Technology-Enabled Knowledge Sharing in Federal Universities: Examining the Predictive Factors among Professional and Paraprofessional Librarians in South-East, Nigeria

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Abstract

This study examines factors predicting technology-enabled knowledge sharing among Professional and Paraprofessional Librarians (PPLs) in federal universities across South-East Nigeria. A total enumeration technique was employed, involving all 238 PPLs from five federal universities in the region. Data were collected using a validated structured questionnaire, with reliability coefficients of 0.84 for technology availability, 0.75 for perceived ease of use, 0.84 for perceived usefulness, and 0.90 for technology-enabled knowledge sharing. Descriptive statistics addressed research questions, while simple regression analysis tested hypotheses. Findings revealed that technology availability, perceived ease of use, and perceived usefulness positively and significantly predicted technology-enabled knowledge sharing. However, despite the availability of *technology, ownership is primarily personal rather than institutional. Ease of use was moderate, as some PPLs struggled with troubleshooting and felt intimidated by technology. A small group perceived technology as unnecessary. Although LIS professionals actively engaged in online discussions and networking, their participation in content creation and structured knowledge-sharing platforms remained low. To address this, the study recommends among others, that the Nigerian Library Association (NLA) and the Librarians Registration Council of Nigeria (LRCN) organize training programmes to enhance librarians' librarians' ability to use technology for knowledge sharing as part of their ongoing professional development.*

Keywords: Technology availability, perceived ease of use, perceived usefulness, technology-enabled knowledge sharing, Technology Acceptance Model, professional and paraprofessional librarians.

Introduction

Exponential growth in knowledge creation and rapid technological advancement has fostered the development of a knowledge-oriented society. The shift from a focus on "muscle power" to "brain power" has driven significant transformations in today's knowledge-driven world. A core assumption of this knowledge-based perspective is that knowledge holds market value. As a result, contemporary economies place a high premium on knowledge, giving rise to the concept of "knowledge economy". In a knowledge-based economy, an organization's ability to generate new knowledge, as well as effectively manage existing knowledge, becomes its most valuable asset. This viewpoint is encapsulated in sayings like "Knowledge is power," reflecting the growing recognition of knowledge as a highly sought-after resource for both individuals and organizations. One crucial aspect of knowledge, however, is that it can only be multiplied and become productive when shared and applied by its recipients (Ofurum, 2020).

Okorie, Gbemi-Ogunleye and Molokwu (2021) emphasized that both knowledge sharing and knowledge creation are essential for fostering innovation among employees within organizations. Sharing knowledge among staff members, therefore, becomes a key competitive advantage for any organization, contributing significantly to its success (Ahmed and Noor, 2021). Despite the numerous benefits of knowledge sharing for both individuals and organizations, its engagement is influenced by various factors. According to Ahmed and Noor (2021), these factors can be categorized into three main sub-groups, viz: (i) technical factors, which relate to information technology (IT), including both software and hardware; (ii) individual factors, , also referred to as internal factors, as they stem from individual characteristics such as beliefs, attitudes, and emotions; and (iii) organisational factors, also called external factors, which pertain to the organizational environment and the dynamics between staff and colleagues. Additionally, Quadri and Garaba (2019) argue that knowledge sharing and exchange are heavily dependent on information technology infrastructure to enable the creation, capture, management, dissemination, and storage of knowledge.

The university as an institution is fundamentally knowledge-based, with knowledge production, distribution and application embedded in its core mission. As a central hub for information acquisition, organisation and dissemination, the university library plays a crucial role in ensuring that the institution's goal of scholarship, teaching, learning and research are achieved. Within the library system, professional and paraprofessional librarians are responsible for managing educational resources to support knowledge creation through research, knowledge transmission via teaching, and knowledge acquisition and use by students- all of which contribute to the production of highly skilled manpower and entrepreneurs. These librarians hold qualifications in Library and Information Studies, with professionals typically possessing degrees or higher degrees, while paraprofessionals hold diplomas.

Given the increasing complexity of their roles in a knowledge-based economy and technology-driven society, librarians are increasingly recognized as key facilitators of knowledge distribution. This recognition has fuelled the need for enhanced collaboration and networking, primarily through technology-enabled knowledge sharing. Technology-enabled knowledge sharing is the engagement of technology-enabling tools for both knowledge donation and knowledge collection in work collaboration and networking for effective service delivery (Jiagbogu, 2021). These technology tools vary widely and include: such as the Internet-based resources (e.g., online databases, digital repositories); organizational networks (e.g., intranets, extranets); Collaborative technologies (e.g., groupware, discussion databases, chat rooms, webinars, online meetings, and virtual classrooms); and library consortium for resource sharing (Ugocha *et. al*., 2018).

The preference, adoption and use of technology-enabled platforms for knowledge sharing could thus be influenced by technology availability, technology comfort level (perceived ease of use) and the extent to which users believe the technology will enhance their work efficiency (perceived usefulness). According to IGI Global (2021) technology availability refers to the

opportunity, at both micro and macro levels, to access technology at reasonable costs, whether at home, in the workplace, at educational institutions or in public spaces. Perceived ease of use is a fundamental concept that describes how easily users can navigate a technology (Interaction Design Foundation, 2016). It represents the extent to which individuals believe that using a particular technology requires minimal effort. Similarly, perceived ease of use is defined as the degree to which a person believes that using the system required minimal effort, while perceived usefulness is the degree to which a person believes that using a specific technology will enhance their job performance (Suroso *et. al*., 2017).

Given the increasing reliance on technology-driven and knowledge-centred work environments, it is crucial to examine how these factors predict technology-enabled knowledge sharing among professional and paraprofessional librarians. Insights from such a study can aid decision-makers and stakeholders responsible for the acquisition, organisation, and dissemination of knowledge resources. By addressing these factors, universities can bridge existing gaps, enhance knowledge-sharing practices, and position themselves competitively in the global race for best practices in 21st-century education and research.

Statement of the Problem

The Library and Information Science profession has traditionally been rooted in knowledge sharing, with professionals trained to acquire, organize, and disseminate the right information to the right people at the right time. However, the advent and continuous advancement of ICT have transformed this role, creating a complex, technology-driven work environment, particularly for professional and paraprofessional librarians in higher institutions. Despite the benefits of technology-enabled knowledge sharing for networking, collaboration, and improved service delivery, adoption levels vary. While some librarians have fully embraced technology, others remain reluctant (Anasi et al., 2014), and this reluctance persists even over a decade later. This disparity highlights the need for broader adoption and engagement in technology-enabled knowledge sharing to enhance professional effectiveness. Given the critical role of TEKS in improving work performance and service delivery, this study investigates the factors predicting technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria. Specifically, it examines the perceived ease of use (PEOU) and perceived usefulness (PU) constructs of the Technology Acceptance Model (TAM), along with technology availability, to understand their impact on technology adoption in knowledge sharing.

Objectives

The general objective of this study is to examine the factors predicting technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South East, Nigeria;

The specific objectives are:

1. To investigate how technology availability predicts technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East, Nigeria.
2. To examine how perceived ease-of-use predicts technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East, Nigeria.
3. To assess how perceived usefulness predicts technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East, Nigeria.
4. To ascertain how professional and paraprofessional librarians in federal universities in South-East Nigeria engage with technology for knowledge sharing.

Theoretical Framework

The adoption of information technology systems has been studied using various theoretical models, such as the Theory of Reasoned Action (TRA)**,** Theory of Planned Behaviour (TPB)**,** Diffusion of Innovation (DOI)**,** and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Olushola & Abiola, 2017). This study, however, is grounded in the Technology Acceptance Model (TAM), developed by Davis in 1986 for his doctoral research. The model is based on the expectancy-value theory and Theory of Reasoned Action (TRA) (Bradley, 2009). TAM specifically addresses users' acceptance of information systems and posits that two main factors, Perceived Ease of Use (PEOU) and Perceived Usefulness (PU), are crucial determinants of technology acceptance. These factors influence the user's attitude towards using the technology, which then affects their behavioural intention to use it. While TAM has been modified over time, especially by Davis, Bagozzi, and Warshaw (1989) and Venkatesh & Davis (1996), the core variables have remained consistent. The key concept of TAM is its focus on the user's perception. A technology may be seen as useful and user-friendly by its creators, but its success ultimately depends on whether potential users share these perceptions.

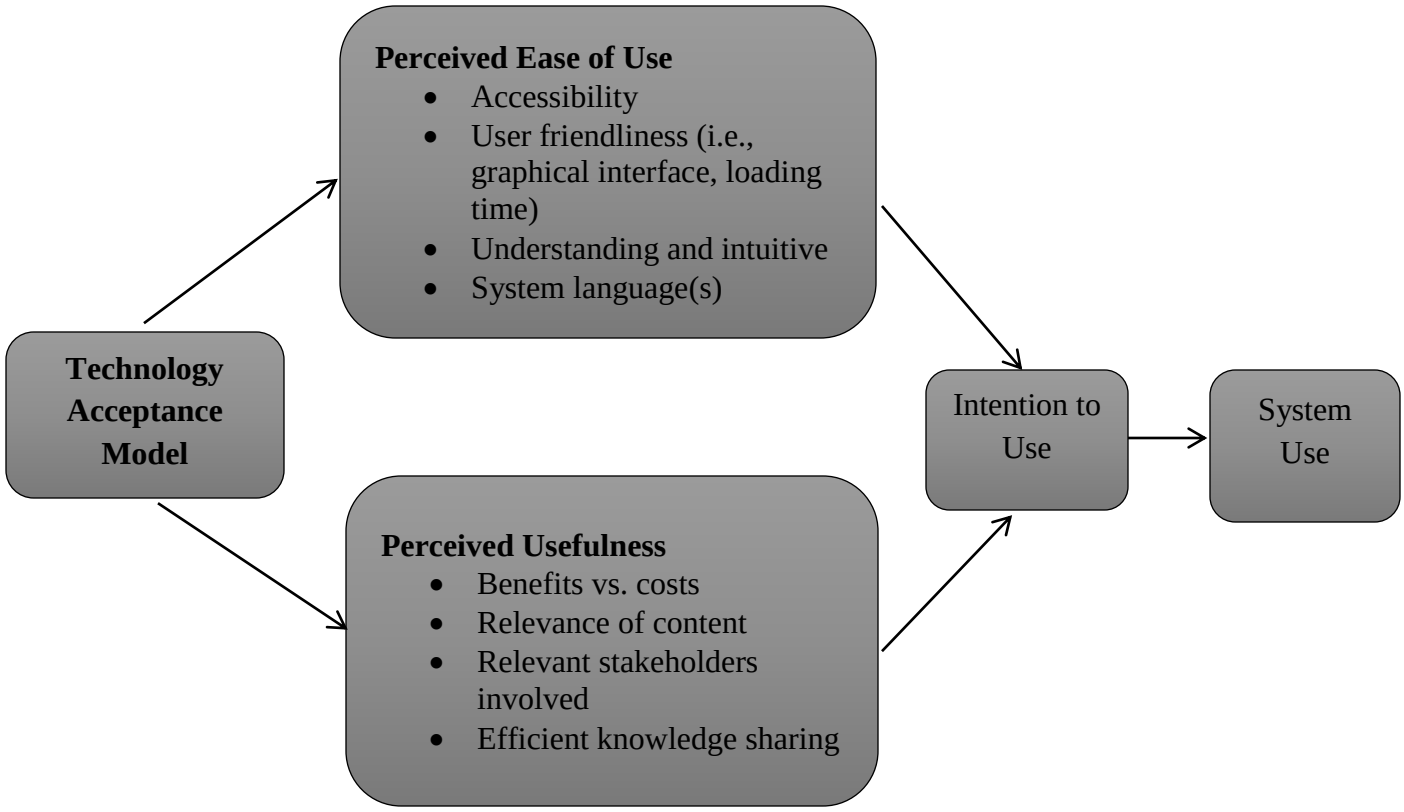


Figure 1: Technology Acceptance Model (Davis, Bagozzi, and Warshaw, 1989)

The Technology Acceptance Model (TAM) provides a strong framework for this study. Professional and paraprofessional librarians who perceive technology as readily available, easy to use, and useful for improving work performance are more likely to engage in technology-enabled knowledge sharing than those who find it challenging or less beneficial. It is plausible that technology availability**,** perceived ease of use, and perceived usefulness may influence librarians' engagement in technology-enabled knowledge sharing. Librarians who view technology favourably might be more inclined to adopt and utilize it for sharing knowledge, aligning with the general assumptions of TAM. However, the extent to which these factors directly predict engagement remains an area for further exploration.

Research Questions

1. How does technology availability predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria?
2. How does perceived ease of use of technology predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria?
3. How does perceived usefulness of technology predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria?

4. How do professional and paraprofessional librarians in federal universities in South-East Nigeria engage with technology for knowledge sharing?

Research Hypotheses

The hypotheses formulated to guide this study at 0.05 level of significance include:

$H_0$1: Technology availability does not significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria.

$H_0$2: Perceived ease of use does not significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria.

$H_0$3: Perceived usefulness does not significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria.

Review of Related Literature

Technology availability can be referred to as the degree of accessibility of technology for knowledge sharing. It refers to a situation where technology is readily accessible for communication and knowledge exchange (Omar, *et. al.,* 2011). According to Vangala *et. al.,* (2017), the availability of ICT is seen to enhance effective dissemination of explicit and tacit knowledge and sharing of best practices. Referred to as facilitating conditions in Unified Theory of Acceptance and Use of Technology, technology availability is very crucial to facilitate connectivity for long distance collaboration. Availability of technology will most likely make professionals more inclined to seek knowledge from the internet via the different technology-enabled platforms for knowledge sharing, rather than the conventional knowledge sharing platforms which can be more rigorous and time consuming. This is due to the fact that technology-enabled knowledge sharing makes it easier for professionals to communicate and share knowledge irrespective of the geographical distance and at a minimal price (Omar et al., 2011). Technology availability thus empowers professionals to effectively engage in technology-enabled knowledge sharing, and exchange ideas and work processes with other professionals irrespective of the geographical location and time. The implication is that for technology availability to be said to have really be achieved, there must be a round-the-clock access to technology and the Internet while working on-site or remotely. Han and Anantatmula (2007) posited that issues related to availability and usability of technology, have been shown to have influences on knowledge sharing. Supporting this, Usman and Oyefolahan (2014) wrote that technology availability and technology support were the significant variables that influence knowledge sharing using web technologies. Closely related to technology availability is the construct ease of use.

Perceived Ease of use describes the extent to which users believe a technical system to be free from effort and easy to handle (IGI Global, 2023). Aliyu and Dutse (2019) described it as a function of user's assessment of the involved efforts in the process of adopting and learning new technology. Interaction Design Foundation (IDF, 2023) noted that ease of use is a central

usability concept averring that the more usable a product is, the more likely it is that it will be used. Thus, if a person believes that engaging in technology-enabled knowledge sharing would not be free of effort, the person may not even try to engage in it. Conversely, those who perceive that technology-enabled knowledge sharing will be free of effort will more likely engage in it. This view is supported by Jahangir and Begum (2008) who inferred that the perception that technology-enabled knowledge sharing will involve a minimum of effort and an understanding of how to go about the technology-enabled knowledge sharing will most likely lead to its adoption by professionals. Aliyu and Dutse (2019) further buttressed that ease of use immensely assists in minimising the uncertainty of innovations, leading individuals to adopt the technology in question. Another important consideration that will likely impact technology adoption and use is usefulness.

Usefulness describes anything that helps an individual get closer to, meet one's goals and achieve a particular objective. It is one of the many dimensions that influences and contributes to a product's usability (Interaction Design Foundation, 2023). Aliyu and Dutse (2019) averred that perceived usefulness originally referred to job related productivity, performance and effectiveness. It is the degree to which a person believes that using a technology would enhance his or her job performance and productivity. Perceived usefulness affects a person's attitude which may assist in determining behavioral intentions and hence, would indirectly lead to the actual technology usage (Omar et al., 2011). Jahangir and Begum (2008) noted that usefulness is the subjective probability that using the technology would improve the way a user could complete a given task. A technology is seen to be of high usefulness when a potential adopter believes that there is a direct relationship between use, on the one hand, and productivity, performance, effectiveness or satisfaction, on the other (Rampersad *et. al*., 2012). Although technology might provide at least some degree of usefulness, a potential reason not to adopt exists when adopters fail to see the "need" to adopt. Need recognition is, therefore, likely to drive potential adopters to educate themselves in order to be able to utilize a technology fully before being able to recognize its usefulness. This, in turn, is likely to enhance the rate of adoption. The recognition of usefulness is important because it has been found to have a strong direct effect on the intention of adopters to use a technology (Rampersad et al., 2012). Paroutis and Saleh (2009) in a study on the determinants of knowledge sharing using modern technologies observed that employees who perceived and gained positive outcomes from using the modern technologies were the one's actively participating; while those who were unaware of the benefits, skeptical about them and/or perceived the costs of using these tools to be higher than the benefits were the ones refraining from using them. He observed that majority of the current users stated that they use the technologies partly because it helps them do their jobs more effectively. Therefore, usefulness of technology for knowledge sharing can serve as a motivator for professionals to seek knowledge from, engage in and adopt technology-enabled knowledge sharing. If professionals observe that the results they obtain from technology-enabled knowledge sharing are useful for their work (i.e., the system can improve their job performance), they are

likely to be motivated to participate and engage in technology-enabled knowledge sharing (Jahangir and Begum, 2008).

Research Method

The cross-sectional research design was adopted for this study as data was collected at a single point in time to examine relationships. The population consisted of two hundred and thirty-eight (238) professional and paraprofessional librarians (PPLs) working in the five federal universities in south-east, Nigeria namely Federal University of Technology, Owerri, Michael Okpara University of Agriculture, Umudike, University of Nigeria, Nsukka, Nnamdi Azikiwe University, Awka and Alex Ekwueme Federal University, Ndufu-Alike Ikwo. Since the population was not unwieldy, total enumeration technique was adopted to capture all the 238 PPLs in the five federal universities in south-east, Nigeria. This was also done to ensure equity in data collection and easy generalization of research findings. Validated structured questionnaire on factors predicting technology-enabled knowledge sharing with co-efficient of 0.84 for technology availability, 0.75 for perceived ease of use, 0.84 for perceived usefulness and 0.90 for technology-enabled knowledge sharing were used to collect data for the study. The instrument consists of four (4) sections with items designed to elicit information on technology availability, ease of use, usefulness, and measure technology-enabled knowledge sharing. For all the questions, the respondents were asked to rate their opinion on the statements using a four-point rating scale of Strongly Agree (4), Agree (3), Disagree (2) and Strongly Disagree (1). The distributed instrument recorded an 82% return rate (195 copies) and all were found usable. Mean and standard deviation were used to answer the research questions while simple regression analysis was used to test the formulated hypothesis in order to quantify the extent of the relationship and provide insights into the predictive power of the independent variables on the dependent variables. These were all calculated using statistical package for social sciences (SPSS) software.

Results

This is presented according to the research questions and hypotheses formulated to guide the study.

RQ1: How does technology availability predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria?

Table 1: Mean and Standard Deviation of availability of technology as a predictor of technology-enabled Knowledge Sharing

S/N	Statement	Mean ($\bar{x}$)	Std. Dev.
1	Modern technologies are always at my disposal in my institution.	2.87	0.39
2	I have a dedicated desktop/laptop for my office use	2.96	0.38
3	Technology resources are easily available at the shortest possible time	2.85	0.38
4	Internet facilities are easily available in my institution using wifi or LAN	2.66	0.37
5	Technology infrastructure is hardly available when it is needed.	2.73	0.39
6	Cost of having available technological resources is too high for me	2.82	0.39

7	I have personal laptop or desktop	3.03	0.36
8	I have available internet using my personal network.	3.00	0.38
9	I have the username and password to the institution's subscribed online databases	2.80	0.41
10	I have a smart phone for easy access to the internet	3.05	0.34
	Grand Mean	***2.88***	***.38***

Table 1 presents the Mean ($\bar{x}$) and Standard Deviation (Std. Dev.) of responses regarding the availability of technology as a predictor of technology-enabled knowledge sharing. Smartphone availability (3.05); Personal laptop or desktop (3.03); and Personal internet access (3.00) has the highest mean values, suggesting that while institutional resources may be limited, individuals tend to rely on personal devices and networks for technology-enabled knowledge sharing. On the other hand, technology infrastructure availability (2.73) and Institutional internet availability (2.66) has the lowest mean values indicating that access to internet and technology infrastructure within the institution is perceived as less reliable. The relatively high agreement on cost concerns (2.82) suggests that affordability of technological resources could be a barrier to access. The availability of institutional online databases (2.80) is slightly below the grand mean, indicating room for improvement in accessibility to academic resources. The grand mean of 2.88 suggests that technology availability is moderate in these institutions. Therefore, technology availability influences knowledge sharing positively, but reliance on personal devices suggests institutional gaps that need to be addressed. The standard deviation of 0.38 indicates a relatively low variation in responses, meaning most respondents had similar perceptions about technology availability.

RQ2: How does perceived ease of use of technology predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria?

Table 2: Mean and Standard Deviation of Perceived Ease of Use of technology as a predictor of technology-enabled Knowledge Sharing

S/N	Statement	Mean ($\bar{x}$)	Std. Dev.
11	I find it easy to use electronic tools	2.63	0.30
12	I am intimidated when it comes to technology use	2.36	0.34
13	The process of engaging technology is enjoyable	2.61	0.32
14	It is very convenient for me to adopt technology for daily use	2.63	0.31
15	Technology use is too tasking for me	2.43	0.34
16	Using technology is time-saving	2.69	0.31
17	I avoid using technology as much as I can	2.36	0.35
18	I do not know how to use technology	2.33	0.30
19	I lack basic troubleshooting skills in case of crash of technology	2.50	0.35
20	I have not been able to learn technology use	2.32	0.33
	Grand Mean	***2.52***	***.32***

Table 2 presents the Mean ($\bar{x}$) and Standard Deviation (Std. Dev.) of responses regarding the Perceived Ease of Use of technology as a predictor of technology-enabled knowledge sharing. The statements with higher mean values are the ones suggesting easier Use of Technology which

include: Technology is time-saving (2.69); Ease of using electronic tools (2.63); Convenience of adopting technology for daily use (2.63); and Technology engagement is enjoyable (2.61). On the other hand, statements with lower Mean Values are those suggesting challenges in Technology Use, which are: Not knowing how to use technology (2.32); inability to learn technology use (2.32*);* avoiding technology use (2.36*)* and intimidation by technology (2.36); Technology is too tasking (2.43) and lack of troubleshooting skills (2.50). This implies that while many respondents find technology useful and convenient, technical skills and confidence remain a challenge for some. The grand mean of 2.52 indicates a moderate perception of ease of technology use. The standard deviation of 0.32 indicates relatively low variability in responses, meaning most respondents had similar views on the ease of using technology.

RQ3: How does perceived usefulness of technology predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria?

Table 3: Mean and Standard Deviation of Perceived Usefulness of technology as a predictor of technology-enabled Knowledge Sharing

S/N	Statement	Mean ($\bar{x}$)	Std. Dev.
21	Connecting with experts can be done without technology.	2.78	0.32
22	Applying technology is very useful for professional networking	2.99	0.27
23	There is little or no new knowledge to be gained using technology	2.62	0.28
24	Technology enables me to accomplish my work quickly, efficiently and effectively.	2.98	0.27
25	I have no need to engage in technology for issues relating to my work practices	2.56	0.26
26	Technology is useful in asking for assistance from fellow professionals on work related issues	3.00	0.25
27	I do not need technology to perform effectively in my profession	2.60	0.29
28	Technology makes it easier to give suggestions to colleagues on work related issues	2.97	0.27
29	Technology is useful in connecting to colleagues who are experts in various fields	2.98	0.27
30	Technology enhances information sharing considerably	2.94	0.25
	Grand Mean	***2.87***	***.28***

Table 3 presents the Mean ($\bar{x}$) and Standard Deviation (Std. Dev.) of responses regarding the Perceived Usefulness of technology as a predictor of technology-enabled knowledge sharing**.** The statements with the higher Mean Values are those that suggests greater Perceived Usefulness of Technology which are: Technology helps in asking for assistance from professionals (3.00); Technology is useful for professional networking (2.99); Technology enables quick, efficient, and effective work (2.98); Technology is useful in connecting with experts (2.98); and Technology facilitates information sharing (2.94). The highest-rated statements suggest that librarians recognize technology as a tool for professional networking, collaboration, and efficiency. On the other hand, the statements with lower Mean Values are those with less

Perceived Need for Technology. These are: Connecting with experts without technology (2.78)*;* Little or no new knowledge to gain from technology (2.62); No need for technology for professional effectiveness (2.60)*;* and No need for technology in work practices (2.56). This shows that notwithstanding, a small group still doubts the necessity of technology, indicating potential resistance or reliance on traditional methods. The grand mean of 2.87 indicates that most librarians perceive technology as useful for knowledge sharing. The standard deviation of 0.28 indicates relatively low variability in responses, meaning there is a strong consensus on these perceptions.

RQ4: How do professional and paraprofessional librarians in federal universities in South-East Nigeria engage with technology for knowledge sharing?

Table 4: Mean and Standard Deviation of engagement in technology-enabled knowledge sharing among PPLs

S/N	Statement	Mean ($\bar{x}$)	Std. Dev.
31	I make use of diverse technologies for knowledge sharing.	3.39	0.38
32	I belong to professional Online groups, Social networking sites and internet forums.	3.60	0.38
33	I make use of technology when I have a question or problem relating to my work practices.	3.54	0.37
34	I readily answer questions posted by my fellow professionals on blogs, online groups and Internet forums.	2.44	0.39
35	I contribute to professional blogs and update wikis on issues relating to the profession.	2.26	0.36
36	I use blogs, microblogs, instant messaging systems and video conferencing tools for interaction with professional colleagues.	3.55	0.38
37	I participate in professional discussions in the online professional groups, social networking sites and internet forums.	3.63	0.37
38	I post messages regarding my work practices or experiences on the Online groups.	2.58	0.43
39	I hardly seek for solutions to work related issues using technology.	2.48	0.37
40	I send emails to colleagues when I have issues with my work.	3.04	0.43
41	I share ideas for my researches using online workspaces.	2.71	0.44
42	I use email for collaborative authorship.	2.91	0.46
43	I keep contact with colleagues by following their discussions on microblogs and social networking sites.	3.51	0.40
44	I obtain work related information and knowledge using social networking sites, online groups and internet forums.	3.32	0.39
45	I use social networking sites to maintain and strengthen communication with professional colleagues.	2.95	0.44
46	I easily contact my professional colleagues using their email address.	2.52	0.41
47	I look up knowledge relating to my profession on professional blogs and wikis.	2.71	0.44
48	I upload my academic works in institutional repository and social networking sites for other professionals to benefit from.	2.97	0.44

49	I use microblogs for personal knowledge sharing to a wider audience.	2.58	0.42
50	I use video conferencing tools for meetings, seminars, conferences and keeping up with best practices in the profession.	3.51	0.40
	Grand Mean	***3.01***	***.39***

Table 4 reveals the extent to which PPLs in federal universities in South-East Nigeria engage with technology for knowledge sharing. With a grand mean of 3.01, the findings indicate a moderate overall engagement in technology-enabled knowledge sharing. Librarians demonstrate high engagement in certain areas, particularly in participating in online professional groups, social networking sites, and internet forums (Mean = 3.63). They frequently use technology to seek solutions to work-related issues (Mean = 3.54) and rely on video conferencing tools for meetings and professional development (Mean = 3.51). Following discussions on microblogs and social networking sites is also a common practice (Mean = 3.51). In areas of moderate engagement, librarians make use of emails for communication (Mean = 3.04) and share research through online workspaces (Mean = 2.71). However, activities such as posting messages about work experiences and using microblogs for knowledge sharing occur less frequently (Mean = 2.58). Similarly, uploading academic works to institutional repositories takes place at a moderate level (Mean = 2.97). Conversely, areas of low engagement include contributions to professional blogs and wikis (Mean = 2.26), answering questions in online groups and forums (Mean = 2.44), and contacting colleagues via email (Mean = 2.52), all of which are relatively infrequent.

Testing the Null Hypotheses

Hypothesis 1

Technology availability does not significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria.

Table 4: Test of Significance of Simple Regression Analysis with technology availability as a predicting factor

	B	B	*t*	*P*	*Remark*
Constant	30.27		8.01	.00	
Technology Availability	1.04	.49	8.00	.00	S
R .49					
R^2 .24					
Adj.R^2 .24					
F 64.12				.00	

** S= Significant [Note: B= Unstandardized Beta; β=Standardized Beta; t= t-value; P= p-value]*

Table 4 shows the simple regression coefficient (R) which is .49 and R^2 .24. The R-value (.49) suggests a moderate positive correlation between technology availability and technology-enabled knowledge sharing. The F-value is 64.12, with a p-value of .00 ($p < .05$), indicating that the overall regression model is statistically significant. Since the p-value (.00) is less than .05, the null hypothesis (H_0) is rejected. This means that technology availability significantly predicts technology-enabled knowledge sharing among professional and paraprofessional librarians in

federal universities in South-East, Nigeria. In practical terms, this suggests that increasing access to technology is likely to enhance knowledge sharing among librarians in these institutions.

Hypothesis 2

Perceived ease of use does not significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria.

Table 5: Test of Significance of Simple Regression Analysis with perceived ease of use as a predicting factor

	B	β	*t*	*P*	*Remarks*
Constant	51.24		11.48	.00	
Ease of use	.35	.14	2.03	.04	S
R .14					
R^2 .02					
Adj.R^2 .01					
F 4.13				.04	

Table 5 indicates that the simple regression coefficient (R) is .14 while the R^2 is .02. The R-value (.14) suggests a weak positive correlation between perceived ease of use and technology-enabled knowledge sharing. The F-value (4.13) with a p-value of .04 ($p < .05$) indicates that the overall regression model is statistically significant. Since the p-value (.04) is less than .05, the null hypothesis (H_0) is rejected. This means that perceived ease of use significantly predicts technology-enabled knowledge sharing, though the effect size is small. In practical terms, this suggests that making technology easier to use may have a positive impact on knowledge sharing, but it may not be the strongest predictor compared to other factors such as technology availability or perceived usefulness.

Hypothesis 3

Perceived usefulness does not significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria

Table 6: Test of Significance of Simple Regression Analysis with perceived usefulness as a predicting factor

	B	β	*t*	*P*
Constant	26.25		4.91	.00
Usefulness	1.18	.41	6.38	.00
R .41				
R^2 .17				
Adj.R^2 .17				
F 40.79				.00

As displayed in Table 6, the simple regression coefficient (R) is .41 while the R^2 is .17. The R-value (.41) suggests a moderate positive correlation between perceived usefulness and technology-enabled knowledge sharing. The F-value (40.79) with a p-value of .00 ($p < .05$)

indicates that the overall regression model is statistically significant. Since the p-value (.00) is less than .05, the null hypothesis (H_0) is rejected. This means that perceived usefulness significantly predicts technology-enabled knowledge sharing. In practical terms, this suggests that the more librarians perceive technology as useful for their work, the more likely they are to engage in technology-enabled knowledge sharing. Compared to perceived ease of use (which had a weaker effect), perceived usefulness appears to be a stronger predictor of knowledge-sharing behaviour among professional and paraprofessional librarians.

Discussion of findings

The analysis of Tables 1, 2, and 3 reveals several key insights into the use of technology for knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria. Firstly, technology availability is present but predominantly personal. Many librarians rely more on their own devices (such as laptops, smartphones, and personal internet connections), than on the institutional infrastructure provided by their universities. While institutional resources like readily available internet, technology infrastructure and dedicated office computers are accessible, it is clear that personal ownership of technology plays a more significant role in enabling technology-driven knowledge sharing. This suggests that individual access to personal technology is a key facilitator, sometimes surpassing the institutional provisions intended for technology -enabled knowledge sharing.

Secondly, ease of use is reported as moderate, though some librarians still face challenges. While a majority of librarians find technology to be convenient, time-saving, and enjoyable, there is a noticeable portion that struggle with issues like troubleshooting and feel intimidated by technology. This highlights a gap in technology proficiency that may hinder the full utilization of available tools. The discrepancy suggests the need for targeted training and support to increase comfort levels with technology and to enhance troubleshooting skills.

Lastly, technology is widely recognized as useful by most librarians. They acknowledge its significant role in enhancing collaboration, professional networking, and efficiency in knowledge sharing. However, there is still a small minority who do not perceive technology as essential to their work. This underlines the opportunity for further awareness and advocacy programmes to highlight the benefits of technology in enhancing librarians' professional activities, thereby encouraging greater engagement in technology-enabled knowledge sharing.

From Table 4 the results indicate that while PPLs actively use social networking sites, online groups, and video conferencing tools, they are less likely to contribute to blogs, wikis, or post their own content online. This suggests a preference for consuming knowledge rather than generating it in online professional spaces.

From Tables 5 to 7, the findings of the study revealed that technology availability significantly predicts technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria. This suggests that an increase in technology availability could potentially enhance the participation of professional and

paraprofessional librarians in technology-enabled knowledge sharing. This result concurs with previous research by Omar et al. (2011), who found that technology availability is significantly correlated with knowledge sharing among undergraduates. While technology availability serves as a positive predictor of technology-enabled knowledge sharing, it may not always hold true across various contexts. For example, a study by Han and Anantatmula (2007) found that the availability of more advanced technologies did not predict willingness to share knowledge because participants were not adequately trained to use these technologies. This highlights the importance of not only providing technology but also ensuring adequate training to maximize its potential for knowledge sharing.

Perceived ease of use was found to significantly predict technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria. This positive and significant relationship suggests that an increase in the perceived ease of use of technology is likely to enhance the engagement of professional and paraprofessional librarians in technology-enabled knowledge sharing. This result aligns with findings from previous studies, such as Hsu and Lin (2008), who found that ease of use significantly predicts technology-enabled knowledge sharing through blogs. Difficulty in using technology for communication is likely to impede the sharing of knowledge; however, if technology is user-friendly, professionals may be more inclined to adopt and use the available tools for knowledge sharing (Han and Anantatmula, 2007). Furthermore, this finding is consistent with the study by Aliyu and Dutse (2019), who found that perceived ease of use played a significant role in the adoption of automation systems in academic libraries in Bauchi state.

Additionally, the findings of the study indicated that perceived usefulness significantly predicts technology-enabled knowledge sharing among professional and paraprofessional librarians in federal universities in South-East Nigeria. This suggests that an increase in perceived usefulness is likely to lead to a rise in technology-enabled knowledge sharing among these librarians. The result is consistent with previous studies, such as those by Yu, Lu, and Liu (2010), which found that perceived usefulness was positively significant in predicting knowledge sharing via weblogs. The alignment between these findings could be attributed to the perceived value that professional and paraprofessional librarians place on technology-enabled knowledge sharing. The more valuable librarians perceive this type of sharing to be, the more likely they are to engage in it. This conclusion further corroborates the study by Aliyu and Dutse (2019), which highlighted the significant role that perceived usefulness plays in the adoption of automation systems in academic libraries in Bauchi state.

Conclusion

Knowledge sharing is a cornerstone of the librarianship profession. However, the mode of sharing continues to evolve and is now largely driven by technology. The benefits of technology-enabled knowledge sharing cannot be overstated, especially in an era where the world has become a global village. Professional and paraprofessional librarians can connect with their peers worldwide to stay updated on emerging trends in their field. This study has shown that

technology availability, perceived ease of use, and perceived usefulness significantly influence technology-enabled knowledge sharing among professional and paraprofessional librarians. While the findings indicate that technology is accessible, useful, and relatively easy to use, certain challenges remain. The personal nature of technology ownership, the moderate ease of use, and the limited perception of its necessity highlight areas for improvement. Addressing these factors through targeted interventions will significantly strengthen the adoption of technology-enabled knowledge sharing (TEKS) for best practices in librarianship.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Institutions should focus on improving internet availability, technology infrastructure, and cost accessibility to facilitate seamless technology-enabled knowledge sharing. Limited access to institutional technology and high costs may hinder effective knowledge exchange.
2. Efforts should be made to implement training programmes, workshops, and support systems that encourage effective technology-enabled knowledge sharing. Providing user-friendly technological tools will further enhance engagement and adoption.
3. Institutions can increase participation by showcasing success stories that demonstrate how technology enhances knowledge sharing and professional effectiveness. Training on basic IT skills and confidence-building workshops can help librarians overcome barriers to technology adoption.
4. The Nigerian Library Association (NLA) and the Librarians Registration Council of Nigeria (LRCN) should develop structured training programmes to integrate technology use into professional development. This will not only enhance the growth of library professionals but also contribute to the overall advancement of libraries.
5. Institutions should adopt technology-enabled knowledge-sharing platforms that are both useful and easy to use, aligning with librarians' preferences and the strategic goals of the library.

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