

Assessment of Knowledge Sharing Patterns among University and Polytechnic Students in Imo State

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Abstract - Knowledge sharing is the sharing of information with the sole aim of enlightening the target recipient (s) through meaningful exchanges that would produce needed results. Knowledge sharing has become a daily activity among students as they engage in daily face to face and mediated interactions where they collaborate and share ideas, understanding, information, skills and expertise with peers and instructors. It is against this phenomenon that this study sprouted. The study is a comparative investigation of knowledge-sharing patterns among students at Federal University of Technology, Owerri and Federal Polytechnic Nekede, Owerri. The method of research adopted is descriptive and comprised registered undergraduates of both institutions' libraries as a stratum. A questionnaire was designed and administered to 600 students, 300 from each institution and 290 and 287 retrieved in a usable state from FUTO and FPNO respectively, representing 96% return rate. The findings show an existence of knowledge sharing practice in both institutions and a similarity in the kind of knowledge usually shared. Pattern of sharing knowledge is different and peculiar to the nature of each institution. Whilst FUTO students share knowledge through group assignments, whatsapp and interactive sessions, FPNO students share through tutorial classes, reading groups and group assignments. The study revealed the hindrances to knowledge sharing in each institution and students' suggestions of facilitating the practice for improved learning. Though hindrances to knowledge sharing revealed in the study may be considered peculiar to the institutions covered, they albeit represent relevant ideas which management of any institution can manipulate to enhance knowledge sharing in their institutions.

Keywords: Knowledge-sharing, knowledge-sharing patterns, students, university, polytechnic.

I. INTRODUCTION

Knowledge is domiciled in tertiary institutions as they are generated there to reform personalities, change paradigms, provide new knowledge and significantly contribute to the development of civil society. Tertiary institutions are the intellectual centre of knowledge production and research and as such are responsible for education, research and knowledge transfer to society hence contributing to national development (Kumaravel & Vikkraman, 2018); (Ojo, 2016). Knowledge sharing focuses on sharing information for enlightening target groups through communication and exchange of ideas that would produce the needed result (Igbinovia and Ikenwe (2017). Through knowledge sharing, students obtain knowledge beyond the lecturer's viewpoint as they collaborate and share understanding, information,

skills and expertise. Recognition of the impact of knowledge sharing has culminated in the modification of the curriculum in order to engage students in collaborative learning which will yield more effective learning (Walker 2002). A distinctive feature of knowledge is that it is insufficient as the more one gets it, the more one craves it. More so, knowledge exists to be imparted, meaning that it is acquired to be transferred. Sharing of knowledge has been shown to be the main prerequisite of new ideas and innovations (Kokavcova & Mala, 2009). It is all about individuals as it requires knowledge creation, knowledge mediation, knowledge application and communication to participants (Ogbodo, Efanga, and Ikpe (2013), Knowledge sharing could be defined as the act of exchanging experience, events, thought or understanding about something for temporary curiosity (Sadiq Sohail & Daud, 2009). It usually involves two parties who are willing to transfer and receive experiences and competencies diametrically.

A. Knowledge Sharing Among Students

Knowledge sharing practice among students is an exciting area of study for scholars and consequently has been receiving attention. Chin Wei, Siong Choy, Geok Chew, and Yee Yen (2012) posited that with the increasing emphasis on collaboration in organizations, universities have been structuring its curriculum to engage students in collaborative learning which allows them to reflect and learn more effectively. Knowledge sharing focuses on the sharing of information and it is aimed at enlightening the target groups by way of communicating ideas through exchanges that would produce the needed result. Through knowledge sharing, students obtain knowledge beyond the lecturer's viewpoint as they collaborate and share understanding, information, skills and expertise (Ikenwe & Igbinovia, 2015). According to Majid and Wey (2009), knowledge sharing is a typical daily activity among students because they tend to exchange information through daily face-to-face interactions with their peers and academic instructors. From their perspective, Zakaria, Zolkafli, Kamaruzzaman, and Rahman (2013) added that knowledge sharing happens daily among students, academic staff and among random people either directly or indirectly. Jer Yuen and Shaheen Majid (2007) posited that though individuals mostly acquire knowledge.

Through formal education and training at institutions such as colleges, universities, polytechnics, research centers and in commercial settings, active and voluntary sharing of knowledge is essential for ensuring that learning is effective and meaningful. For Chugh (2013), There is no disputation that knowledge sharing is the *raison d'être* of universities across the world considering their capacity to facilitate knowledge transfer for the benefit of students and society at large.

B. Channels for Knowledge Sharing Among Students

Knowledge sharing is the process of distributing knowledge to members in the best time, place and form through various modes of communication (Zhang, Liu, and Xiao (2008). The high use of technology is changing the pattern of life that includes working, learning and communicating with each other such that the impact of technology devices on education usually manifest in teaching and learning (Yasmeen, Alam, Mushtaq, & Alam Bukhari, 2015). Adewole and Fakorede (2013) opined that technologies such as electronic learning (e-learning) and more recently mobile learning (m-learning) might have the potential to facilitate teaching and learning, thereby addressing the problem of poor access to education. The Internet has also provided students with the convenience of real-time and cost-effective communications such as emails, chat and instant messaging for exchanging information and knowledge (Jer Yuen & Shaheen Majid, 2007).

C. Hindrances to Knowledge Sharing

Even though knowledge sharing is known to have positive effects on knowledge bearers as well as knowledge recipients, sharing sometimes does not come easily (Ong et al., 2011). Several factors and conditions can hamper knowledge sharing. Lack of organisation culture hinders knowledge sharing. When the culture in an institution does not support brainstorming and collaboration through joint assignments or tasks that can bring students together to share ideas, knowledge sharing is negatively affected. Furthermore, an organisational culture that limits innovation and application of new ideas stagnates knowledge sharing and diminishes students' morale to venture into intellectual exploration. Lack of communication is another barrier in knowledge sharing. One-sided communication or lack of feedback in communication may be a case of knowledge hoarding which hampers the goals of knowledge sharing (Maiga, 2017).

Lack of management support is seen as the most critical hindrance in knowledge sharing (Maiga, 2017). In this scenario, management is not supportive of new ideas or strategies that can pave the way for best practices and excellence. This scenario further is highly detrimental to the practice of knowledge sharing. According to Sadiq Sohail and Daud (2009), the barriers at the organizational level are related to factors such as lack of infrastructure and resources, the inaccessibility of formal and informal

meeting spaces and the physical environment. When management fails to formulate policies and create an environment where students can meet and share their knowledge with each other, knowledge sharing becomes a farce. Absence of security and lack of electricity cannot sustain knowledge sharing practice among students.

Some hindrances to knowledge sharing are individual based. As knowledge resides in the individual who has it, characteristics like attitude, mood or emotions can mar knowledge sharing. Also, mistrust among individuals involved can hamper knowledge sharing. If students do not trust the quality of knowledge being shared, the essence of sharing is lost. Conboy and Morgan (2011) posited that an individual's fears of exposing his weakness could make them afraid to share knowledge. Similarly, a student who considers himself not intelligent enough will not be willing to participate in knowledge sharing. An insufficient personal time or closely fixed lecture time does not promote knowledge sharing. Adamseged and Hong (2018) summed up individual-based hindrances as borne out of either knowingness or unknowingness. The latter is when a knowledgeable individual does not recognise the need for knowledge in a person and so does not share or outright ignorance of how to share the knowledge while the former is a more purposeful act of unwillingness to share. This unwillingness is attributed to challenges like personal interest, fear of losing control or power over such knowledge, fear of knowledge taken without attribution, pride, poor communication, lack of social network or platform for sharing and lack of time (Adamseged & Hong, 2018).

Chin Wei *et al.* (2012) explained students' inclination to hoard knowledge. These reasons mainly concern the sacrifices they have to make when they share like the time spent while explaining what they know to someone who does not know; the feeling that other students are freely gaining their knowledge without exerting any effort and then the mentality of having to transfer knowledge power that may make the next student academically competitive.

Desouza and Paquette (2011) observed that lack of technical facilities and the social network does not enhance knowledge sharing. Prevalent among students today is the use of smart phones that enable internet access and social media. They use this to communicate and pass information. Thus, a student's inability to purchase such phone hinders his participation in knowledge sharing.

D. Facilitating Knowledge Sharing Among Students

Factors that facilitate knowledge sharing are categorised organisational factors, individual factors and technological factors. Organisational factors are conditions that the Factors that facilitate knowledge sharing are categorised organisational factors, individual factors and technological factors. Organisational factors are conditions that the management of an institution needs to establish in order to

promote and sustain knowledge sharing. Conditions like organisational culture, organisational structure, communication, management support, strategic planning and reward systems affect knowledge sharing. Organisational culture concerns customs, practices, principles, values, and routines underpinning or guiding members of an organisation and cultivated over a long period (Jaspara 2010). The culture of an institution reveals the norm of what is considered right or wrong and creates room for social interaction where students communicate and share knowledge. For instance, an organisational culture of periodic group assignments and everyday tasks necessitates collaboration and knowledge sharing. Maiga (2017) informed that organisational culture includes assumptions, behaviour and values that influence attitudes and social behaviours of group members to achieve their goals. Bello and Oyekunle (2014) emphasized that there is a need for higher institutions to strengthen an organizational culture that promotes individuals to create, store and share knowledge.

Free flow of communication is another organisational factor that can facilitate knowledge sharing among students. It is a condition where the communication pattern existing in such an institution is receptive to feedback. In an institution where there is a free flow of communication, students give and receive information in a continuous cycle. Maiga (2017) proposed that communication should flow from both sides - from sender to receiver and receiver to sender in order to achieve success. Management is responsible for every activity, including knowledge sharing at all levels of an organisation (Singh & Kant, 2008). Management needs to create an environment that can promote and sustain knowledge sharing among students. This arrangement can be possible through policies showing approval and support for knowledge sharing forums like tutorial classes, interactive sessions and reading groups. This support also manifests in availing students with steady power supply, learning spaces and security.

Individual factors like trust, awareness and openness also facilitate knowledge sharing. Individuals are the key players in knowledge sharing and transfer; in other words, knowledge whether shared face to face or through electronic means is sent and received by individuals and not robots. Individuals create knowledge through personal activities, social interactions and relationships with others (Maiga, 2017). In knowledge sharing, individuals transfer and share both tacit and explicit knowledge and use it to generate new knowledge. J.-T. Yang (2007) corroborated that the ultimate goal of acquiring and sharing knowledge is the transfer of all the individual's experience and intellectual capital to others for the benefit of the organisation. For practical knowledge sharing, there should be a blend of personal characteristics such as attitudes, personal views and opinions, emotion and preferences among the individuals. Honesty, willingness to share and trust are necessary psychological dispositions that individuals need imbibe for effective knowledge sharing. To facilitate knowledge

sharing, Adamseged and Hong (2018) proposed avoidance of individualism, trust and reliance on each other, humility, and willingness to solicit and receive knowledge, excellent communication skills, creation and use of social networks for sharing.

Similarly, Khyzor *et al.* (2009) reasoned that individual attributes like trust, perceptions and willingness to share positively influence students to attitude towards knowledge sharing. Sulaiman and Burke (2011) added that fairness, enjoyment, sharing awareness and openness are essential for success in knowledge sharing. In the words of Ong *et al.* (2011), students need to share what they know to enhance their learning capacity. When students are trained to cultivate an active sharing attitude, they can enhance their knowledge and ability to learn and by extension, have a positive attitude towards knowledge sharing when they get employed (Jer Yuen & Shaheen Majid, 2007).

Technological factors such as ICT availability and know-how/compliance of students are the third group of factors that facilitate knowledge sharing (Maiga, 2017). The use of technology is enormously changing the pattern of life that includes working, learning and communicating with each other to the extent that the impact of technology devices on education usually manifest in teaching and learning (Yasmeen *et al.*, 2015). Technological factors such as availability of ICT and individual compliance with ICT greatly facilitate knowledge sharing. Abouzeedan and Hedner (2012) observed that to create, capture, organise and use new knowledge, the sharing of the existing knowledge needs to be facilitated by incorporating technology. Jashapara (2010) agreed that information technology equipment facilitates knowledge sharing as it stores and can retrieve knowledge easily whenever needed. Reige (2007) opined that information and knowledge could be easily transferred from one location to another in the virtual marketplace, enabling and facilitating collaboration between people within and between businesses. For Sadiq Sohail and Daud (2009), information technology devices promote knowledge sharing by bridging temporal and spatial barriers between participants and creating new knowledge. The ability of students to use new technology – that is, computers, the Internet, online communication, and so on – has resulted in more extensive social networks and other opportunities for sharing knowledge (Ong *et al.*, 2011). According to Okolie-Osemene (2017), Knowledge is shared among students when a lecturer delivers his lecture, offers them links to access, and charges them to work together towards accessing and distributing, discussing the findings from the investigation and yet dish the information out to their absent course mates.

E. Rationale for the Study

The disparity in the quality of teaching in polytechnics and universities is cause for the investigation of the existence of knowledge sharing practice among students in these tertiary institutions. There has always existed the argument of

supremacy between the polytechnic and the university in terms of qualitative curricular content that contributes to the skill and expertise needed for national development. While the universities are philosophical and elitist in their opinion of themselves, the polytechnics consider themselves more knowledgeable and practice oriented. Again, the feeling of discontentment is rife on the disparity placed between the university and polytechnic graduates. An example is the placement of HND holders in GL7 and Degree holders in GL8 salary level upon employment. However, by the policy establishing them, Osakpa, Okonkwo and Ejiogu 2018 explains that university education is theoretically biased with minimal practical applications while polytechnics education is geared towards imparting practical knowledge and skills to students. According to Nwanna (2008), university teaching takes the form of lectures, seminars, tutorials, practical and industrial work experiences, excursions and field trips as well as projects, theses and dissertations however, Essien (1975) lamented that these methods have not been able to produce the needed theoretical and practical knowledge needed for technical manpower for the Nigerian economy. The argument is further enhanced by Arogundade, Atanda and Ekere (2008) and Zwalchir and Bueryer (2008)'s insistence that poor workload management in the university system is the reason for failure of the university to produce requisite practical skills for production in Nigeria. Nevertheless, Knowledge sharing is essential for both university students with minimal practical application and the polytechnic students whose curriculum and education is tied up with practical knowledge in order to obtain all necessary skills for active learning. Thus, the study seeks to investigate knowledge sharing practices among polytechnic students and university students to provide answers to the following questions: - does knowledge sharing exist among students in the polytechnics and universities? What kinds of knowledge are usually shared? How do students in each tertiary institution share their knowledge? What hinders them in actively participating in knowledge sharing and how can knowledge sharing be facilitated among students in these tertiary institutions?

II. THE OBJECTIVES OF THIS STUDY

The main objective of the study is the assessment of knowledge-sharing patterns among university and polytechnic students in Imo state. Other specific objectives that guided the study are.

1. Determining students' attitude towards knowledge sharing practice in Federal University of Technology, Owerri and Federal Polytechnic Nekede, Owerri
2. Determining the kinds of knowledge being shared in Federal University of Technology, Owerri and Federal Polytechnic Nekede, Owerri
3. Identifying channels for sharing knowledge in Federal University of Technology, Owerri and Federal Polytechnic Nekede, Owerri

4. Unravelling hindrances to knowledge sharing practice among students in Federal University of Technology, Owerri and Federal Polytechnic Nekede, Owerri
5. Identifying ways to facilitate knowledge sharing among students in the Federal University of Technology, Owerri and Federal Polytechnic Nekede, Owerri.

III. EMPIRICAL STUDIES

Jer Yuen and Shaheen Majid (2007) studied knowledge sharing behaviours of undergraduate students in three public universities in Singapore with the following objectives – attitudes towards knowledge sharing; preferred sources for sharing study-related tasks; frequency of sharing knowledge when tackling study-related tasks; types of information and knowledge usually shared; preferred channels for knowledge sharing; factors limiting knowledge sharing and knowledge sharing motivators.

Their findings showed that students agreed that knowledge sharing would benefit all (71.6%); that knowledge should only be shared when approached (34.5%); knowledge should be voluntarily shared with peers (53.9%). These responses showed a positive attitude towards knowledge sharing. The findings on preferred sources for study-related tasks revealed internet and their fellow students. The observation made the researchers deduce that students realised that their peers, due to shared understanding of the tasks were indispensable in knowledge sharing and therefore indicated fellow students as one of the most useful sources in obtaining study-related information and knowledge. The findings on knowledge sharing in different study-related situations showed that students, (69.4%) share knowledge frequently when having tutorials and lab sessions while a higher percentage (92.8) expressed that students share knowledge more frequently when working on a group assignment. 63.9% indicated that knowledge is shared less frequently when working on an individual assignment. The findings on type of knowledge shared revealed that expressing opinion on study-related matters scored 87.2; providing answers to improve understanding scored 64.4%; 62.8% share URL and relevant websites, while personal books/lecture notes and assistance with software use, database search and library use scored 41.1% and 37.8% respectively. Preferred channels of sharing knowledge were found to be face to face communication with mean 4.67, followed by online chat 3.22 and email 3.18. Barriers to knowledge sharing were found to be lack of depth in the relationship between students 87.2% and fear of fellow students outperforming them 76.7%. Motivators for knowledge sharing include the intention to learn from each other 63.3%; the desire to help 50.6%; reward/recognition 17.2% and opportunity to develop the image of an expert 6.1%

Yaghi, Barakat, Alfawaer, Shkokani, and Nassuora (2011) studied knowledge sharing degree among undergraduate students. The objective was to find out students' attitude towards knowledge sharing; students perceived barriers to knowledge sharing and what knowledge was shared. Findings from the study revealed a positive attitude towards knowledge sharing (73.8%) whereby students responded that sharing knowledge was beneficial to all; 37.6% believe that knowledge can only be shared when asked by fellow students while 76.8% indicated that sharing knowledge reduces students' competitiveness among peers. The students responses on barriers to knowledge sharing were that university culture does not support knowledge sharing (78.1%); 76.2% responded that there is no interaction between those who need knowledge and those who can provide knowledge; 91% decried absence of a system with which to identify fellow students whom they would share knowledge with while 73.4% indicated that lack of trust was a barrier to knowledge sharing. Responding to what knowledge was shared, findings showed class notes 86.3%; opinions on class content 67.2%; know-how 54.4%; skills 37.3%; then assignments and solutions to the problem having the least percentage score of 3.8%.

A similar study was carried out by Chin Wei *et al.* (2012) on knowledge sharing patterns of undergraduate students in public and private universities in Malaysia. Unlike that of Jer Yuen and Shaheen Majid (2007), which concentrated only on public universities, this study intended to make comparisons between the knowledge sharing patterns of private university students and public university students. The aim of the study just like that of its prototype in Singapore was to identify attitudes towards knowledge sharing; preferred sources for sharing study-related tasks; frequency of sharing knowledge when tackling study-related tasks; types of information and knowledge usually shared; preferred channels for knowledge sharing; factors limiting knowledge sharing and knowledge sharing motivators. Their findings on students' general attitude towards knowledge sharing revealed that both students from private universities and those from public universities agree that it is essential to share knowledge with others, that they should voluntarily share knowledge and that sharing is caring thus depicting a positive attitude towards knowledge sharing. For preferred sources for sharing knowledge on study-related tasks, findings show that students from public universities picked the internet as their most preferred source while the private universities students indicated that their most preferred source for sharing knowledge on study-related tasks was consulting fellow students and lecturers. However, both groups of students indicated that the library was also a source of sharing knowledge on study-related tasks. For frequency of knowledge sharing, findings showed that private universities students share knowledge more frequently when handling both graded and non-graded group assignments. Public universities students share knowledge less frequently when handling non-graded individual assignments compared to their private counterparts. The findings from this study revealed that

private universities students share knowledge on study-related matters, database search, software use, library use, personal books/lecture notes and exam-related materials than public universities students. The findings showed channels for knowledge sharing to be face to face interaction for the private universities' students and online chat for public universities students. Factors inhibiting knowledge sharing show that private universities students consider lack of sharing culture as a barrier more than the public universities students. However, other factors revealed by both groups include lack of relationship, fear of providing wrong information, shyness, and fear of mismatch of information. Finally, Chin Wei *et al.* (2012) found that motivators for knowledge sharing are reward or recognition indicated by public universities students while the private universities students indicated that their motivators for engaging in knowledge sharing were the desire to help others; exchange and feedback reasons and self-satisfaction.

Zakaria *et al.* (2013) carried out their study on knowledge sharing among undergraduate students using undergraduates in faculty of the built environment, University of Malaya, Kuala Lumpur. Their study aimed at identifying the medium and tool which students used in sharing knowledge. Findings showed that lecture ranked highest as a medium of sharing knowledge with a percentage of 39.9%, followed by a discussion with 37.2%. Among tools for sharing knowledge, Facebook ranked highest with 32.6% and SMS, 18.7%. Their study certified that knowledge sharing culture exists in the school.

IV. METHODS

The respondents on focus in this study are undergraduate students of any discipline from two tertiary institutions in Imo State being the Federal University of Technology, Owerri (FUTO) and Federal Polytechnic Nekede Owerri (FPNO). The population is made up all the registered library users up to October 2019, with 2524 from FUTO and 4112 from FPNO. Due to population size, it was more convenient to derive the sample randomly using those that visited the libraries on the 14th and 21st of November 2019, respectively. A total of 600 students were selected with 300 from each institution. The composition of the sample is deemed suitable for the study because the perspectives of all levels of students about the phenomenon of interest were captured. However, the number of male respondents far outweighs that of the females, as indicated in Table I below. Out of the 600 copies of questionnaire randomly distributed, 577 copies were retrieved in a comprehensive and usable form with 290 comprising of 217 males and 73 females from FUTO and 287 comprising of 153 males and 134 females from FPNO, showing a response rate of 96.6% (FUTO), 95.6% (FPNO) and generally, 96%. The high rate of return of the questionnaire stemmed from the approach used to administer and retrieve them. The questionnaires for each institution were handed over to the library staff at the security checkpoint of each institution's library to administer upon entrance and retrieve at the exit of each respondent from the library as shown in Table II.

TABLE I DEMOGRAPHIC ANALYSIS

| Sl.No. | Institution | | | Level | | | Gender | | Total |
|--------|-------------|-----|-----|-------|-----|-----|--------|--------|-------|
| | | 100 | 200 | 300 | 400 | 500 | Male | Female | |
| 1 | FUTO | 102 | 65 | 61 | 15 | 47 | 217 | 73 | 290 |
| 2 | FPNO | 41 | 115 | 111 | 20 | - | 153 | 134 | 287 |
| | Total | 143 | 180 | 172 | 35 | 47 | 370 | 207 | 577 |

TABLE II QUESTIONNAIRE DISTRIBUTION AND RETURN

| | FUTO | FPNO | TOTAL |
|--------------|-------|-------|-------|
| Distribution | 300 | 300 | 600 |
| Return | 290 | 287 | 577 |
| Return Rate | 96.6% | 95.6% | 96% |

The questionnaire was constructed and validated following the patterns of similar research works, precisely those of Jer Yuen and Majid (2007); Yaghi et al. (2011) and Chin Wei et al. (2012). The variables contained in the questionnaire were adopted and modified to suit the study and measured 40 attributes covering attitude towards knowledge sharing, kinds of knowledge usually shared, channels for sharing knowledge, hindrances encountered in sharing knowledge and suggestions on how to facilitate knowledge sharing in tertiary institutions. The internal consistency of all variables in the instrument is 0.87 and derived using the Cronbach Alpha method. All the variables were analyzed using tables and percentages.

V.RESULTS

A. Attitude towards Knowledge Sharing

The findings from research question 1, as shown in Table 3, depict a positive attitude towards knowledge sharing. In FUTO, 80% of the students indicated a positive attitude; 12% feel indifferent towards the concept, while 8% indicated negative. For FPNO, 75% indicated positive, 15% are indifferent, while 10% have a negative attitude towards knowledge sharing. Generally, 76% of all the respondents have a positive attitude towards knowledge sharing.

TABLE III ATTITUDE TOWARDS KNOWLEDGE SHARING

| Sl. No. | Attitude | FUTO | % | FPNO | % | TOTAL | % |
|---------|-------------|------|-----|------|-----|-------|-----|
| 1 | Positive | 232 | 80 | 205 | 75 | 437 | 76 |
| 2 | Negative | 22 | 8 | 32 | 10 | 54 | 9 |
| 3 | Indifferent | 36 | 12 | 50 | 15 | 86 | 15 |
| | Total | 290 | 100 | 287 | 100 | 577 | 100 |

B. Kinds of Knowledge Usually Shared

The kinds of knowledge shared in the Federal University of Technology, Owerri and Federal Polytechnic, Nekede, Owerri are presented in Table 4. The table shows that for FUTO students, study-related works (76%), exam-related matters (70%), lecture notes/personal textbooks (65%) and database search (61%). For students of FPNO, kinds of

knowledge shared include study-related works (78%), lecture notes/personal textbooks (73%), database search (70%) and exam-related matters (66%). Generally, among all the students, study-related works rate highest as the kind of knowledge shared (77%), followed by lecture notes/personal textbooks (69%) and then exam-related matters 68%.

TABLE IV KINDS OF KNOWLEDGE USUALLY SHARED

| Sl.No. | Items | FUTO | % | FPNO | % | TOTAL | % |
|--------|------------------------|------|----|------|----|-------|----|
| 1 | Study-related works | 220 | 76 | 225 | 78 | 445 | 77 |
| 2 | Lecture/Personal books | 188 | 65 | 210 | 73 | 398 | 69 |
| 3 | Software assistance | 100 | 34 | 116 | 40 | 216 | 37 |
| 4 | Database search | 176 | 61 | 200 | 70 | 376 | 65 |
| 5 | Library use | 140 | 48 | 122 | 43 | 262 | 45 |
| 6 | Exam-related matters | 203 | 70 | 190 | 66 | 393 | 68 |

C. Channels for Sharing Knowledge

Table 5 shows that group assignment (74%), WhatsApp (68%) and interactive sessions (61%) and library (52%) have high scores indicating that they are the primary channels used for knowledge sharing in FUTO. In FPNO, major channels used to share knowledge are tutorial classes

(76%), reading groups and group assignment with 70% each, library (63%) and interactive class with 63%. Generally, the respondents indicated channels of sharing knowledge to include group assignment (72%), interactive sessions/WhatsApp (62%), tutorial class (58%), library (57%) and reading groups (56%).

TABLE V CHANNELS FOR SHARING KNOWLEDGE

| Sl.No. | Items | FUTO | % | FPNO | % | TOTAL | % |
|--------|----------------------|------|----|------|----|-------|----|
| 1 | Reading groups | 122 | 42 | 200 | 70 | 322 | 56 |
| 2 | Tutorial classes | 116 | 40 | 218 | 76 | 334 | 58 |
| 3 | Interactive sessions | 177 | 61 | 182 | 63 | 359 | 62 |
| 4 | Facebook | 78 | 27 | 111 | 39 | 189 | 33 |
| 5 | WhatsApp | 196 | 68 | 160 | 56 | 356 | 62 |
| 6 | Email | 105 | 36 | 20 | 7 | 125 | 22 |
| 7 | Instagram | 15 | 5 | 79 | 28 | 94 | 16 |
| 8 | Twitter | 24 | 8 | 12 | 4 | 36 | 6 |
| 9 | Library | 150 | 52 | 180 | 63 | 330 | 57 |
| 10 | Group assignment | 215 | 74 | 202 | 70 | 417 | 72 |
| 11 | Seminar | 60 | 21 | 84 | 29 | 144 | 25 |

D. Hindrances Encountered in Knowledge-Sharing

Table 6 shows eleven reasons why students may not be able to share knowledge. There is a wide gap in “time constraints” being a hindrance among FUTO students as a vast majority (90%) of respondents sees it as a barrier compared to FPNO students (51%). For FPNO students, “lack of ICT/internet facilities” is more of a barrier in sharing knowledge compared to the other reasons. The

problem of inadequate electricity is unanimously considered a significant hindrance to sharing knowledge, though FUTO scores are higher by 73% and 59% for FPNO. Noteworthy in the two institutions is the fact that neither “not aware” nor “not intelligent enough” is considered a barrier by any of the students. Furthermore, “not willing to share, 2%” and “no encouragement from lecturers and management, 3%” has no significant representation as a barrier in sharing knowledge.

TABLE VI HINDRANCES ENCOUNTERED IN KNOWLEDGE-SHARING

| Sl.No. | Hindrances | FUTO | % | FPNO | % | TOTAL | % |
|--------|---|------|----|------|----|-------|----|
| 1 | Time constraints | 260 | 90 | 147 | 51 | 407 | 71 |
| 2 | No encouragement from lecturers/ Management | 12 | 4 | 5 | 2 | 17 | 3 |
| 3 | Poor communication skills | 150 | 52 | 140 | 48 | 290 | 50 |
| 4 | Not aware | - | - | - | - | - | - |
| 5 | Not intelligent enough | 2 | - | - | - | 2 | - |
| 6 | Not willing to share | 6 | 2 | 5 | 2 | 11 | 2 |
| 7 | Lack of ICT/internet facilities | 191 | 66 | 178 | 62 | 369 | 64 |
| 8 | Poor electricity in the campus | 213 | 73 | 166 | 59 | 379 | 66 |
| 9 | I do not know how to operate a computer | 85 | 29 | 22 | 8 | 107 | 19 |
| 10 | I am not on any social media | 10 | 3 | 100 | 35 | 110 | 19 |
| 11 | Lack of security | 132 | 46 | 82 | 29 | 214 | 37 |

E. Ways to facilitate knowledge sharing practices

Table VII displays suggestions that can facilitate knowledge sharing in tertiary institutions. For FUTO students who decried that time constraint is their main barrier, lecture time adjustment can facilitate knowledge sharing. FPNO student's choice of "lack of ICT/internet facilities" as a foremost hindrance to knowledge sharing reflects in "provision of ICT/internet facilities" scoring highest (65%) as a means to facilitate knowledge sharing with a similar score of 68% by FUTO students. However, the majority (74%) of the students in FUTO indicated that "provision of electricity/enabling environment" will facilitate knowledge compared to students in FPNO where 58% consented. Group assignment is the dominant channel indicated by FUTO students to share knowledge and therefore scores

high by 71% to facilitate knowledge sharing. Observable is the similarity of scores for "free flow of communication" considered a means to facilitate knowledge sharing with FUTO scoring 66% and FPNO 65%. Generally, suggestions of facilitating knowledge sharing in tertiary institutions include provision of ICT/internet facilities 67%; provision of electricity and enabling environment 66%; free flow of communication 65%; group assignment should be given 63%; provision of computer and information literacy 58%, lecture time adjustment 54% and encouragement from management/ lecturers with 53%. Only 25% of the students consider "provision of security" a facilitator to knowledge sharing.

TABLE VII WAYS TO FACILITATE KNOWLEDGE SHARING PRACTICES

| Sl.No. | Suggestions | FUTO | % | FPNO | % | TOTAL | % |
|--------|--|------|----|------|----|-------|----|
| 1 | Lecture time adjustment to create room for knowledge sharing | 200 | 69 | 110 | 38 | 310 | 54 |
| 2 | Lecturers/ Management should encourage knowledge sharing | 165 | 57 | 141 | 49 | 306 | 53 |
| 3 | Group assignment should be given | 205 | 71 | 158 | 55 | 363 | 63 |
| 4 | Free flow of communication | 190 | 66 | 186 | 65 | 376 | 65 |
| 5 | Electricity/ enabling environment | 214 | 74 | 166 | 58 | 380 | 66 |
| 6 | Provision of security | 137 | 47 | 10 | 3 | 147 | 25 |
| 7 | Provision of ICT/internet facilities | 198 | 68 | 186 | 65 | 384 | 67 |
| 8 | Students need to share no matter how little | 182 | 63 | 172 | 60 | 354 | 61 |
| 9 | Provision of information literacy | 200 | 69 | 135 | 47 | 335 | 58 |

VI. DISCUSSION

The study has contributed to knowledge by bridging the gap on the scarcity of research in verifying knowledge sharing attitudes and channels among polytechnic and university students. With the use of a valid and reliable questionnaire, administered and retrieved systematically and with resultant wide-spread characteristics of respondents, accurate results were generated from this study. The spread samples of 100 to 500 level students are, fortunately, a consequence of the simple random sampling method adopted in the study and reflect the various perceptions of students in these institutions.

Although similar studies have been investigated by JerYuen and Majid (2007), Yaghi *et al.* (2011) and Chin Wei *et al.* (2012), the significant contribution made by this study is in establishing the differences in kinds of knowledge usually shared by the students, channels used to share knowledge in the institutions, factors that constitute hindrances in sharing knowledge and suggestions for improved knowledge sharing practice among students in these two categories of tertiary institutions. Discussions on the results of the study are presented in the following paragraphs.

Knowledge sharing in Federal University of Technology, Owerri (FUTO) and Federal Polytechnic Nekede, Owerri (FPNO) is perceived in a positive light as seen in the studies by Jer Yuen and Majid (2007), Yaghi *et al.* (2011) and Chin Wei *et al.* (2012). This positivity indicates that students are cognizant of the fact that the race for academic excellence may not be achieved independently and consequently dispose of themselves for knowledge sharing with their peers to enhance learning opportunities. An insignificant number indicated negative while a minor number of students showed a neutral attitude towards knowledge sharing. This group of students is neither supportive nor averse to the practice and may constitute the category who need to be coaxed by their lecturers or group assignments and everyday tasks to participate in knowledge sharing.

Study-related works are observed to be the main kind of knowledge shared by both FUTO and FPNO students; thus, corroborating Jer Yuen and Shaheen Majid (2007) and Chin Wei *et al.* (2012) and contradicting Yaghi *et al.* (2011) where knowledge usually shared is class notes. However, FUTO students are found to share exam-related matters than FPNO students while FPNO students share lecture notes/personal textbooks more than FUTO students. Database search is also an essential kind of knowledge shared by both groups of students. Library use by its

percentage does not constitute a reasonable kind of knowledge shared among the students. The condition may be attributed to the fact that library uses education and assistance is usually provided to all students as courses in their first years with further assistance provided inside the library by the professional librarians if the student so desires.

Polytechnic students mostly prefer tutorial as a channel for sharing knowledge than university students. The approach may still be deduced to stem from the policy establishing them. The polytechnic provides full time and part-time programmes as well as morning and evening programmes. It is not surprising that the tutorial is seen to be the best channel through which the students, regardless of the type of program, use to share knowledge. For FUTO students, knowledge sharing is shared during group assignments and through WhatsApp. Futo students seem to share knowledge only when there is a joint task to be performed and do not ordinarily engage in knowledge sharing. The responses and percentages seen in the channels preferred by Federal Polytechnic Nekede Owerri students in comparison with those of the Federal University of Technology, Owerri shows that knowledge is shared more in the Polytechnic than the University. The findings are not in agreement with those of Jer Yuen and Shaheen Majid (2007) and Chin Wei *et al.* (2012) in terms of the direct channel used in sharing but corresponds to the studies as regards medium of sharing. This system implies knowledge sharing among all the students is done more physically than with technology and thus buttresses Abbas (2017) submission that knowledge primarily revolves around people and would, therefore, involve adaptations to the social dynamics of physical proximity than through technology per se.

Among the reasons lifted as hindrances to knowledge sharing, time constraints are shown to be the most significant barrier among FUTO students. Others perceived as barriers are poor electricity, lack of ICT/internet facilities, poor communication skills and lack of security. For FPNO students, lack of ICT/internet facilities constitutes a barrier followed by poor electricity, time constraints, poor communication skills and lack of android phones. From the data seen against barriers like “Not aware”; “Not intelligent enough”; “Not willing to share” and “No encouragement from lecturers/management”, it can be summed that the two groups of students do not hoard knowledge and have in their institutions, a supportive organizational culture that promotes sharing. From the findings (percentages), FUTO students are more constrained than FPNO students. This finding has veered off from findings of similar studies (Yaghi *et al.* 2011; Chin Wei *et al.* 2012) where lack of sharing culture is the significant barrier in knowledge sharing.

Because of the issues raised as hindrances to knowledge sharing, the students have indicated suggestions of how these can be overcome to pave the way for more active and effective participation in knowledge sharing. For FUTO

students, provision of electricity and group assignment will guarantee better sharing practices while FPNO believes that the provision of ICT/internet facilities and free flow of communication would usher in better sharing opportunities. However, every student involved in the study is apt to the suggestion that knowledge should be shared by students no matter how little.

VII. CONCLUSION

In tertiary institutions, the ability of students to absorb and master learning is a sustainable competitive advantage inherent in the practice of knowledge sharing. Knowledge sharing practice among students creates an avenue for exchange of information, the proposition of ideas and solutions to problems that provide new ways to fulfilling their missions of being in the university. The study has covered a gap in knowledge through its attempt to compare knowledge sharing practices among university and polytechnic students. The study revealed that there is a variation in knowledge sharing practice between the university and polytechnic students. Polytechnic students are more inclined towards knowledge sharing and utilize several channels in practicing it mainly tutorial classes where fellow students re-teach topics taught by the lecturers. The method, as seen in the study, is prevalent among polytechnics and represent one of the coping strategies students use to acquire learning in the institution. University students equally have a parallel positive knowledge sharing attitude but use channels different from their polytechnic counterparts but suitable for their curriculum.

The students have different perspectives of hindrances to their knowledge sharing. While university students bemoan time inadequacy, polytechnic students decry ICT/internet deficiency.

Generally, the students’ response on suggestions that will facilitate knowledge sharing in these two institutions bear more on the creation of enabling environment and necessary infrastructure and as such, should be considered by the management of these institutions. Thus, this study proposes the imbibition of excellent personality traits that can sustain knowledge sharing and set up of policies and infrastructure that support knowledge sharing practices on the part of tertiary institutions management.

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