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Chidi Onuoha Kalu

NICTM Library, National Institute of Construction Technology and Management, Uromi,
chidiokalu@yahoo.com

BLESSING ANEBBEMENTE USIEDO

NICT Library, National Institute of Construction Technology (NICT), Uromi,,
usiedoblessingamiens@gmail.com

Esther I. Chidi-Ka;u

Nigerian Library Association, National Office, Abuja, estyhigh90@yahoo.com

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**Knowledge Sharing Behaviours and Patterns Among Academic Students:
A Case Study Of Electrical Engineering Technology Students of National
Institute of Construction Technology (NICT), Uromi, Edo State**

BY

CHIDI ONUOHA KALU (CLN)

NICT Library,
National Institute of Construction Technology (NICT),
Uromi, Edo State, Nigeria
chidiokalu@yahoo.com
Corresponding Author

BLESSING ANEBEMENTE USIEDO (CLN)

NICT Library,
National Institute of Construction Technology (NICT),
Uromi, Edo State, Nigeria
08062997686
usiedoblessingamiens@gmail.com

ESTHER I. CHIDI-KALU (CLN)

Nigerian Library Association,
National Office, Abuja
estyhigh90@yahoo.com

ABSTRACT

Knowledge sharing among students is perceived as one of the most convenient and effective way to obtain knowledge. Knowledge sharing among academics students enhances the ability to seek studies-related help from one another and facilitates achieving outcomes of collective learning. Therefore, this paper investigates the knowledge sharing behaviours and patterns of Electrical/Electronic Engineering Technology Students of National Institute of Construction Technology, Uromi. The descriptive survey method was used. Questionnaire responses from 27 students were analysed to address questions related to how knowledge is shared between students and what motivates students to share knowledge. The study highlighted the barriers in knowledge sharing among students and level of their satisfaction. The major findings of the study revealed that students preferred using social networks in knowledge sharing. What motivates students in sharing knowledge is trust. The study also revealed that the most barriers in knowledge sharing among students are low self-esteem and illiteracy. Student's satisfaction in knowledge sharing is moderate. The study concludes that the influence of social networks can be used to motivate students to collectively share and reflect on what they have learnt. In order to achieve knowledge effectiveness, individual knowledge needs to be shared. The study recommends that knowledge sharing should be encouraged among students, conferences and excursions should be vigorously carried out to create further awareness of knowledge sharing among students and the areas of networking as subject of knowledge sharing should be highlighted since it is the most preferred channel of knowledge sharing.

Keywords: Knowledge, Knowledge sharing, Behaviour, Patterns, Academic students, Social networks

1.0 INTRODUCTION

Information is very vital in our daily activities as it has become the driving force behind the development of nations. The dissemination of information has provided raw materials for social development. In addition to playing a vital role in every process of interaction among people and nations, it enhances the quality of decisions made, facilitates social changes and serves as an instrument for conflict resolution which comes through knowledge sharing (Edem and Ani, 2010).

Knowledge sharing is the process of coordinating learning activities. It is the process where individuals, mutually exchange their knowledge and jointly create new knowledge. Knowledge sharing is also a process which consists of both, bringing knowledge and getting knowledge and those with limited knowledge benefit from the advantage of knowledge sharing (Den Hooff and De Ridder, 2004; Yang, 2004). Knowledge sharing helps people to learn from the experiences and practices of the other. Knowledge sharing among students is perceived as one of the most convenient and effective way to obtain knowledge. Knowledge sharing among academics enhances the ability to seek studies-related help from one another; it essentially facilitates achieving outcomes of collective learning. Learning and knowledge sharing are intimately connected and the knowing process is a component of sharing, thinking and learning.

Managing knowledge has become an important subject facing students in this 21st century, and that it should be focused on the following: effective research and development of knowledge, creation of knowledge bases, exchange and sharing of knowledge among students, speeding up of processing of the implicit knowledge and realization of its sharing. (Shanhong, 2000 and Alegbeleye, 2010). Knowledge sharing helps students solve problems, learn new things and increase understanding. Students can learn from each other and benefit from new knowledge and development by one another. Academic staff and students that are able to share knowledge are more productive and more likely to survive on their academic work.

Knowledge sharing activities in a student context have long been of interest as Students could learn to formulate ideas and opinions more effectively by communicating them to others. Committing to this principle calls for an understanding of what motivates students to share knowledge, and identification of any barriers that prevent them from doing so. Moreover it calls for an exploration of the influence of particular student-related scenarios e.g. preparing assessed group work, on their knowledge sharing behaviour.

1.1 OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To find out the most effective channel in knowledge sharing among students.
2. To find out what motivates students to share knowledge among them.
3. To ascertain the barriers of knowledge sharing among students.
4. To find out the extent of satisfaction with knowledge sharing practices among students

1.2 RESEARCH QUESTIONS

1. What is the most effective channel in knowledge shared among students?
2. What motivates students to share knowledge among them?
3. What are the barriers of knowledge sharing among students?
4. To what extent are students satisfied with the sharing of knowledge practices among them?

2.0 LITERATURE REVIEW

2.1 CONCEPTUALIZATION OF KNOWLEDGE SHARING

Knowledge sharing is an activity through which knowledge (namely, information, skills, or expertise) is exchanged among people, friends, families, communities (for example, Wikipedia), or organizations (Serban and Luan, 2002). Knowledge is nothing, but when it is shared it can get its values. Nowadays knowledge sharing becomes the resource for profit generation in business organisations (Cheng, Ho and Lau, 2009).

Knowledge sharing in academic environment is used to pay incentives to encourage employees to share their knowledge so as to improve the group's performance and competitive advantage (Choi, Poon and Davis, 2008). Similarly, knowledge sharing is important in non-profit organisations such as academic institutes. On the same line Berends (2005) states that, to enhance the organization practice among members in academic institutions management should focus on knowledge sharing among them in different departments. It has been realized that knowledge sharing is an essential activity that should take place among students at all levels, an attribute that should not be taken for granted in academic environment. Despite the necessity of having to share knowledge effectively, few empirical researchers highlight on how non-monetary factors encourage academic staff and students to share their knowledge.

According to Davenport and Prusak (1998), knowledge sharing is a new alteration in behaviour. He reported that making knowledge available in an organisation is not sufficient to transfer it and get its value. It must be absorbed and used in order to increase its value and make new changes

in behaviour. However, knowledge sharing is not an easy task, it requires a long process of discovering and learning for individuals when colleagues come together and share their knowledge and generate new values. Tacit knowledge is the knowledge or skill possessed by a person, who cannot be easily communicated to others, is difficult to formalize and to identify, because it includes intellectual matters such as beliefs, thinking and perspectives. Thus, knowledge sharing focuses on the human factor. Extrinsic motivations do not affect the attitude of knowledge sharing behaviour and their influence seems to be temporary. Most of the studies focused on rewards and monetary incentive factors to encourage knowledge sharing for example (Cheng et al., 2009; Bartol and Srivastava, 2002).

2.2 KNOWLEDGE SHARING BEHAVIOUR IN ACADEMIC ENVIRONMENT

There are several factors that influence knowledge sharing behaviour. However, only five factors will be discussed in this paper. Those factors are: enjoying of helping others, reputation, self-efficacy, interpersonal trust, humility and religiosity.

Enjoyment of helping others

The success of any institution is connected to the motivation of its students. In the words of Gorry as regards to organisational knowledge sharing is that the success of any organisation is connected to the motivation of their workers and their strong desire in sharing knowledge among themselves and with their clients (Gorry, 2008). Prior research showed that individuals, who were intrinsically motivated to share knowledge, for example engaging in solving problems, gave them a feeling of challenge and pleasure, and eventually the enjoyment of helping others (Berends, 2005). Therefore, there is a positive relationship between the enjoyment of helping others and knowledge sharing behaviour.

Reputation

Reputation comes from the theory of social exchange of Blau (1964). According to the theory, individuals participate in social interaction due to the expectation that ends with social rewards such as status, respect and reputation. This explanation revealed that reputation was considered as one of the factors that increase knowledge sharing among academic staff and students.

Self-efficacy

Self-efficacy refers to an individual's belief in his or her capability to perform a specific task. Self-efficacy is a kind of self evaluation that affects one's decision about what behaviour should be used. Generally, self-efficacy plays a critical role in motivating individuals' behaviour.

Interpersonal Trust

Trust is an important element in a social exchange relationship. The higher the trust among individuals, the stronger will be the social exchange relationship among them. Trust is essential for social interaction and the mutual exchange process, and plays a vital role in the knowledge sharing process. Trust is often argued to be essential to knowledge sharing and numerous authors believe that people willingly exchange knowledge with each other when trust exists among them. An influential factor that affects knowledge sharing among students is the social climate and trust among them. Lesser and Levin (2003) noted that interpersonal trust can establish a strong foundation for learning and knowledge transfer.

Humility

The theory of virtue of Aristotle focused on a person's good character and his traits that influenced attitude and beliefs, and then affected the act and behaviour of a person. It should be noted that character traits explain the way a person acts. Generally, humility is the lack of feeling of superiority, arrogance and haughtiness of a person towards other people. It is treating all people regardless of who they are, with respect, gentleness, kindness and forgiveness. Humility has been described from a positive aspect, i.e. with emphasis on strength rather than weakness. Dictionaries often give humility a negative meaning such as low self-esteem and negative self-views. In contrast, humility could be looked upon as a virtue and personal strength. The behaviour of one who has high level of humility might serve as a potential promotional basis for him/her to share knowledge with others.

Religiosity

The relationship between religiosity and behaviour has been widely explored. Religiosity is referred to as religion commitment or the level of religiousness (Essoo and Dibb, 2004; Hicks and King, 2008). Highly religious individuals who are strongly committed to their beliefs would likely behave in compliance with the rules and norms of their religion.

Religiosity is the degree to which a person adheres to his or her religious values, beliefs and practices and uses them in daily living. The supposition is that a highly religious person will evaluate the world through religious schemes and thus, will integrate his or her religion into much of his or her life. One of the strongest elements that affect one's behaviour while making buying decisions is religion.

2.3 VALUE OF KNOWLEDGE SHARING AMONG STUDENTS

An important determinant of students' knowledge sharing behaviour is whether knowledge sharing adds to the knowledge they possess or whether it has no effect. Uncovering the effects of knowledge sharing leads to the concept of peer tutoring. During peer tutoring, Forman and Cazden (1985) noted that there is a need for the less knowledgeable student to assume the tutee role and the more knowledgeable student to assume the tutor role. In this way the less knowledgeable student gains knowledge from the more knowledgeable one. But, Franz et al (1999) were more cautious. They argued that students may be tempted to focus on discussing information that they share in common, thereby neglecting to share and discuss information they uniquely possess. In other words, Franz et al (1999) imply that sometimes there is a danger of students not gaining anything from the knowledge sharing process as no new knowledge is shared.

When individual student place the same value on knowledge sharing, then they are likely to acknowledge its importance and benefits. Therefore, students are likely to share knowledge if they place a high value on the knowledge they anticipate to receive from their colleagues.

2.4 MOTIVATIONAL FACTORS TO KNOWLEDGE SHARING AMONG STUDENTS

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.

According to Majid and Yeung (2007), 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 by Lockspeiser et al (2006). 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.

2.5 CHANNELS OF KNOWLEDGE SHARING

The increasing importance and relevance of the internet and web based technologies has influenced researchers to focus their research on social networking platforms e.g. blogs and wikis, and how these impact on students' sharing of knowledge. Social networking platforms is an effective tools students use to share knowledge, also face-to-face interactions, conversations can be an effective conduit for knowledge sharing. Indeed it has been suggested that conversation may be the only effective means of knowledge sharing.

However, Harley et al (1999) assert that it is the type of knowledge (tacit or explicit) shared that determines the type of channel used. They add that explicit knowledge may be transferred through electronic communication devices, but tacit knowledge requires face-to-face communication. Nevertheless, research by Tan (2009) based on students' knowledge sharing behaviour using blogs, revealed the possibility of blogs supporting the sharing of tacit knowledge, although he conceded that there is a degree of difficulty in doing this. While face-to-face knowledge sharing, as described by Majid and Yeung (2007), is influenced by social relationships between students, Tan (2009) suggests the opposite takes place when sharing knowledge online. He proposes that social relationships become a product of blogging, as students who may sometimes not know each other build personal relationships after sharing knowledge about their interests and experiences online. Once again, the notion of circularity and a positive feedback loop is evident

Explicit knowledge

According to Frost, (2016) explicit knowledge sharing occurs when explicit knowledge is made available to be shared between entities. Explicit knowledge sharing can happen successfully when the following criteria are met:

- i. Articulation: the knowledge provider can describe the information.
- ii. Awareness: the recipient must be aware that knowledge is available.
- iii. Access: the knowledge recipient can access the knowledge provider.
- iv. Guidance: the body of knowledge must be defined and differentiated into different topics or domains so as to avoid information overload, and to provide easy access to appropriate material. Knowledge managers are often considered key figures in the creation of an effective knowledge sharing system.
- v. Completeness: the holistic approach to knowledge sharing in the form of both centrally managed and self-published knowledge.

Tacit knowledge

Frost (2016) asserted that tacit knowledge sharing occurs through different types of socialization. Although tacit knowledge is difficult to identify and codify, relevant factors that influence tacit knowledge sharing include:

- Informal networks such as daily interactions between people within a defined environment (work, school, home, etc.). These networks span hierarchies and functions.
- The provision of space where people can engage in unstructured or unmonitored discussions, thereby fostering informal networks.
- Unstructured, less-structured or experimental work practices that encourage creative problem solving, and the development of social networks.

Embedded knowledge

Serban and Luan, (2002) and Frost (2016) state that embedded knowledge sharing occurs when knowledge is shared through clearly delineated products, processes, routines, etc. They asserted that this knowledge can be shared in different ways, such as; scenario planning and debriefing: providing a structured space to create possible scenarios, followed by a discussion of what happened, and how it could have been different.

2.6 BARRIERS TO KNOWLEDGE SHARING AMONG STUDENTS

While there is a general consensus that fear of providing wrong information, fear of being perceived as a show off and so on, are barriers to students' ability to share knowledge, Majid and Yeung (2007) go a step further and introduce the idea of social relationships. They assert that a lack of depth in student relationships is a contributing factor to barriers in knowledge sharing. Soller (2004,) seems to agree with this idea by stating that; "it is the group members' individual behaviours and the dynamics of their interaction that play an important part in the knowledge sharing process".

Chen and Yang (2007) acknowledged two barriers that exist in social networking. The two barriers are the difficulty in finding relevant knowledge and difficulty in finding relevant collaborators to interact with. It could be put forward that these barriers might have been caused by the lack of social relationships among students as suggested by Majid and Yeung (2007).

3.0 RESEARCH METHODOLOGY

The descriptive survey research was used to collect data in the study. The population of the study consists of twenty-seven (27) students of Electrical/Electronic Engineering Technology

Department of National Institute of Construction Technology, Uromi, Edo State. The instrument used for data collection was questionnaire.

In determining the knowledge sharing behaviours and patterns among the students of Electrical/Electronic Engineering Technology of National Institute of Construction Technology (NICT), Uromi, Edo State, respondents were asked some questions through the questionnaires administered to them and at the same time relevant responses were obtained, which was used and analyzed in the following tables. 27 questionnaires were distributed; all the questionnaires were validly filled and returned and are represented in the tables below. To adequately present the findings of the study, the percentages of respondents were used in presenting the results in the study.

Table 1: What is the most effective channel in knowledge sharing among students?

S/N	PREFERRED KNOWLEDGE SHARING CHANNEL	NO OF RESPONDENTS
1.	Phone	7 (26%)
2.	Online chat (Facebook, Whatsapp, etc)	27 (100%)
3.	Face-to-face	21 (78%)
4.	E-mail	17 (63%)

Table 1 reveals that online chat i.e. Facebook, WhatsApp and others are the most effective channel in knowledge sharing among students as 27 (100%) of the respondents affirm to that. Followed by face-to-face interaction with 21 (78%) of the respondents, while email and phone recorded 17 (63%) and 7 (26%) respectively.

Table 2: What motivates students to share knowledge among them?

S/N	MOTIVATION	NO OF RESPONDENTS
1.	Trust	27 (100%)
2.	Reciprocity	14 (52%)
3.	Humility	22 (81%)
4.	Self –efficacy	12 (44%)
5.	Reputation	18 (67%)
6.	Enjoyment of helping others	22 (81%)

Table 2 shows that what motivates students in sharing knowledge among them is trust with 27 (100%) of the respondents. Humility and enjoyment of helping others recorded 22 (81%) of the respondents each. Reciprocity had 14 (52%) of the respondents, self –efficacy recorded 12 (44%) of the respondents while reputation had 18 (67%) of the respondents. This result shows that students tend to share knowledge to those they trust and that’s the motivating factor in knowledge sharing among students.

Table 3: What are the barriers of knowledge sharing among students?

S/N	BARRIERS OF KNOWLEDGE SHARING	NO OF RESPONDENTS
1.	Fear of providing wrong information	17 (63%)
2.	Fear of being perceive as a show off	22 (81%)
3.	Low self-esteem	27 (100%)
4.	Social relationship	24 (89%)
5.	Illiteracy	27 (100%)

From table 3, 27 (100%) of the respondents indicated that low self-esteem and illiteracy rank highest of the barriers of knowledge sharing among students. Followed by social relationship with 24 (89%) of the respondents, while fear of being perceive as a show off and fear of providing wrong information recorded 22 (81%) and 17 (63%) of the respondents respectively.

Table 4: To what extent are students satisfied with the sharing of knowledge practices among them?

S/N	LEVEL OF SATISFACTION	NO OF RESPONDENTS
1.	High	5 (19%)
2.	Moderate	14 (52%)
3.	Low	6 (22%)
4.	Very low	2 (7%)
	Total	27 (100%)

Table 4 reveals that the level of satisfaction students derived in sharing of knowledge among them is moderate with 14 (52%) of the respondents affirming to that. 6 (22%) of the respondents said that the level of satisfaction is low. 5 (19%) of the respondents indicated high level of satisfaction while 2 (7%) of the respondents indicated very low level.

Results and summary of findings

From the above results gathered, the study shows that online chat such as Facebook, WhatsApp and others social media channels are the most effective channel in knowledge sharing among students. The study also revealed that trust is what motivates students in sharing knowledge among them coupled with humility and enjoyment of helping others. It is obvious that low self-esteem and illiteracy are the barriers of knowledge sharing among students, and there is moderate level of satisfaction of knowledge sharing among students.

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

Although, this research managed to gain insight on students' knowledge sharing behaviour, it was limited in its analysis of how group dynamics and member interaction actually affect the knowledge sharing process. The influence of social networks can be used to motivate students to collectively share and reflect on what they have learnt. In order to achieve knowledge effectiveness, individual knowledge needs to be shared. Unless individual knowledge is shared with others, the knowledge is likely to have limited impact on effectiveness.

4.2. Recommendation

In the light of the findings of this study, the researcher is proffering the following recommendations.

1. Knowledge sharing should be encouraged among students.
2. Conferences and excursions should be vigorously carried out to create further awareness of knowledge sharing among students.
3. The areas of networking as subject of knowledge sharing should be highlighted since it is the most preferred channel of knowledge sharing.

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