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FUDMA Journal of Educational Foundations (FUJEF) is a quarterly Journal (April, August & December Editions) published by the Department of Educational Foundations, Federal University Dutsin-Ma, Katsina State, Nigeria. The goal of the Journal is to promote multidisciplinary research in the field of Education by publishing original and scholarly articles in the following areas:

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EDITORIAL

The Department of Educational Foundations, Federal University Dustin-Ma, Katsina State is pleased to publish the *Volume 4, Number 1, April, 2021* of her Journal. This is in line with the core objective of the Journal, which is to provide opportunities for academics to publish their research works for national growth and development, particularly in the educational sector.

The Department knows that speedy processing of articles and prompt feedback to contributors are very vital for a Journal to gain good patronage. I am also glad that the Journal has gained overwhelming patronage from scholars in universities within and outside the shores of the country. This is due to speedy review of articles submitted for publication by our team of Reviewers which cuts across different universities. Well written and thoroughly researched articles are regularly packaged by our experienced and versatile Associate Editors and Editorial Board members who ensured that articles submitted, having met the prescribed criteria, are promptly accepted for publication after rigorous blind review,

The Editorial Board is very sensitive to the desires of our contributors and does not compromise standard. Due to the overwhelming response from our erudite scholars in patronizing our Journals, we are pleased to inform you that our Journals will be *published thrice annually*, that is: *April, August and December* (with each publication in varied cover page colour). This is to accommodate the volume of contributions by researchers. I therefore urge our colleagues in the academia to please collaborate with us towards projecting educational research, to advance national course for the good of all.

A great task like this can only be carried out by a team of scholars. I appreciate the tireless efforts of the Editorial Board members, Research Committee members, Editorial Advisers and authors that contributed towards making FUJEF a high quality Research Journal. I also wish to express my profound gratitude to the Vice Chancellor of Federal University Dustin-Ma, Professor Ar'mayau Bichi for his tremendous support in providing us with the enabling environment for academic excellence.

Equally worthy of special appreciation is Dr. S.O. Olomola (Managing Editor), whose contributions can neither be quantified nor qualified.

With advancement in technology, the world is now a global village. In a bid to enhance wider visibility and accessibility, the Departmental Journal Administrators in conjunction with the FUDMA I.C.T. Directorate have uploaded the Journal on-line which can be accessed at <http://journal.fudutsinma.edu.ng/index.php/fujef>

The entire staff of the Department of Educational Foundations have been very supportive. They have shown uncommon cooperation and over-whelming support. They are the catalyst for our success.

I am very sure you will enjoy reading the articles in this edition. Thank you for your interest in our Journal.



Prof. R.A. Olatoye
Editor-in-Chief

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Adoption and Use of Library Management Software by Professional Librarians in selected University Libraries in Nigeria: Using Adapted Technology Acceptance Model

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Abstract

The study investigated the adoption and use of Library Management Software (LMS) by professional librarians in selected university libraries in Nigeria using an adapted Technology of Acceptance Model (TAM) as lens. The study employed a cross-sectional descriptive research design to gain insights into the adoption and use of Library Management System. A survey instrument was administered to 48 professional librarians. The findings of the study reveal that 79% of the respondents strongly agreed on availability of KOHA and 13% of the respondents indicated availability of Alexander library software while 8% agreed that library management systems like D-space library software and others were available. In addition, the majority of respondents have developed a positive attitude towards adoption and use of library management software in selected university libraries. Factors such as perceived usefulness, perceived ease of use, users' attitude, and availability of library management software have been found to forecast the adoption and use of digital software by professional librarians. To increase the usage of LMS, the adoption of LMS must be given a high priority in various sections of the university libraries in Nigeria.

Keywords: Technology acceptance, library management software, university libraries, librarians, Nigeria

Background to the Study

University library can be described as the heartbeat of all academic activities in universities. It is a repository of knowledge with varied and useful information in numerous formats. The prominent roles of any library are; acquisition, cataloguing and classification, circulation, serial control, inter-library loan, and delivery of information in both digital and electronic format. Academic library as one of the types of libraries could be described as a university library. The university libraries assist in achieving the goals and objectives of their parent institutions through the provision of current and relevant information resources that are necessary for sustaining the learning, teaching, research, other functions and activities within the institutions. As buttressed by Whong (2014) that the library is a place where different

social policies, theories and ideologies are met and a space to study different arts and cultures provided.

University libraries are in a state of change in the area of users and its resources in the past two decades due to the applications of ICT (Ramzan, 2010). All over the world ICTs are changing the world, making a major shift in the way people live, learn, work and communicate (Maduewesi, 2013). This development has brought huge transformation that lead to development of software in the libraries especially university libraries.

The emergence of software has redefined the library's roles and its service delivery. Print materials are no longer sufficient to store information. CD-ROM databases, electronic document delivery, automated cataloguing, circulation systems and online information retrieval (OPAC) have become the order of the day. Library management software is an application which provides functionalities for systematic selection, acquisition, deposition, processing, search and discovery of digital documents in the library (Kumar, 2017).

Library management software has become a new platform offering simple, quick, and easy access of information. University libraries in both the developed and developing worlds have recently turned to the application of library software for service delivery. Aymonin et al. (2011) reported that digital software is becoming more and more usual in university libraries and its evolution reflects the mutation of libraries themselves. The software is also becoming preferential because of their ability to foster user-centred service and their ability to take libraries where users are.

Qutab et al. (2014) affirmed that libraries must take a more proactive response to the application of library software to function effectively in the present age. University libraries use library management software for several operations such as book and serial control, classification and cataloguing, reference service, circulation service, inter library loan, document delivery service, electronic contents, e-mail and chat assistance, bibliographic service, photocopies services, and many others. These opportunities not only enable libraries to provide quick information to users but also benefiting remote libraries (Adeleke & Olorunsola, 2010). The abundant benefits of library management software to the library management have brought recognition that tagged library management software as Integrated Library Software (ILS).

Ayodele, Joseph, Helen and Felix (2013) stressed that it is the expectation of every organization that software run on the operating systems of their computers will perform effectively with little or no hiccups. Despite the huge benefits of library management software, there is perception that adoption and use is slow.

Adoption is defined as accepting or starting to use something new (Cambridge Dictionary, 2021) while use is a continuous usage of something. According to Toyo (2017) some libraries in Nigeria felt reluctant to adopt library management software for their library operations and services provisions. The idea of adopting software into university libraries is not solely about new functions, but it is to create and share information by users based on their needs (Zheng & Wang, 2009). Thus, it is important to elicit user feedback and input into the development of digital applications in library services. Similarly, Qutan et al. (2014) reported that adoption

of software facilities is demanded by users and is the way to enable the university libraries of developing countries to provide the services expected in the present electronic age.

In spite of vast benefits of library management software, there is low adoption and use in university libraries. This might be due to perceived usefulness, which refers to the degree to which using the systems enhances an individual's effectiveness. Also, perceived ease of use as a factor could be responsible. The perceived ease of use is the degree to which a person believes that using a particular system would be free of effort, among others. Several studies (Tella et al. 2017), Njoku, (2017), Chigwada, (2018) had established that attitude and other factors could be responsible for low adoption and use of library management software. None of the study examined the adoption and use in holistic approach using Technology Acceptance Model (TAM) as a lens. Therefore, the study sought to investigate the adoption and use of library management software in university libraries in Nigeria using an adapted TAM.

Statement of the Problem

Library management software has become a new platform offering simple, quick, and easy access to information. Despite the benefits accrued from application of software in university libraries, the adoption and use is low. As supported by Omosor (2014) that the underutilization of information technologies towards the dispensation of library services is no doubt a worrisome dimension. Similarly, Bamidele et al. (2013) reported that lack of adequate skilled IT professionals, and exposure to digital software in the library affect effectiveness of service delivery in the academic library.

Several studies (Olaniyan & Ojo, 2008; Krubu & Osawaru, 2011) investigated factors militating against optimum productivity in all libraries. Based on the knowledge of researchers, it seems there is insufficient research on attitude and other factors that influence the adoption and use of library management software for service delivery in university libraries. Therefore, this study investigated the adoption and use of library management software in university libraries in Nigeria using an adapted TAM as a lens.

Theoretical Literature and Hypotheses Development

Technology Acceptance Model-TAM was adopted from the Theory of Reasoned Action (TRA) and has been widely used for the understanding and predicting user's adoption of new information technology. TAM postulates that an individual's salient beliefs about a system (perceived ease of use and perceived usefulness) control the attitude towards using the specified system. The rationale behind adapting this theory in this study was that it fundamentally looks at how an individual found systems to be useful and perceived ease of use in their operations in the university libraries.

Consequently, the adoption and use of library software for library services is becoming a common practice and expectation amongst libraries in the developed world. Fari (2015) reported that arguments by TAM critics are quite useful, particularly in confirming that TAM is still useful for application in related studies. As supported by Alharbi and Drews (2014)

and Seyal et al. (2015) that TAM has been adopted and tested as a useful framework in the field of information science

. The following null hypothesis will be tested at 0.05 significant level.

Hypothesis 1: There is no significant relationship between availability and adoption and use of library management software in university libraries.

Hypothesis 2: There is no significant relationship between perceived usefulness and the adoption and use of library management software in selected university libraries in Nigeria.

Hypothesis 3: There is a significant relationship between perceived ease of use and the adoption and use of library management software in selected university libraries in Nigeria.

Hypothesis 4: There is significant relationship between librarians' attitudes towards the adoption and use of library management software in selected university libraries in Nigeria.

Hypothesis 5: There are significant relationship among availability, perceived usefulness, perceived ease of use, and librarians' attitudes towards the adoption and use of library management software in selected university libraries in Nigeria.

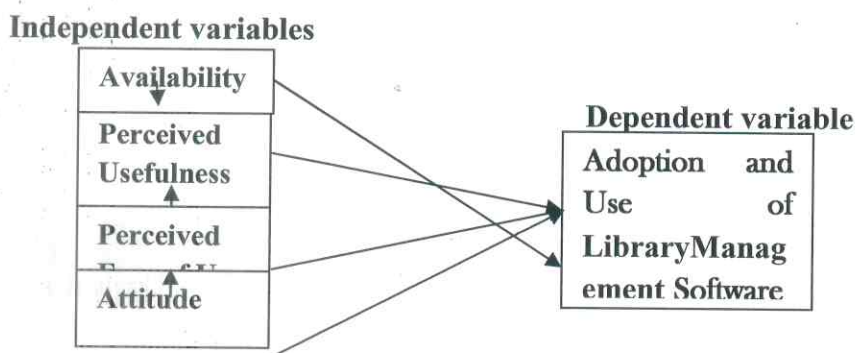


Figure 1: An adapted TAM to measure library management software adoption and use.

The conceptual framework for the study presents the relationship between independent and dependent variables of the study. The Figure 1 shows that the adoption and use of digital software in university libraries is influenced by a number of factors which include perceived usefulness, perceived ease of use, and attitude of professional librarians. The influences of the identified factors are expected to yield an adoption and use of digital software for an effective service delivery. On the other hand, when these factors are not favorable, the adoption and use of digital software for services delivery will not be encouraged at the selected university libraries. . There are few empirical studies on software usage in academic libraries. For examples,

Kumar and Jasimudeen (2012) examined the adoption and use of open source library management systems with a focus on KOHA software. The findings revealed that the number of KOHA users in India is growing. Similarly, Omeluzor et al. (2013) appraised the implementation process of KOHA Integrated Library Management Software (ILMS) at the

Babcock University (B.U.) Library, Nigeria. The findings revealed that there is no major problem since the implementation of the software at Babcock University Library.

Methodology

A survey design was adopted in this study to examine an adapted TAM research model. The target population of this study consisted of professional librarians. The questionnaire contained items adopted and modified from other studies, particularly from Venkatesh et al. (2003) and Almasri et al. (2014). The questionnaire included a section about the library staff background. Other sections were categorized according to the studied factors – perceived ease of use, perceived usefulness, and attitude of adoption and use of library management software. A number of items were listed under each category. To confirm the reliability and validity of the questionnaire before its distribution, 10 subjects were selected from the Ajayi Crowther University Library, Oyo State, Nigeria. Based on results from this pilot test, the questionnaire was modified to the version used in the main study. It was then distributed to the chosen research population of this study (professional librarians) in the six (6) selected university libraries in Nigeria in April, 2019.

A total of forty-eight (48) copies of the questionnaire were administered to professional librarians in six selected university libraries in Nigeria (Kwara State University Library; University of Ilorin Library; Al-Hikmah University Library, Landmark University Library, Crownhill University Library and Summit University Library. See the population of the study in Table 1.

Table1: Population of Librarians in Selected University Libraries

S/N	Names of Universities	Years of Establishment	Professional Librarians
1.	University of Ilorin library, Ilorin	1975	25
2.	Kwara State university library, Malete	2009	10
3.	Al-Hikmah University library, Adewole, Ilorin	2005	3
4.	Landmark University library, Omu aran	2011	6
5.	Crown-Hill University library, Balah, Ilorin	2016	2
6.	Summit University library, Offa	2015	2
Total			48

Source: Library Administration (2019).

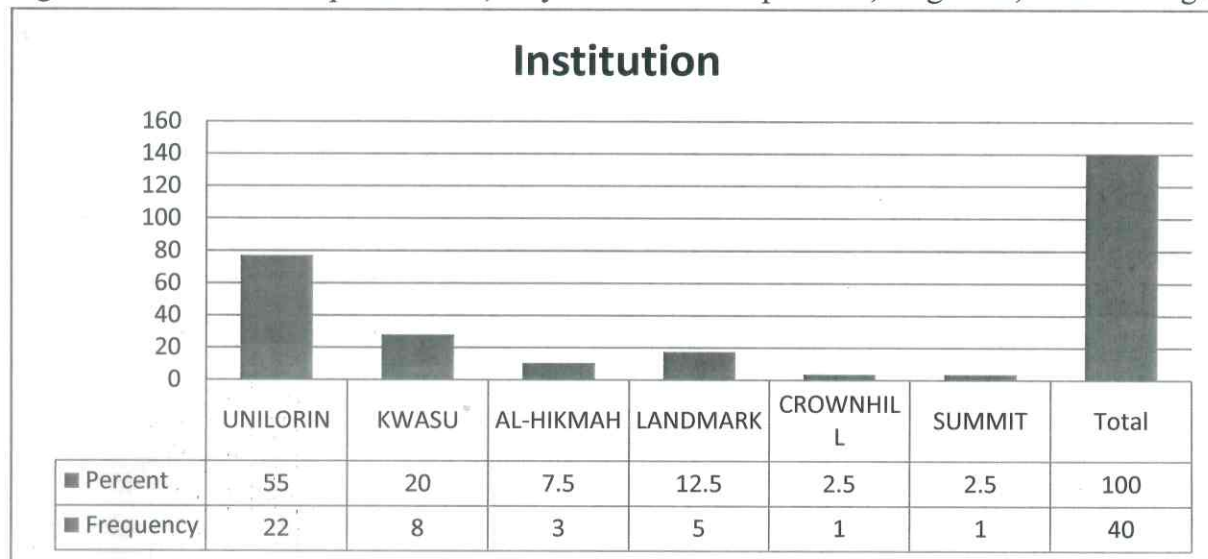
Results

A total of 40 participants responded and completed the survey questionnaire giving a response rate of 83.3%. Babbie and Mouton (2012) opined that a response rate of at least

50% is adequate for analysis of a survey, 60% is considered good while a 70% return rate is considered excellent. Based on this assertion, the response rate of 83.3% for the present study is considered to be excellent.

Demographic characteristics of the professional librarians

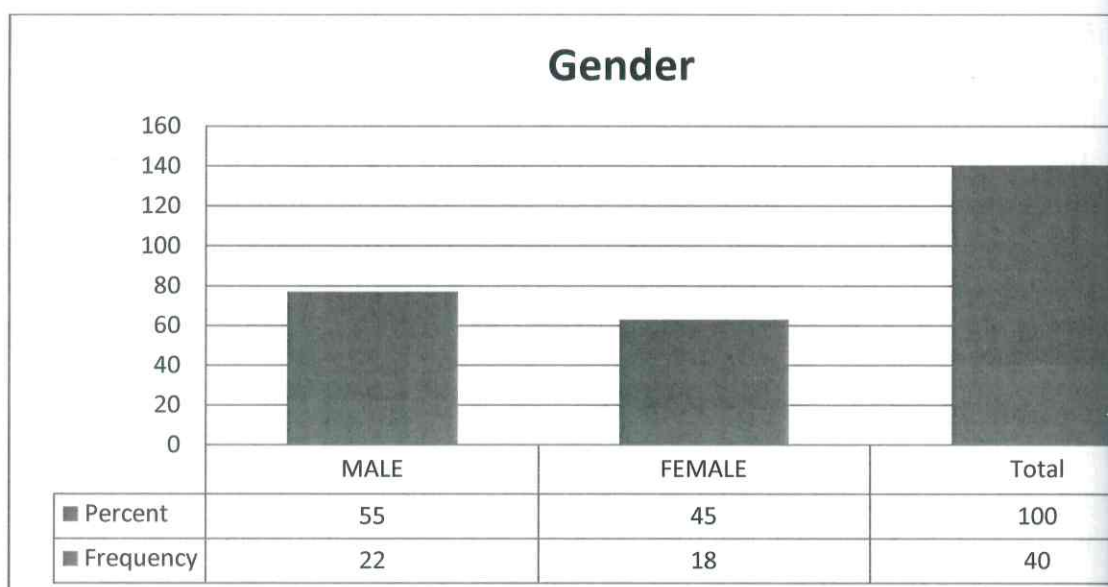
This section presented demographic information of the respondents in terms of Institution, highest academic qualification, years of experience, gender, and age.



N=40

Figure 1: Distribution of the respondents by university libraries

Figure 1 shows the distribution of the respondents by institutions. The figure revealed that 22 (55%) of the respondents were from University of Ilorin while 8 (20%) of the respondents were from Kwara State University, 3 (7.5%) respondents are from Al-Hikmah University, Landmark University has 5 (12.5%) respondents, finally 1 (2.5%) respondents each are from Crown-Hill University and Summit University respectively.



N=40

Figure 2: Gender distribution of librarians

Figure 2 shows that out of 40 respondents, 22 (55%) were males while 18 (45%) were females. This shows that there were more male librarians in this study than the female.



N=40

Figure 3: Distribution by Years of Experience of Professional Librarians

Figure 3 shows the years of experience of librarian being in service, 15 (37.5%) of the respondents were between 0-5 years of experience, 14 (35%) were between 6-10 years of experience, 3 (7.5%) were between 11-15 years of experience, 7 (17.5%) were between 16-20 years of experience while 1 (2.5%) were between 21 years and above. This shows that majority of the librarians were between 0-5 years of experience, followed by 6-10 years of experience.

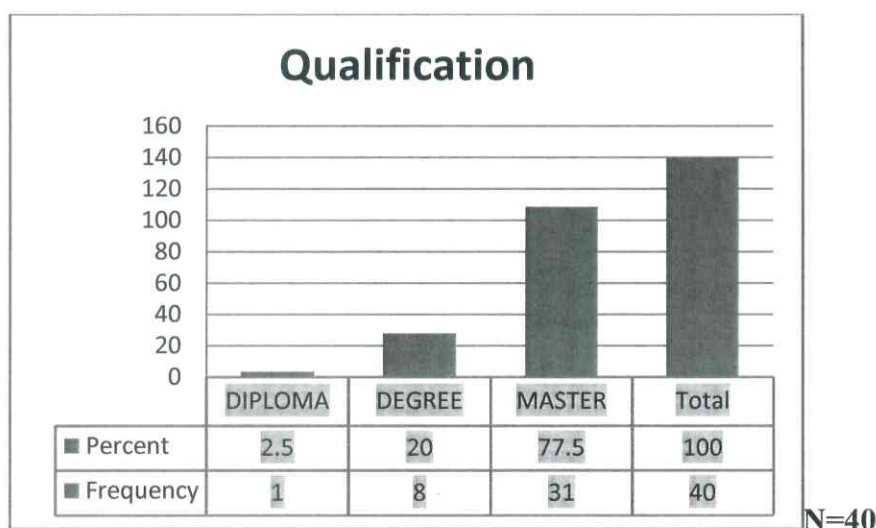


Figure 5: Distribution by qualification of professional librarians

Figure 4 shows that majority of the respondents, 31 (77.5%) had Master degree as their highest academic qualification, followed by 8 (20%) with Bachelor degree and 1 (2.5%) had Diploma as their highest academic qualification.

The following null hypotheses will be tested at 0.05 level of significance.

Table 3 shows the analysis of relationship between availability and adoption and use of library management software in university libraries.

H₀₁: There is no significant relationship between availability and adoption and use of library management software in university libraries.

Table 3: Significant relationship between availability and the adoption and use of library management software

Variable	N	Mean	Std. Deviation	T	Df	Sig.	Remark
Availability	40	41.16	7.21	12.322	38	.000	Significant
Use of LMS		43.42	6.01				

Table 3 shows that the P-values (is less than the significance level (0.05) for 38 degrees of freedom ($t = 12.322$; $df = 38$; $P < 0.05$). This means that the hypothesis which stated that, there is no significant relationship between availability and the adoption and use of library management software in university libraries is hereby rejected at level of significance 0.05. This shows that there is a significant relationship between availability and the adoption and use of library management software in university libraries in Nigeria.

The analysis of relationship between librarians' attitude towards the adoption and use of library management software in university libraries is shown in Table 4.

H₀₂: There is no significant relationship between librarians' attitude towards the adoption and use of library management software in selected university libraries, Nigeria.

Table 4: Significant relationship between librarians' attitudes towards the adoption and use of library management library software (LMS)

Variable	N	Mean	Std. Deviation	T	Df	Sig.	Remark
Adoption	40	51.16	8.71	14.402	38	.000	Significant
Use of LMS		33.89	8.01				

Table 4 shows that the P-values (is less than the significance level (0.05) for 38 degrees of freedom ($t = 14.402$; $df = 38$; $P < 0.05$). This means that the null hypothesis is not acceptable (rejected) at level of significant 0.05. This implies that there is a significant relationship between librarians' attitudes and adoption/ use of library management software in selected university libraries in Nigeria. The findings of the study revealed that professional librarians developed positive attitude towards adoption and use of library management software in selected university libraries in Nigeria. This finding compliments a study conducted by Tella et al. (2021) that librarians' positive attitudes are key attributes in successful adoption and use of information technology in Nigerian libraries.

The analysis of relationship between perceived ease of use and the adoption and use of library management software in university libraries is shown in Table 5.

H₀₃: There is no significant relationship between perceived ease of use and adoption/ use of library management software in selected university libraries, Nigeria.

Table 5: Significant relationship between perceived ease of use and the adoption and use of library management software (LMS)

Variable	N	Mean	Std. Deviation	T	Df	Sig.	Remark
Perceived ease of use	40	36.24	9.81	-4.124	38	.000	Significant
Use of LMS		43.18	12.16				

Table 5 shows that the P-values (is less than the significance level (0.05) at 38 degrees of freedom ($t = -4.124$; $df = 38$; $P < 0.05$). This means that the hypothesis is unacceptable (rejected) at 0.05 level of significance. The finding shows that there is a significant relationship between perceived ease of use and the adoption and use of library management

software in university libraries. The findings indicate that perceived ease of use determines the adoption and use of library management software.

The analysis of relationship between perceived usefulness and the adoption and use of library management software in university libraries is shown in Table 6.

HO₄: There is no significant relationship between perceived usefulness and the adoption and use of library management software in university libraries, Nigeria.

Table 6: Significant relationship between perceived usefulness and the adoption and use of library management software (LMS)

Variable	N	Mean	Std. Deviation	T	Df	Sig.	Remark
Perceived usefulness	40	41.16	7.21	13.610	38	.000	Significant
Use of LMS		43.89	6.01				

Table 6 shows that the P-values (is less than the significance level (0.05) at 38 degrees of freedom ($t = -13.610$; $df = 38$; $P < 0.05$). This means that the hypothesis stated that, there is no significant relationship between perceived usefulness and the adoption and use of library management software in University libraries. Therefore, we reject the null hypothesis, and accept the alternative hypothesis. This implies that there is a significant relationship between perceived usefulness and the adoption and use of library management software in selected university libraries in Nigeria.

The analysis of relationship between attitudes, availability, perceived usefulness, perceived ease of use and the use of library management software in university libraries is shown in Table 7.

HO₅: There is no significant relationship between attitudes, availability, perceived usefulness, perceived ease of use and the use of library management software in selected university libraries, Nigeria

Table 7: Significant relationships between attitudes, availability, perceived usefulness, perceived ease of use and the use of library management software in university libraries

Variable	N	Mean	Std. Deviation	T	df.	Sig.	Remark
Attitude, availability, perceived usefulness, perceived ease of use.	40	40.34	3.31	11.603	38	.000	Significant
Adoption and use of LMS		34.73	5.03				

Table 7 shows that the P-values (is less than the significance level (0.05) at 38 degrees of freedom ($t = -11.603$; $df = 38$; $P < 0.05$). This means that the hypothesis which stated that, there is no significant relationship between attitudes, availability, perceived usefulness, perceived ease of use and the use of library management software in university libraries is hereby rejected. The result indicates that there is a significant relationship among attitudes, availability, perceived usefulness, perceived ease of use and the use of library management software in university libraries. This findings was supported by Mollel and Mwantimwa (2019) who reported that the constructs (attitudes, availability, perceived usefulness, perceived ease of use can determine the use of library management software in university libraries.

Implications of the Study

The findings of this study would enable professional librarians to identify and develop library management software suitable to Nigeria terrain and Africa in general. Also, the study would add information to the existing knowledge on library management system software and create opportunities for the new research, not only in selected universities but also in other institutions in Nigeria and Africa in general. The study is not without limitations, the study does not draw a complete picture of library management software usage predictors. Based on this, the results of the study cannot be generalized to other universities due to the fact that only six university libraries were studied. Theoretically, the study contributes a model based empirical test for future researchers to employ TAM in determining other predictors of library management software adoption and use by professional librarians.

Conclusion

The study concluded that professional librarians have developed a positive attitude towards adoption and use of the available library management software such as KOHA, Alexander, and other library management systems. Also, this study has established that there are significant relationships among availability, attitudes, perceived usefulness, perceived ease of use, and the use of library management software in university libraries.

Recommendations

The following measures were recommended based on the findings of the study;

1. The library management should ensure continuity in availability and accessibility of user friendly library management software;
2. There is a need to place a high premium/priority on application of library software in different sections of the university libraries;
3. Libraries should be encouraged to utilise library management software-based presentation formats like Microsoft software packages, Corel draw, statistical analysis, and computer programming languages to present and project their activities; and
4. Universities should provide more training implementation of strategies for enhancing the effective use of library management software by organising seminars/workshops, conferences, orientations on library software application and its benefits. This would boost the morale of professional librarians and equally improves their positive attitude.

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