

## **Knowledge Management and Dissemination in Digital Age: Situations of Private Universities Lecturers in Ogun State, Nigeria**

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### **Abstract**

Knowledge is an aftermath of information rightly conceived. The process of managing and disseminating information in a digital world is a radical departure from what was obtainable in the years past before the advent of information and communication technology where almost everything done were manually handled. This study was designed to investigate the situation of private Universities in Ogun State, Nigeria in the area of knowledge management and dissemination in digital era. The population of the study comprised the academic staff and undergraduate students in the private universities. Descriptive survey design was employed for the study and three private Universities were selected for the study. A sample of 300 lecturers was drawn from the population using simple random sampling technique. A self-developed questionnaire "Knowledge Management and Dissemination Questionnaire (KMDQ)" was used for data collection with correlation coefficient ( $r$ ) of 0.76. Four hypotheses were tested in this study at 0.05 level of significance. The findings revealed a significant relationship between knowledge generation and knowledge utilization. There is significant relationship between knowledge codification and knowledge utilization. There is significant relationship between knowledge sharing and Knowledge Utilization. There is significant relationship between knowledge dissemination and knowledge utilization. In conclusion, the advent of digital era ushers in information explosion where unlimited information is circulating around the globe; hence there is need for proper management and dissemination of knowledge in this age. In essence, members

of the academic communities require appropriate skills to be able to right information manage and disseminate knowledge properly and appropriately especially in this age of knowledge proliferation. The study therefore recommended among others that, Universities should embrace the application of knowledge management processes coupled with digital initiatives in enhancing educational activities for improved delivery. Management and teaching staff should be trained and effectively monitored in acknowledgement and application of the digital knowledge management processes.

### **Introduction**

It is no longer a gainsaying that the advent of 21st Century transforms the formation of this age by converting it from analogue to digital age. Almost every facets of human endeavour is affected by this radical change in the scheme of things. The education sector is an essential part of every economy and as such the roles played by information technology in transforming education system from what it used to be to the present age cannot be over-emphasised. Terra & Angeloni (2003) opined that knowledge comes from information that is processed from available data and includes experience, values, insights, and contextual information. With the emergence of the knowledge-based economy where knowledge, competence and related intangibles are the key drivers of competitive advantage in achieving goals, many changes are being witnessed in the delivery of higher education as well as on the demands placed on HEI so that they become storehouses of innovation where wellsprings of talents are nourished and sustained Seleim, Ashour & Bontis (2004).

Knowledge is one of the most important assets of a school organisation, and is critical for school sustainability. Sallis and Jones (2002) defined knowledge as “information in use, and the interaction of information with the human mind, which gives it meaning and purpose.” Knowledge is constructed through an “accumulation of facts, procedural rules or heuristics through our daily experience and study”. It also

involves the intelligence to acquire and apply what one has understood through learning and experience. The knowledge management glossary of the National Electronic Library for Health (2010) provides a comprehensive definition of knowledge: "Knowledge is derived from information but it is richer and more meaningful than information. It includes familiarity, awareness and understanding gained through experience or study, and results from making comparisons, identifying consequences, and making connections."

Knowledge management is the explicit and systematic management of vital knowledge and its associated processes of creating, gathering, organising, diffusing, using and exploitation. It requires turning personal knowledge into organisational knowledge that can be shared widely throughout an organisation and applied appropriately (Demarest, 1997). According to Ahmed, Kok and Loh (2002) the type of benefits that can be derived by managing knowledge and learning are:

- Improved efficiency.
- Improved market position by operating more intelligently.
- Professionals learn more efficiently and more effectively.
- Improved communication between knowledge workers.
- The organisation focuses on the core business and critical company knowledge.

Knowledge management in education according to Salis and Jones (2002) can be defined as such a tool that gives clues to managers and staff of educational organizations on the emerging world of knowledge management to meet the challenge of the knowledge era. It helps educational organizations to realize the merits and beauty of knowledge creation and sharing as means of enhancing teaching and learning process.

Adhikari (2010) viewed knowledge management in the context of academic institutions as the organized and systematic process of generating and disseminating information, and selecting, distilling, and deploying explicit and tacit knowledge to create unique value that can be used to strengthen teaching-

learning environment. Yeh (2011) indicates two types of knowledge involved in higher education settings: academic knowledge and organizational knowledge. The primary purpose of universities is to foster academic knowledge. Organizational knowledge, on the other hand, is the overall business of the institution, incorporating its strengths and weaknesses, the market it serves, and factors critical to organizational success. However, as Demchig (2015) notes, it seems that higher education institutions are more concerned with knowledge embedded in individuals, and tend to neglect knowledge at the organizational level.

Various studies have addressed knowledge management processes with a view to identify the key aspects/dimensions of knowledge management. These dimensions include acquisition, innovation, protection, integration, and dissemination (Lee & Yang, 2000); acquisition, conversion, application, and protection (Gold, Malhotra, & Segars, 2001); development, utilization, and capitalization (Kalling, 2003); creation, accumulation, sharing, utilization, and internalization (Lee, Lee & Kang, 2005); identification, collection, organizing, storage, sharing, and evaluation (Kiessling, Richey, Meng, & Dabic, 2009). An examination of these diverse views enables the researcher to group them into five processes: identification, acquisition, storage, sharing, and application. These five processes have received the most consensus attention in knowledge management literature (Daud & Abdul Hamid, 2006; Kiessling, Richey, Meng, & Dabic, 2009).

In the language of Rastogi (2000), for knowledge management requirements to be met, organizations must plan and implement the following processes: identification of the knowledge required for a competitively effective implementation of enterprise strategy; mapping the existing and available knowledge, including expertise and skills; capturing the existing knowledge through its formalized representation; acquiring necessary knowledge and information, including know-how; storing the existing, acquired, and created knowledge in properly indexed and interlinked knowledge repositories; sharing knowledge through

its automatic access and distribution to users on the basis of their needs and interests; applying actions in support of decisions, problem-solving, providing job aids and training; and creating, generating, or discovering new knowledge through research and development, experimentation, lessons learned, creative thinking, and innovation. Rowley (2000) mentioned that the educational sector has always been recognized as the focal point for various knowledge processes, namely, knowledge creation, dissemination and learning. We believe that effective knowledge management is of vital importance for: increasing the quality and efficiency of education and research, for retaining the best professors and researchers, for developing new curricula, for improving cost efficiency and for exceeding the limits of time and space allowing for the fulfilment of student expectations anywhere and at anytime.

It should be noted that human, organization and technology together form the three key components of knowledge management, considering also the relation to society (Mandl, 2010). In the word of Stéphanie, Heinz & Raphaela (2012), the third component of knowledge management *technology* deals with the implementation and design of information and communication infrastructures and tools, supporting the knowledge based processes in an efficient and user-friendly manner.

In the University context, Kidwell, Vander Linde & Johnson (2000) identified knowledge management of great benefits in higher-education environment in research process, curriculum development process, student and alumni services, administrative services and business strategic planning. According to the International Conference on Higher Education in Iraq (2007), higher institutions have suffered more than necessary in terms of the curricula, resources, teaching methods, modern technology and research. It was emphasized that there is an urgent need to bring the lost glory to the educational institutes. In education context, Sallis and Jones (2002) emphasized, there is much need for knowledge management in education as there is in business. If excellent

achievements are achieved in one area of the universities, there should be a process for knowing how they were achieved.

Knowledge creation, storage and sharing between individuals and organisation is achieved by technology, enabling tools that provide communication and knowledge capture in the form of wikis, blogs, online repositories, and instant messaging applications (Hedgebeth, 2007). Social media platforms have transformed how people communicate, share content, interact, and collaborate. Currently, social media technology is increasingly becoming veritable channel for facilitating knowledge sharing and communication, on personal and organizational levels. (Ahmed, Ahmad, Ahmad, Zakaria, 2018). Various skills are also required like data capture, data analysis, data categorization, data mining, data mapping, knowledge mapping, concept mapping, indexing, linking and repackaging are only reared by library professionals hence every academic organization shoulder this task to library professionals for effective use of tacit knowledge. But proper support from management, administration, technical advisors, computer experts, software developers should coordinate with library professionals in this activity. Various practices and trends are also useful for knowledge management purpose like generation of information resources, data repositories, digital repositories, web tools (RSS Feed, Blog, Twitter, Facebook, social networks, moodle, Drupal, Blackboard, etc), development of portals, knowledge gateways, links to search engines and web/Internet based information resources, user groups, subject groups, expert groups, grey literature.

In this study, knowledge management is composed into four main processes, which are Knowledge Generation, Knowledge Codification, Knowledge Sharing, and Knowledge Utilization. Besides, academic members of the University have essential role in the promotion of knowledge management systems, creating conditions whereby people are willing to apply their knowledge, share it and exchange it with each other. Developed knowledge can be continually documented through reports, images or even metaphors, and made available to everyone in the organization (Sousa & Gonzalez, 2016).

Informal contacts, internal lectures, conferences, problem-solving and project review meetings, dialogue sessions, internal reports, and memos are essential means to share knowledge. Organisations can also use some mechanisms that facilitate knowledge sharing: the Internet, the Intranets, the library, the meeting rooms, an auditorium, a digital archive and even a digital documentation system (Sousa & Gonzalez, 2016).

### **Purpose of the Study**

This study empirically examined the situation of private Universities in Ogun State, Nigeria in respect of knowledge management and dissemination in digital age. Specifically, this study sought to:

- i. investigate the digital tools used by staff for knowledge management and dissemination
- ii. examine the relationship between digital tools utilization and knowledge management processes
- iii. examine if there is any significant relationship between knowledge generation and knowledge utilization.
- iv. find out the relationship existing between knowledge codification and knowledge utilization.
- v. examine the relationship between knowledge sharing and knowledge utilization.

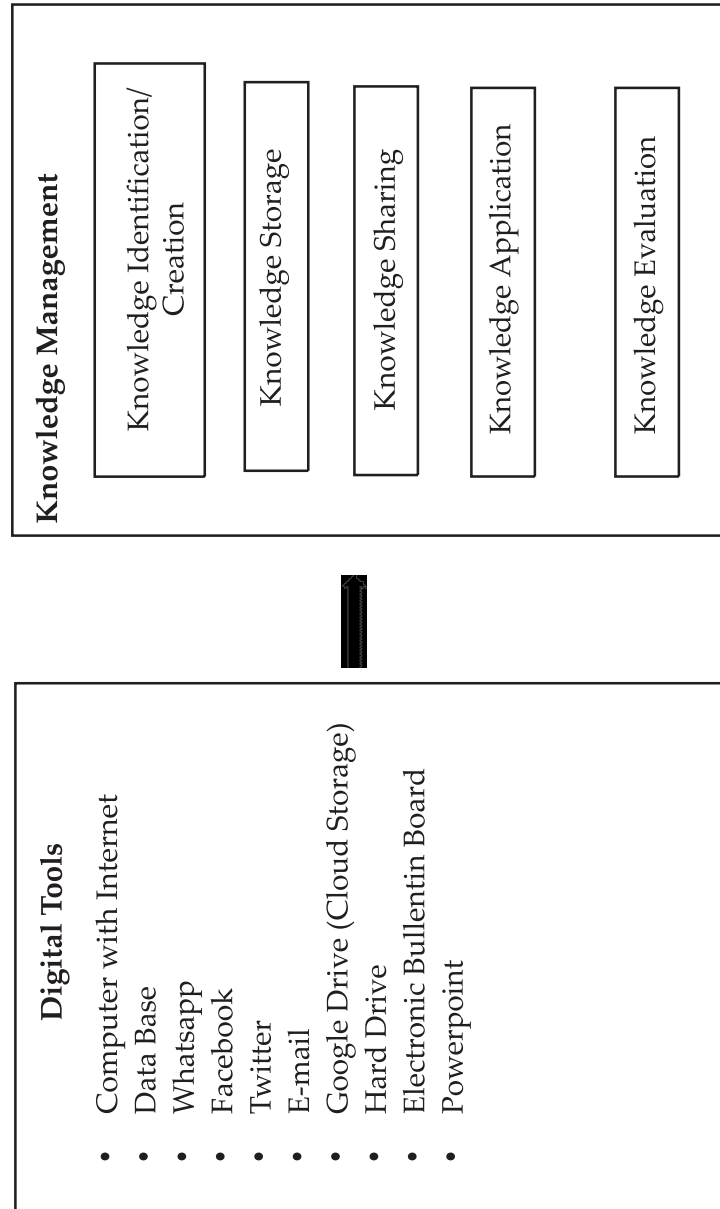
### **Research Question**

- i. What are the digital tools used by academic staff for knowledge management and dissemination

### **Hypotheses**

- HO1: There is no significant relationship between digital tools utilization and knowledge management processes
- HO2: There is no significant relationship between Knowledge Generation and Knowledge Utilization.
- HO3: There is no significant relationship between Knowledge Codification and Knowledge Utilization.
- HO4: There is no significant relationship between Knowledge Sharing and Knowledge Utilization.

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## **Conceptual Model for the Study**

### **Methodology**

Descriptive survey design was used for the study. A sample of three Universities was selected from twelve private Universities in Ogun State, Nigeria. Also, a sample 300 academic staff were selected for the study using purposive sampling technique. This technique was employed base on the reason that the selected academic staff were expected to be inclined with the use of information technology which is the basis of digital – age. The study developed and used a questionnaire tagged “Knowledge Management, Dissemination and Digital Age Questionnaire (KMDDAQ)” with correlation coefficient ( $r$ ) of 0.74. The questionnaire has three sections; section A elicits information on the respondents’ demographic data, section B contains items on digital tools used by academic and non academic staff for knowledge management and dissemination while section C contains 20 items that solicit responses from the respondents on the variables of the study. It was constructed on a 4-point Likert format ranging from ‘strongly disagree’ to ‘strongly agree’. The descriptive statistics of frequency count and simple percentage were used for the research question generated while inferential statistic of Pearson’s Product Moment Correlation coefficient was employed to analyse the hypotheses developed for the study at 0.05 level of significance.

### **Results**

Research Question 1: What are the digital tools used by academic staff for knowledge management and dissemination

**Table 1:** Digital Tools used by Academic Staff for Knowledge Management and Dissemination

<b>Digital Tools</b>	<b>Frequency</b>	<b>%(N=282)</b>
Whatsapp	243	86.2
Facebook	203	72
Email	203	72
Youtube	175	62.1
Blog	135	47.9
myspace	122	43.3
Instagram	120	42.6
RSS feed	93	33
Forum newsgroup	81	28.7
Flicker	79	28
Wikis	53	62.1

Table 1 shows the digital tools used by academic staff for knowledge management and dissemination in the private universities in Ogun State. The result reveals that, whatsapp 243(86.2%), facebook 203(72%), email 203(72%) and youtube 175(62.1%) constitute the mostly used digital tools by academic staff.

HO1: There is no significant relationship between digital tools utilization and knowledge management processes.

**Table 2:** Relationship between Digital Tools Utilization and Knowledge Management Processes

Variables	Mean	Std. Deviation	N	r	Df	Sig.(p)	Remarks
Digital tools utilization	8.13	1.39	282	.370	280	.000	Sig.
Knowledge management processes	14.08	3.21	282				

\*\*p < 0.01

Table 2 showed that there was a positive significant relationship between digital tools utilization and knowledge management processes ( $r = .370^{**}$ ;  $n = 282$ ;  $df = 280$ ;  $p < 0.00$ ). The null hypothesis was therefore rejected and the alternative hypothesis was accepted. The Pearson Correlation Coefficient of  $.370^{**}$  showed that as digital tools utilization increase, knowledge management processes also increases.

HO2: There is no significant relationship between Knowledge Generation and Knowledge Utilization.

**Table 3:** Relationship between Knowledge Generation and Knowledge Utilization

Variables	Mean	Std. Deviation	N	r	Df	Sig.(p)	Remarks
Knowledge Generation	13.57	3.53	282	-.205	280	.001	Sig.
Knowledge Utilization	14.08	3.21	282				

\*\*p < 0.01

Table 3 showed that there was a negative significant relationship between knowledge generation and knowledge utilization ( $r = -.205^{**}$ ;  $n = 282$ ;  $df = 280$ ;  $p < 0.01$ ). The null

hypothesis was therefore rejected and the alternative hypothesis was accepted. The Pearson Correlation Coefficient of  $-.205^{**}$  showed that knowledge utilization is depends on knowledge generation.

HO3: There is no significant relationship between knowledge codification and knowledge utilization.

**Table 4:** Relationship between Knowledge Codification and Knowledge Utilization

Variables	Mean	Std. Deviation	N	r	Df	Sig.(p)	Remarks
Knowledge Codification	13.94	2.80	282	-.301	280	.000	Sig.
Knowledge Utilization	14.08	3.21	282				

$^{**}p < 0.01$

Table 4 showed that there was a negative significant relationship between knowledge codification and knowledge utilization ( $r = -.301^{**}$ ;  $n = 282$ ;  $df = 280$ ;  $p < 0.00$ ). The null hypothesis was therefore rejected and the alternative hypothesis was accepted. The Pearson Correlation Coefficient of  $-.301^{**}$  showed that knowledge codification is related with knowledge utilization.

HO4: There is no significant relationship between knowledge sharing and knowledge utilization.

**Table 5:** Relationship between Knowledge Sharing and Knowledge Utilization

Variables	Mean	Std. Deviation	N	r	Df	Sig.(p)	Remarks
Knowledge Sharing	22.27	3.90	282	.125	280	.036	Sig.
Knowledge Utilization	14.08	3.21	282				

$^{**}p < 0.05$

Table 5 showed that there was a significant relationship between knowledge sharing and knowledge utilization ( $r = .125^{**}$ ;  $n = 282$ ;  $df = 280$ ;  $p < 0.036$ ). The null hypothesis was therefore rejected and the alternative hypothesis was accepted. The Pearson Correlation Coefficient of  $.036^{**}$  showed that knowledge sharing is significantly related with knowledge utilization.

### **Discussion of Findings**

The result of the research question showed that whatsapp, facebook, email and youtube constitute the mostly used digital tools by academic staff for knowledge management and dissemination. This result is in tandem with the findings of Ghani (2009) who reported that web-based information technology tools for knowledge management include e-mail, teleconference, video conference, chat, IM, forum, Listserv, groupware calendar, log, shared information spaces workflow management system, group decision support system. The new tools are unique because they are web-based applications that are free and thrive on user participation. They are tools that support individual knowledge work, communication and collaboration.

The finding of hypothesis one showed there was a positive significant relationship between digital tools utilization and knowledge management processes. Omotayo (2015) reported that sharing and transferring of knowledge is very vital to KM, given the fact that organisations struggle with knowledge loss resulting from employee turnover. Equally, Martelo-Landroguez & Cegarra-Navarro, 2014 suggested that knowledge management processes are supported by information and communication technologies (ICTs) that help facilitate knowledge acquisition/creation, knowledge dissemination, knowledge conversion and knowledge utilization.

There was a negative significant relationship between knowledge generation and knowledge utilization. This is in line with Stéphanie, Heinz & Raphaela (2012) who reported that only knowledge that has been previously represented,

communicated and generated can be applied in practice, either at an organizational level through concrete products or services or on an individual level when applying acquired knowledge; in knowledge management models to date, knowledge utilization has been of rather undifferentiated significance.

The finding of hypothesis three showed there was a negative significant relationship between knowledge codification and knowledge utilization. This suggests that knowledge should not be codified in such a manner that will bring confusion to the intended user because utilisation of knowledge has a direct link with how such knowledge is codified.

The result of hypothesis four revealed that there was a negative significant relationship between knowledge sharing and knowledge utilization. Stéphanie, Heinz & Raphaela (2012) opined that the communication of knowledge is a key element for linking the individual to the organization. Knowledge communication not only facilitates the circulation of information, but also leads to the generation of new knowledge. Equally, Epetimehin and Ekundayo (2011) reveal that KM efforts help organisations to share valuable organisational insights, to reduce redundant work, to avoid reinventing the wheel, to reduce training time for employees, to retain intellectual capital as employees' turnover in an organisation and to adapt to changing environments and markets.

### **Conclusion and Recommendations**

Theoretically and practically, it has been established in this study that knowledge management cannot be practiced in isolation especially in the digital era. Knowledge management and dissemination in the contemporary world especially among the academia is expected to transcend the age-long manual style of operations. Even though there is dearth of literature on the impact of digital tools on the management and dissemination of knowledge in a formal organisation especially in a university setting; this work suggests the roles played by these digital tools in knowledge management cannot be ignored if reasonable achievements would be recorded.

It is therefore recommended that Universities in Nigeria

should deem it fit to embrace the application of knowledge management processes coupled with digital initiatives in enhancing educational activities for improved delivery. Equally, academic staff should be constantly trained on the application and utilisation of the digital devices on knowledge management processes in the academic environment.

There are other factors besides technological factor that might affect Knowledge management processes such as human and organisation.

Reinmann-Rothmeier. & Mandl,(2000) suggested that *human* is about the promotion and creation of knowledge, skills and competencies of the organization members, which form the carrier of relevant knowledge and the core of all knowledge management as the actual “driving forces” of continuous learning. The second component *organization* implies the development of a knowledge- and learning-friendly environment and culture in the organization and creating a framework that will facilitate the management of knowledge resources. Hence, these two factors could be looked into in further research.

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