching, contextualised teaching, target-oriented teaching and collaborative teaching are gaining popularity. These innovative teaching methods have already turned instruction into sharing (Hong & Kuo, 2009). Also, as regards attaining new knowledge, it may also assist students in gaining deeper understanding of certain topics which were difficult for them to understand from their colleagues. Thus, it was found that knowledge sharing had benefited participants both in terms of learning outcomes and cognitive performance (Rafaeli & Ravid, 2003).

Many studies have highlighted the fact that information and knowledge sharing plays a vital role in the learning and development of individuals especially in the 21st century (Robson et al, 2003; Clark & Brennan, 2001; Walker, 2003). Active information and knowledge sharing is now considered an important attribute of the learning process in institutions of higher education. Group of people now work at different geographic locations on a shared purpose using technology (Lipnack & Stamps, 2000). In order to work or learn together, team members need to share knowledge on what they are working on, how they are working, and with whom they need to work, interacting via computer-mediated technology. Davenport and Prusak (1998) defined knowledge as:

> *Knowledge is a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information It originates and is applied in the minds of knower. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.*

Knowledge sharing also involves the exchange of beliefs and assumptions (Clark & Brennan, 2001). Knowledge sharing can facilitate working and interacting effectively and efficiently. Knowledge sharing is the sharing of one's own knowledge to other individuals; it is one of major organizational KMS processes. Knowledge sharing through a repository KMS is what Alavi and Leidner (2001) refer to as codification and storage process, the process of storing the explicit knowledge for later use. Whereas knowledge sharing is becoming a common phenomenon in developed countries, the idea is still quite novel in Nigeria. Based on this, this study was designed to investigate the issues around knowledge sharing among undergraduates in Ambrose Alli University.

Objectives of the Study

The main objective of this study is to study the knowledge sharing behavior among students of Ambrose Alli University, Ekpoma, Edo State. Other objectives of the study are to:

1. identify the major sources of information utilized by the students for gaining knowledge in Ambrose Alli University;
2. find out the type of knowledge students share;
3. examine the attitudes of undergraduates towards knowledge sharing;
4. identify the factors which motivate knowledge sharing among undergraduates;

ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

5. determine the channels through which knowledge is shared among students; and
6. identify the challenges facing knowledge sharing among undergraduates.

Literature Review

Concept, Nature and Typology of Knowledge

Davenport (2009) sees knowledge as "a fluid mix of framed experiences, values, contextual information and expert insight that provides a framework for evaluation and incorporating new experiences and information". It has become a norm to refer to today's economy as a knowledge-based economy. Knowledge is increasingly becoming "the" resource, rather than "a" resource for wealth generation. It is widely recognized that knowledge is the critical asset to individual as well as organization to succeed in the increasingly competitive environment (Cheng *et al*., 2012). Knowledge comprises strategy, practice, method, or approach (how). Knowledge is closely linked to doing (action) and implies know-how and understanding. The knowledge possessed by an individual is a product of experience as well as continuous thirst for more information. Knowledge originates and is applied in the mind of the individuals that know. So, knowledge can be said to be information that is relevant and contextual having evolved from experience gained over a period of time (Nnadozie, 2015).

Knowledge is of two types mainly – explicit knowledge and tacit knowledge. Explicit knowledge is the type of knowledge that is formalized and codified and is sometimes referred to as 'know-how'. Explicit knowledge is easy to identify, store and retrieve and it is the type of knowledge most easily handled by knowledge management systems. It comprises anything that can be codified, documented and archived (Igwe, 2015; Obinyan, Aiybelehin & Omigie, 2015). Tacit knowledge on the other hand is the "intuitive, hard-to-define knowledge that is largely experience-based. Tacit knowledge is difficult to formalize, record or articulate as it includes insights, intuition and conjectures. It is found in the minds of human stakeholders and includes informed guesses, hunches, cultural beliefs, values, attitudes, imaginations, feelings, mental models, skills, capabilities and expertise.

Knowledge Sharing Behaviour and Patterns

In recent years academic institutions are using different learning approaches to enhance students' learning experience. Collaborative learning is one of the established, popular and effective learning approaches. However, the success of this approach largely depends on students' attitude and behavior towards information and knowledge sharing with their peers. Some examples of collaborative academic activities, needing active knowledge sharing, are team projects, group presentations, in-class and online discussions, and collective problem solving. Proper integration of these activities into the instructional design could make learning more interactive and engaging through technology, the students can share their knowledge across distance barriers (Hendriks, 2009).

Knowledge sharing can be facilitated by focusing on the social relationship of individual student among their peers. Also, technology plays a crucial transformational role in changing the educational culture to the process of knowledge sharing. As regards the knowledge sharing behaviour of students as well as for what activities students are most likely to share knowledge, some previous studies suggest that assignments are the most common academic task for which students share their ideas and knowledge with their peers (Majid & Wey, 2009; Majid & Yuen, 2007). In the studies, the respondents were asked about the frequency of knowledge sharing with their classmates for two given scenarios, when assignments are to be graded and when no grades are involved. According to the researchers, the purpose was to investigate if students' sharing behavior was different for these two situations. In each of the studies, it was found that, for both the scenarios, knowledge sharing was more common within the same group members. Knowledge sharing was also common when students were working on individual assignments but on the same topic. However, comparatively there was less knowledge sharing with students from other groups or when different topics were assigned for individual assignments.

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Interactive learning activities bring benefits such as higher student achievement, better communication skills, promote group cooperation and encourage information sharing. In addition, the peer group also serves to support students emotionally in coping with the pressures of academic work, fulfil personal needs and social status, and enhance interpersonal development (Riege, 2005). It is, therefore, quite evident that interaction and sharing of information and knowledge among students is a basic and essential ingredient of the learning process. Similarly, student achievement is likely to be higher in cooperative situations as well as result in more frequent use of higher-level reasoning strategies, more frequent process gain, and more positive attitudes towards their fellow students (Cheng & Ku, 2009). It can also help students answer questions and solve problems, learn new things, increase understanding regarding a particular subject, or merely acts as a means to help one another (Majid & Yuen, 2007).

Attitudes towards Knowledge Sharing

Active information and knowledge sharing is considered an important component of a learning. However, several studies suggest that students experience challenges in school the reverse of which would have been the case if they shared knowledge among themselves. In addition to certain other factors, it is possible that the reluctance to share information and knowledge could have its roots in the prevailing education systems in certain countries where students face pressure to outperform their classmates (Al-Busaidi *et al.,* 2010). There is likelihood that this intense competition might have created some anxiety in the minds of these students, resulting in avoidance to share knowledge with their peers. This attitude, developed during the students' life, could then become part of their personality and likely to continue at the workplace (Majid & Yuen, 2007). Individual attitude towards knowledge sharing may be measured by two items, and these include the fears that the idea shared will be criticized by others and the idea may be "stolen" by others.

Studies have identified a number of factors that are believed to influence knowledge sharing behaviors of individuals. They range from issues such as tools and technologies (Alavi & Leidner, 2001; Haldin-Herrgard, 2000), to others such as motivations and provision of incentives to encourage knowledge sharing, culture, personal values and self-identities, national culture (Chow et al., 2000), trust, resources like time and space (Davenport & Prusak, 1998; Haldin- Herrgard, 2000); and access to knowledgeable people in the organization (Brown & Duguid, 2000). Most studies conducted in colleges and organizations found that personal attitudes and technological factors act as determinants that have shown to affect knowledge sharing behavior (Cheng *et* al., 2009). Personal attitude reflects an individual's like or dislike towards something and their way of thinking. On the other hand, technological factor is being referred to as a tool to ensure greater collaboration between individuals (Paulin & Suneson, 2012). Another study found that student's ability to share and the degree of competitiveness among the classmates as additional factors would influence knowledge sharing (Hussein & Nassuora, 2011).

Majid and Yuen (2007) found that undergraduate students in Singapore possessed a positive attitude towards knowledge sharing and perceived it important for effective learning. However, they also reported that students were less inclined to share for those academic activities that were to be graded. Two major barriers inhibiting students from sharing their information and knowledge with classmates were lack of depth in relationship and the fear that other students will outperform them. Chen *et al.,* (2007) also reported that academic competition was associated with decreased knowledge sharing while trust, teamwork and instructors' positive attitude resulted in more knowledge sharing.

Motivation for Knowledge Sharing

The success of knowledge sharing practices among the students in the tertiary institution of learning is highly dependent on an individual's willingness to share the knowledge they possessed or created with others (Azhar, 2012). As regards what motivates individuals to share knowledge, trust is a very important factor. Trust is defined as a set of mutual expectations shared by people involved in collaboration and exchange; it is considered as a critical factor for knowledge exchange. In terms of

ISSN: 1596 - 1595
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knowledge contribution, trust is referred to as the trustworthiness of the knowledge utilizers. Knowledge sharing or among individuals depends on the trustworthiness of the knowledge utilizers. If the knowledge utilizer does not give credit to the knowledge sharer, and pretend that the knowledge is theirs; then knowledge sharer gain nothing. Thus, peers-trustworthiness reduces knowledge contributors' fears, and encourages them to share (Majid & Yuen, 2006). While researchers such as Majid and Yueng (2007) have concluded that students' degree of knowledge sharing is mainly dependent on their attitudes and motivation, Cheng and Ku (2008) suggested the contrary. Their research, carried out with educational technology students, argued that it is knowledge sharing that affects students' motivation, attitudes and achievement. In other words, a positive feedback loop exists between knowledge sharing and motivation.

Majid and Yeung (2007) amplify an important observation made by Droege and Hoobler (2003) that reciprocity, together with trust, promotes knowledge sharing. The idea of reciprocity as a feature of knowledge sharing cements a distinction between knowledge sharing and knowledge transfer; the latter having been identified as peer tutoring. Lockspeiser *et al* (2006) however, seem to imply that the whole knowledge sharing process is both mechanical and formal -whereby one of the students has to assume either the tutor role or tutee role. This gives the impression that knowledge sharing is a one-way communication process. From this observation it can be concluded that peer tutoring without emphasis on reciprocity takes away the true essence of knowledge sharing; knowledge sharing is a two-way communication process. Another motivating factor which determines whether individuals will share knowledge bothers on cooperativeness. When individuals are assured that those they are sharing knowledge with will most likely share whatever knowledge they have now and in the future, they tend to freely share knowledge without any self-restraint (Cheng *et al*., 2012).

Methodology

This study adopted the descriptive survey method. The instruments for collecting data were questionnaire and unstructured interview. The population of the study comprised the 21,154 undergraduates in the 10 faculties in Ambrose Alli University. The multi-stage sampling technique was used for the selection of the samples. For the first stage, simple random sampling was used to select three faculties (that is, faculty of Agriculture, Environmental sciences and social sciences with a combined student population of 4,116). For the next stage, simple random sampling was equally used to select 250 students out of the total of 4,116 undergraduates in the three selected faculties. This is shown in Table 1.The data gathered was analyzed using frequency counts, tables and percentages.

Table 1: Sample Size

S/N	Faculty	Level of Study					Total	Sample Drawn	% contribution
		100	200	300	400	500			
1.	Agriculture	167	107	43	61	84	462	28	11.2
2.	Social Sciences	1016	898	669	594		3177	193	77.2
4.	Environmental Sciences	156	130	80	78	33	477	29	11.6
	Total						**4116**	**250**	**100**

Data Analysis

The researcher distributed two-hundred and fifty (250) copies of the questionnaire to students of Ambrose Alli University. Out of which two-hundred and twenty-two (222) were retrieved and considered fit for analysis. This represented 88.8% return rate.

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
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Section A: Presentation of Personal Data

Table 2: Demographic Characteristics of the Respondents

Age	**Number of Respondents**	**Percentage (%)**
16-20	54	24.3
21-25	128	57.7
Above 25	40	18
Sex	**Number of Respondents**	**Percentage (%)**
Males	106	47.7
Females	116	52.3
Level of study	**Number of Respondents**	**Percentage (%)**
100 Level	5	2.3
200 Level	56	25.2
300 Level	82	37
400 Level	64	28.8
500 Level	15	6.7

Source: Field Survey, 2015

From table 2, it is clear that the majority (57.7%) of the respondents are within age range of 21-25. Also there are more (52.3%) females in the study than males. Finally table 1 shows that most of the respondents are in 300 level (37%) 400 level (28.8%), and 200 level (25.2%).

Table 3: Sources of Information and Knowledge

Sources	**Responses**			
	Agree		**Disagree**	
	N	**%**	**N**	**%**
The internet	212	95.5	10	4.5
Classmates	182	82	40	18
Library resources	106	47.7	116	52.5
Course instructors and tutors	222	100	0	0
Other friends outside the university	54	24.3	168	75.7

In response to questions on sources of information used, Table 3 shows that while 100% of the respondents chose course instructors and tutors as their source of information and knowledge, 95.5% of the respondents chose the internet 82% chose classmates. On the contrary majority (75.7%) of the respondents disagreed with the fact that they get information and knowledge from other friends outside the University, even as majority equally disagreed that 52.5% did not choose library resources as their source of information and knowledge.

RQ 2: What type of knowledge do you willingly share among your colleagues?

Responses to the interview questions revealed that majority of the respondents only share information relating to their education such as time for lectures, time for examination and information relating to group assignments. Further interview revealed that the students are not willing to readily share newly discovered knowledge relevant to their courses except to very close friends.

Table 4: Motivation for Sharing Knowledge

Motivating factors	**Responses**			
	Agree		**Disagree**	
	N	**%**	**N**	**%**

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
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To learn from each other	208	93.6	14	6.4
To help others	192	86.5	30	13.5
To maintain reciprocity in relationships	198	89.2	24	10.8
Self-satisfaction	152	68.5	70	31.5
To obtain reward or recognition	22	10	200	90
To cultivate image of expertise	0	0	222	100

Responding to questions on factors motivating students to share knowledge, Table 4 shows that 93.6% of the respondents agreed that learning from one another is what motivates them to share knowledge while 89.2% indicated they share knowledge to maintain reciprocity in relationships. Also 86.5% share knowledge to help others, and 68.5% believed knowledge sharing leads to self-satisfaction. On the contrary, 90% of respondents agreed obtaining reward or recognition is not a factor that motivates them to share knowledge. All the respondents did not see the cultivating of image of expertise as a motivator for knowledge sharing.

Table 5: Attitude towards Knowledge Sharing

Attitude towards knowledge sharing	Responses							
	Strongly Agree		Agree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%
I feel that it is important to share knowledge with other students for the benefit of all	190	85.5	32	14.5	0	0	0	0
Students should voluntarily share information with their peers	175	78.8	41	18.5	6	2.7	0	0
I feel that 'sharing is caring'	114	51.3	68	30.7	33	14.8	7	3.2
Students should share information with their peers only when approached	121	54.5	71	32	18	8.1	12	5.4
Many students feel that they might be penalized by lecturers for sharing knowledge	11	5	40	18	45	20.3	126	56.7
It is better to avoid sharing information with peers whenever possible	0	0	0	0	56	25.3	166	74.7

With regards to attitude to knowledge sharing Table 5 shows that 85.5% of respondents strongly agreed that it is important to share knowledge with other students for the benefit of all, 78.8% of respondents strongly agreed that students should voluntarily share information with their peers, 51.3% of respondents strongly agreed that 'sharing is caring', while 54.5% strongly agreed that student should share information with their peers only when approached. On the contrary, 74.7% of respondents strongly disagreed that it is better to avoid sharing information with peers whenever possible, while 56.7% of respondents strongly disagreed that students feel that they might be penalized by lecturers for sharing knowledge. Based on these responses it can seen that there is a positive attitude to knowledge sharing by the students.

MBJLIS – Middlebelt Journal of Library and Information Science, Vol. 14, 2016
ISSN: 1596 - 1595
Journal homepage: https://www.mbjlisonline.org/

Table 6: Preferred Channels for Sharing Knowledge

Channels	Responses			
	Agree		Disagree	
	N	%	N	%
Face-to-face interaction	167	75.2	55	24.8
Online chat	203	91.4	19	8.6
Email	15	6.8	207	93.2
Telephone	217	97.7	5	2.3
Online message board	199	89.6	23	10.4

Responding to questions on preferred channels for knowledge sharing, Table 6 shows that 97.7% of respondents preferred telephone as channel for sharing knowledge, 91.4% of respondents preferred online chat, 89.6% preferred online message board while 75.2% preferred face-to-face interaction. On the contrary, 93.2% of respondents did not prefer email as communication channel.

Table 7: Possible barriers to knowledge sharing

Barriers	Responses							
	Strongly Agree		Agree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%
Lack of depth in relationship	147	66.2	58	26.1	11	5	6	2.7
Afraid that others will perform better	133	59.9	47	21.2	29	13	13	5.9
People only share knowledge with those who share with them	127	57.2	57	25.6	22	10	16	7.2
I do not want to be perceived as 'show off'	112	50.4	41	18.5	59	26.6	10	4.6
Afraid I might provide wrong information	7	3.1	57	25.7	31	14	127	57.2
Lack of knowledge sharing culture	32	14.4	142	63	31	14	17	7.6
Shy to provide own opinion	12	5.4	25	11.3	154	69.3	31	14
Lack of time	21	9.5	21	9.5	133	59.9	47	21.1
Lack of appreciation of knowledge sharing	7	3.1	33	14.9	114	51.3	68	30.7
I do not know what to share	5	23	12	5.4	112	50.4	93	41.9

The results in Table 7 show the barriers respondents believed hinder them from sharing knowledge. While 66.2% of them strongly agreed that lack of depth in relationship is a barrier, 63% agreed that lack of knowledge sharing culture is a barrier. Furthermore, 59.9% strongly agreed that they were afraid that if they share knowledge, others will outperform them.

Discussion of the Findings

The analysis revealed that the sources of knowledge include the internet, classmates and course instructors; with the library resources ranking low among the sources. It also showed that learning from each other, helping others, maintaining reciprocity in relationship and self-satisfaction are factors that motivate students to share knowledge. This supports the study by Abdel-Rahman and Ayman (2011) on Jordanian students' attitudes and perceptions towards knowledge sharing which found that majority of the respondents chose learning from each other over other motivational factors. In consonance with the work of Majid and Yuen (2007), the respondents feel that it is important to share knowledge with other students for the benefit of all, students should voluntarily share information with their peers, indicating that 'sharing is caring' and that they should share information with their peers only when approached.

Furthermore, the respondents preferred face-to-face interaction, online chat, telephone and online message board to email as communication channel for sharing knowledge. Although, this is contrary to

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Journal homepage: https://www.mbjlisonline.org/

findings by Majid and Chitra (2013) in their study of the role of knowledge sharing in the learning process in Singapore, which found that email was a leading preferred channel. This also contradicts the findings of Ong *et al*., (2011) in their study on factors influencing knowledge sharing among undergraduate students in Malaysia, which found that students prefer sharing knowledge by email to other channels. Also, results show that possible barriers to knowledge sharing include lack of knowledge sharing culture, lack of depth in relationship among students, fear of being outperformed by others, students wanting to share knowledge only with those people who share knowledge with them, and not wanting to be perceived as 'show off'.

Conclusion

The study concluded that there are a number of systemic challenges facing knowledge sharing, top of which is the unhealthy competition that is encouraged through the grading system. Generally, it can be seen that knowledge sharing among undergraduates is an aspect of knowledge management that needs to be greatly encouraged to stimulate increased excellent academic performance among students in the 21st century.

Recommendations

Arising from the findings, the study recommended that:

1. Lecturers should design a deliberate method of instilling knowledge sharing culture on the students.
2. Lecturers should give more group or team assignments to students to create an atmosphere for knowledge sharing.
3. Online forums, discussion/message boards should be created to facilitate knowledge sharing.
4. The school system and the lecturers should be committed to providing incentives for sharing knowledge (such as extra credits or marks).
5. The school curriculum should be reorganized to include more interactive classes, discussion sessions and study groups as method of instruction since these are natural methods that foster knowledge sharing.

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