Factors Affecting the Use of Library Management System among Postgraduate Students in Northern Nigeria's Premier University

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ABSTRACT

Library Management System (LMS) is employed today among academic libraries worldwide, for managing library's conventional routines and to provide prompt information service delivery. Postgraduate students are fundamental users of academic libraries, because their programme is centred on in-depth research. The study investigated factors affecting the use of library management system among postgraduate students in Ahmadu Bello University, Zaria, Nigeria. Social survey design was applied, study population comprised nine thousand. Simple random sampling technique was used to select respondents; Raosoft Inc. sample size calculator was used to select sample size of three hundred and sixty nine. Questionnaire was the research instrument and was administered to respondents according to sampled population. Data were analysed using simple calculating device. Quantitative and descriptive approaches were adopted through frequency counts and percentages. High level of computer self-efficacies existed among postgraduate students. Knowledge and awareness on the availability and use of the software were acquired through friends, self-trial and error. The postgraduate students indicated their satisfaction in the use of the library management system. Library management system aid learning and research, it can be considered facilitating and enhancing technology. Postgraduate students did not maximally utilize it because of low level of awareness, though exhibited high computer self-efficacies.

Keywords: *Academic Library, Library Management System, Computer Self-Efficacy, Awareness, Satisfaction.*

1.   INTRODUCTION

Academic libraries the world over are mostly found attached to higher institutions of learning, fundamentally to support teaching, learning and research activities; through acquisitions and provision of relevant information resources in both print and non-print forms. (Saharan, 2013) defined academic library as a library that is attached to academic institutions above the secondary school

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level, serving the teaching and research needs of students and staff, where they serve two complementary purposes: to support the school's curriculum, and to support the research of the university's faculties and students. Postgraduate students in every institution of higher learning constitute one of the fundamental users of academic libraries. They embark on research activities to gain clearer concepts of their programme. A postgraduate student is such a student who obtained certain basic degree from a university and thereafter is furthering his/her study for a more advanced qualification. Thus, postgraduate students are students of a higher institution that are undergoing higher degree programme; such as postgraduate diploma, master and PhD degrees respectively. Such individuals require qualitative and up to date information for good research outcomes, which are not only available in print format but also, are domiciled in the electronic and online formats.

For academic libraries to meet up with their mandates, they found it compelling and necessary to key into the current tide of information and communication technology to facilitate information service delivery for users' satisfaction. Likewise, (Chinga, 2014) stated that advances in technology have changed the way even books are published. The concept, organization, functioning, and management of libraries have also changed. The very natures of resources now in the custody of libraries require innovative and new ways of storage, management and dissemination. The new types of resources that are now available in virtual formats have changed the way library used to function as it now has to manage physical and electronic resources due advent of information technology/information and communication technology (IT/ICT). From mobile phone angle for example, (Amusa and Oluwade, 2020) posited that information technology has become essential in our daily life activities, especially the services provided by new generation of mobile communications systems. The cell phone (mobile phone/handset) has become an integral part of the modern world; it provides human connectivity easily in a means that was never possible before.

Information Technology/Information and Communication Technology is a technology that enhances data and information transfer among people, organizations etc for the essence of communication. With ICT and contemporary users' demands, academic libraries are adopting library management system also known as integrated library system that is all-encompassing software used to manage library operations for adequate and prompt service delivery to clients. It carries a considerable potential for enhancing information searching that reshape learning functions. However, (Uzomba, Oyebola and Izuchukwu, 2015) defined integrated library system as an enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed library materials. It usually comprises a relational database, software to interact with the database, and two graphical user interfaces (one for patrons, one for staff). This is actually moving from manual operations into integrated system and network operations.

It separates functions into discrete programmes called modules such as:
1. Acquisitions module: (manage fund allocation, order and vendors record and purchase of library materials)
2. Cataloguing module: (manage cataloguing functions, copy cataloguing, import and export record and search for record in online public access catalogue)
3. Circulation module: (performs checkouts, check-ins, renewal and request (reservation))
4. Serials control module: (for journal and periodical holdings) etc.

The institution under study, the Ahmadu Bello University (ABU), Zaria was founded on October 4, 1962. It is a public university located in Zaria, Kaduna State, Nigeria. The university's postgraduate school was established in 1980 to enable the university to achieve a higher degree of emphasis and coordination in its postgraduate training and research.

1.1 Statement of problem

Library automation is now a major issue of focus among academic libraries particularly Nigerian institutions of higher learning such as universities, where different types of software on library management system-open/close source software and hardware are being pulled together to achieve this objective. According to (Abbasi, 2011) who stated that despite significant investment in information technology and its indisputable importance in the organization and everyday life, the efforts to apply new information technology innovations in library projects are still being reported as failures. Researchers of information system structures and acceptance greatly emphasized the need to understand individuals' inherent perceptual

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behaviour, which might appear differently across IT project users. The institution under study has virtua-library management system in operation, however, that does not translate to automatic usage of the software deployed. Why do potential library users fail to judiciously utilize this technology particularly in the current time of their academic pursuit? The utilization of virtua-library management system may demand user's technical know-how or basic skills in computer operations, self-efficacy, training, awareness etc to enable judicious utilization. It is in view of the above that this study investigated factors affecting the use of library management system, particularly among postgraduate students in the Northern Nigeria's Premier University - Ahmadu Bello University, Zaria. The gap in the existing literature is that the library management system deployments among academic libraries are not yielding expected result of utilization. Therefore, the research intended to find out what are the factors that could actually lead to this experience particularly among the postgraduate students in Ahmadu Bello University, Zaria.

1.2 Research Objective
The broader objective of this research investigated factors affecting the use of library management system among postgraduate students in Ahmadu Bello University, Zaria.

1.3 Research Questions
As a guide to this study, the following research questions were formulated.
1. What are postgraduate students' computer self-efficacies on the use of libarary management system?
2. What are postgraduate students' levels of awareness in the use of library management system?
3. What are postgraduate students' levels of satisfaction in the use of library management system?

2. REVIEW OF LITERATURE

Library management system is an organized resource planning system for libraries, capable of tracking items owned, orders made, bills paid, and patrons who have borrowed information material. It is also been referred to as integrated library system or integrated library management system. It is software used to manage the catalogue of a library which helps to keep the whole of transactions records done in the library. According to (Muller, 2011) that integrated library system is a multi-function, adaptable software application that allows libraries to manage, catalogue and circulate their materials to patrons.

It often comprises a relational database, software to communicate with the particular database, and graphical user interfaces usually for patrons and for library staff. It separates software functions into modules; each of the modules is integrated with a unified interface.

Each patron and item has a unique identity in the database that allows library management system to track its activity. Larger libraries use it to order and acquire, receive and invoice, catalogue, circulate, track and shelve materials. Furthermore, (Tosin, 2015) stated that supporting the need of library management system in library operations is highly non negotiable, this is because of its value provisions such as customer service improvement through greater access to accurate information. It increases productivity and job satisfaction among staff members as it eliminates duplication of effort, more economical and safer means of storing and keeping information. It also provides easy access to information; like management reports and stock etc, as well as accurate & instant reports from statistical analysis, error reduction and elimination of the ennui of long and repetitive manual processing. Also, there is accountability and transparency in operations, improved efficiency and effectiveness in administration and management; it has unprecedented access to real-time information and reliable security for sensitive or confidential information.

Virtua is an integrated, flexible library management system, a product of visionary technology for library solution. Virtua has advanced features such as functional requirements for bibliographic records (FRBR), update notifications through selective dissemination of information (SDI), user reviews & ratings, and support for mobile computing; virtua sets a new standard of excellence for the library world. It provides full multilingual support and leveraging a solid oracle foundation (VTLS, 2015).

Before the advent of computers, library tasks were done manually or traditionally. Library users borrowed books using ordering slips and librarians catalogued items manually; and indexed them with the card catalogue system. This claim was supported by (Uzomba, *et al.* 2015), who stated that the importance of integrated system in library activities such as cataloguing, circulation, acquisitions and serials management, etc is no longer debatable as libraries all over the world have realized the need to move from their manual practices into integrated system and networked operations. Prior to

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computerization, library tasks were performed manually and independently from one another. Selectors ordered materials with ordering slips, cataloguers manually catalogued items and indexed them with the card catalogue system (in which all bibliographic data was kept on a single indexed card), and users signed books out manually, indicating their names on cue cards which were then kept at the circulation desk.

2.1 Postgraduate students' computer self-efficacies on the use of library management system (LMS)

Advances in computer technology and the diffusion of personal computers, multimedia, network resources and productivity software over the years have affected library operations and library clients. This has compelled users to possess certain abilities (computer self-efficacies) to be able to make use of the recent information system in our libraries. Background in information and communication technology or computer skills is instrumental for improving the learning process and ultimately learning achievements, and can also prepare students to use the advantage in other to cope with the information intensive world as an end-user. In the opinion of (Gakibayo, Ikoja-Odong and Okello-Obura 2013), learning basic computer and software applications is increasingly necessary to university students to function in today's workplace. In view of this submission, ability to use LMS by postgraduate students would have a high impact on their academic outcome. Thus, this is an indication that computer self-efficacy might be a predictor in the use of LMS by postgraduate students.

2.2 Postgraduate students' level of awareness in the use of library management system

Academic libraries are an integral part of universities and have a critical role to play in supporting the core mission of the university that is teaching, learning and research. The library users include students (undergraduates and postgraduates) and staff. Postgraduate students form a vital component of users of academic library resources due to their in-depth research activities. According to (Esievo & Abdulsalami, 2019) that various studies have been carried out on library use for the single fact that users bring the library and its services to alive, library that is not used is as good as dead as it cannot justify its existence. It is therefore the use to which the library is put that infuses life into its resources and services; hence,

use and user studies cannot outlive their usefulness. However, information availability does not mean accessibility and utilization; therefore, faculty libraries have to market their resources and services to attract users. (Osinulu, 2008), also confirmed in her study that low use of the library is due to lack of awareness on the part of users. Strategic awareness has to be ensured among library users regularly, to educate them on the availability of relevant information resources, facilities and services.

(Abubakar and Adetimirin, 2016) posited that some postgraduate students may enroll for their studies with little or no education on library services and resources; the education acquired might probably not be adequate to enable them to explore and exploit library services and resources for their research, learning, and other scholarly activities. This scenario will pose some degree of impediment during their research work. The most likely cause for low use of e-resources for research works among postgraduate students in university libraries is probably lack of user education. Library staff and students relationship demands cordiality for effective information resource utilization in library and among the students. According to (Yabanet, 2016) that users avoid contacting librarians to solve their information needs as they found librarians to be unfriendly and inhospitable which in turn make the students to lose confidence in themselves in the search for information. If librarians become friendly, students gain confidence in themselves. This claim was supported with (Durrance, 1995) who stated that users return to services when the providers of the services are approachable. The more approachable the librarians are, the more the willingness of the users to return to the library. The adherence of the library staff habit listening to students will give them the opportunity to know students' information needs and can further redirect their awareness approaches.

2.3 Postgraduate students' satisfaction in the use of library management system

Libraries are service oriented organizations established for the provision of relevant information resources and quality services to meet their users' information needs (Esievo & Abdulsalami, 2019). Further, (Jayasundara, 2008) was cited that user perceptions and expectation studies have become one of the most popular studies in the area of service quality in many academic libraries. The user expectations and satisfaction has been used to determine the service quality which is been seen as critical for service organizations to position

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themselves strongly in a competitive environment. The library stands as a viable channel through which information is passed to customers.

Measures of satisfaction according to (Urbach and Müller, 2012) include adequacy, effectiveness, relevance, dependability and usefulness. Postgraduate students' satisfaction means the fulfilment of a need or desire in the use of library management system. Satisfaction can lead to frequent or regular use. Satisfaction derived from the use of computer (for example) can be an important factor in the users' continuous intention. If users are satisfied with a system, there is the tendency that they will increase the use of that system. However, if they fail to derive satisfaction by meeting their objectives from its use, no doubt, it will be the contrary.

The opinion of (Ajoye and Nwagwu, 2014), on a study of information system user satisfaction of university of Ibadan postgraduate school portal, the result showed that system quality has the highest impact on user satisfaction of the web portal. While technological and infrastructural issues are the least factors on the perception of postgraduate users. They also opined that highly rated information system is expected to be reliable, user-friendly, fast response rate, and also offering functionality that places it above or at least at par with competing system elsewhere. Ease of use could also be a relative term, especially where one set is more technology knowledgeable than the other.

3.   METHODOLOGY AND RESULTS

The study is a descriptive research; it adopts the survey method to investigate postgraduates' computer self-efficacies, level of awareness, and their satisfaction in the use of virtua-library management system. The sample size is three hundred and sixty nine which represent a total postgraduate students' population of nine thousand. Questionnaire was used as the research instrument and was administered to respondents according to sampled population, it was broadly divided into two parts i.e A & B, Part A is demographic variables and part B forms the three research questions which was further sectionalized into sections A-F. A total of three hundred and sixty-nine (369) copies of questionnaire were administered, out of which two hundred and ninety-seven (297) copies representing 80.5% response rate were returned, duly filled and

found usable for analysis. Data gathered were collated, coded and computed using Microsoft excel and later exported for simple calculating device. Descriptive statistics such as frequency counts and percentages were applied for the analysis to answer the research questions.

4.   QUESTIONNAIRE ADMINISTRATION AND RESPONSE RATE

Copies of the questionnaire were administered to three hundred and sixty-nine (369) respondents at Ahmadu Bello University, Zaria, Kaduna State, Nigeria. The administration was across the twelve faculties of the institution as shown in Table 1below.

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Table 1 shows the distribution of respondents according to their Faculties. It revealed that 297 (100.0%) of the respondents participated in this study, 17(5.7%) were from the Faculty of Administration, 22(7.4%) Agriculture, 15(5.0%) Art, 45(15.2%) Education, 24(8.1%) Engineering, 36(12.1%) Environmental Design and 15(5.0%) were from Law. While 21(7.1%) were from Medicine, 17(5.7%) Pharmaceutical Sciences, 45(15.2%) Sciences, 22(7.4%) Social Sciences and 18(6.1%) of the respondents were from the Faculty of Veterinary Medicine. It can be observed from the results that Faculties of Education and Sciences have the highest number of respondents while Faculties of Arts and Law recorded the lowest number of respondents.

Table 2 shows the distribution of the respondents according to their programmes in the university. It is shown that out of 297 (100.0%) of the respondents that participated in this study, 204 representing 68.7% were master degree students, while 93 representing 31.3% were Ph.D students. The result indicates that master students are more than the Ph.D students.

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Table 3 shows the distribution of the postgraduate students according to gender. It can be seen that out of 297 (100.0%) of the respondents that participated in this study, 208 representing 70.0% were male students, while 89 representing 30.0% were female.

The table revealed the gender difference of respondents; male respondents dominated their female counterparts.

5.   DATA ANALYSIS

The data analyzed was based on the research questions. The responses to the research questions were descriptively analyzed as presented below.

5.1 What are postgraduate students' computer self-efficacies on the use of library management system

In order to answer this research question, responses of the postgraduate students on computer self-efficacies were subjected to descriptive analysis. The result is presented in the Table 4.

Table 4 represents postgraduate students' computer self-efficacies.

As shown in the table, respondents have shown their agreement or disagreement on the first item. On knowledge of Word processing software, (78.8%) of the respondents agreed, while (21.2%) of the respondents disagreed; on spreadsheet software, (67.3%) agreed, while (32.7%) of the respondents disagreed; on Database, (68.4%) agreed, while (31.7%) disagreed to have knowledge on database. On E-mail, (75.8%) agreed, while (24.2%) disagreed. (70.3%), of the respondents were skilled on file sharing, while (29.7%) have no skills on file sharing. Meanwhile, knowledge on World Wide Web has recorded that (76.5%) responded positively, while (23.5%) responded on the contrary.

In addition, (80.1%), of the respondents have the confidence to efficiently and effectively use virtua-library management system, only (19.1%) could not confidently use the virtua-library management system; on the other hand, (18.2%) of the respondents have phobia for computer which did not allow them to use the virtua-library management system, while (81.8%) had no phobia for computer system, hence, used the virtua-library management system. This analysis has revealed that overwhelmingly, the respondents have confidence to effectively and efficiently use the virtua-library

management system. Conclusively, this has shown that the respondents have computer self-efficacy.

5.2 What are postgraduate students' levels of awareness in the use of library management system?

In order to answer this research question, responses of the postgraduate students on awareness on the use of library management system were subjected to descriptive analysis. The result is presented in Table 5.

Table 5 shows extents of postgraduate students' levels of awareness on the use of virtua-library management system. It can be observed from the table that out of 297(100.0%) of the respondents that participated in this study, 135 representing (45.5%) got to know about the availability of library management system in the library through their friends, 79(26.6%) through library the staff, 49(16.5%) through the university website, and 15(5.1%) through library publications, while 19 representing (6.4%) of the respondents got to know about the availability of the virtua-library management system in the library through the university bulletin.

Also, 148 of the respondents representing (49.8%) learnt how to use virtua-library management system in the library through self-study/trial and error, 50 (16.8%) learnt it through orientation instruction by the university library, 71(23.9%) learnt it through their previous computer experience, 21 (7.1%) said they learnt it through colleagues, while 7 of the respondents representing (2.4%) learnt its use through manual on virtua-library management system.

Meanwhile, considering postgraduate students' overall level of awareness on the availability and use of library management system; 51 of the respondents representing (17.2%) described their awareness and use as very low, 41(13.8%), considered it to be low, 137 of the respondents representing (46.1%) described it as moderate, this formed the larger percentage of the respondents. Forty five respondents, representing (15.2%) described their level of awareness on the availability and use of the virtua-library management system as high, only 23 of the respondents representing (7.7%) described it as very high.

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Finally, on the three items under research question two, the analysis revealed thus; that respondents' knowledge on the availability of the virtua-library management system was largely acquired through friends, as this constituted 135 of the respondents representing (45.5%). By implication, their knowledge of the availability of the virtua-library management system was not through the library staff, university website or library publications.

Meanwhile, 148 (49.8%) out of the respondents that participated in this study also indicated that they learnt how to use the virtua-library management system majorly through self-study/trial & error, and this was followed by their previous computer experiences i.e 71(23.9%). Orientation instruction by the university library on the use of virtua-library management system was expected to take larger percentage; however, it appeared to be on the contrary, not adequate as shown in the Table. This was expected on the fact that user education is one of the fundamental services among academic libraries as it keeps users abreast on the services and facilities available in the library for their academic advantage.

5.3 What are the postgraduate students' levels of satisfaction in the use of library management system?

Table 6 shows analysis of data collected from the respondents, indicating their levels of satisfaction in the use of the library management system. As shown in the above table, (81.1%) of the respondents indicated that information provided on the user interface is clearly presented and unambiguous, whereas, (18.9%) disagreed. Out of the total respondents of 297(100%), (76.8%) agreed that the virtua-library management system is adequate to support their research needs, only (23.2%) disagreed on the item under this research question. Also, (76.4%) of the respondents indicated their satisfaction with the design and use of virtua-library management system because it can be accessed outside the library. However, (23.6%) of the respondents that participated in this study, indicated their dissatisfaction with the design and use of virtua-library management system. Looking at this analysis from the above Table, particularly on the various three items under the above research question, summarily, majority of the respondents, agreed to be satisfied on the use of virtua-library

management system. Only few of the respondents disagreed. Conclusively, majority of the respondents have agreed on the non ambiguity of user interface, the adequacy to support their research needs, the design and use of the virtua-library management system. This outcome can be linked to their computer self-efficacies.

6. DISCUSSION OF FINDINGS

Research question one sought to find postgraduate students' computer self-efficacies on the use of virtua-library management system. It was found that the postgraduate students have knowledge of computer and Web based applications such as word processing software, spreadsheet software, databases, e-mail, file sharing and the World Wide Web. The findings also revealed that the postgraduate students (80.1%) have confidence in the efficient and effective utilization of the library management system for their learning and research activities thereby contributing to their academic pursuit. In addition, (81.8%) have no phobia for computer and hence were technology knowledgeable. This has shown that the postgraduate students possess computer self-efficacies and can be able to use the virtua-library management system. This finding confirms the view of (Akpojotor, 2016), on the need for computer self efficacy. He stated that postgraduate students need skills to make adequate use of electronic information resources, and that if these skills are not there to enable them navigate the Internet, their academic and research needs will suffer a setback.

On postgraduate students' level of awareness on the use of library management system, the research question two sought to ascertain the level of awareness on the use of virtua-library management system among the postgraduate students. Result has shown that out of two hundred and ninety-seven (100%) of the respondents that participated in the survey, 17.2% described their awareness as very low, 13.8% low, 46.1% described it as moderate, 15.2% as high, while 7.7% described it as very high. This has shown that majority of the postgraduate students were not much aware about the availability of the virtua- library management system. The aforementioned indicated that there was no proper mechanism put in place to provide and guide the respondents on its availability, reason being that majority of the postgraduate students got to know its use through trial and error and this

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formed a great inhibiting factor. This finding is in disharmony with the finding of (Aliyu and Nock, n.d), who stated that Kashim Ibrahim Library (K.I.L) of the Ahmadu Bello University, Zaria has over the years been conducting use of database training for Faculty staff and postgraduate students, which affords them the opportunity to be aware and learn how to navigate and download journal articles from the databases. However, they concluded and recommended thus, greater awareness on the availability of the databases should be provided on library's homepage and other metadata search options for both academic staff and postgraduate students, this, will assist in prevention of information overload among the users of the databases in Ahmadu Bello University libraries. Therefore, awareness is fundamental if the postgraduate students have to harness and take the advantage of the presence of the virtua-library management system in their library.

Research question three seeks to find out levels of satisfaction among the postgraduate students in the use of the library management system. Findings revealed that 81.1% of the students indicated that information provided on the user interface was clearly presented and unambiguous, 76.8%, indicated that the virtua-library management system was adequate to support their research needs. Also, 76.4% of the postgraduate students indicated their satisfaction with the design and the use of virtua-library management system because it can be accessed outside the library. Considering these findings, it can be rationally concluded that majority of the postgraduate students were satisfied on the non ambiguity of user interface, the adequacy to support their research needs, the design and use of virtua-library management system. This outcome can be linked to computer self-efficacies and previous experience on the use of computer. By implication, this derived satisfaction among the postgraduate students will continue to inform their usage intensions and to actually use the LMS. This finding is in harmony with the submission of (Tella and Adesakin, 2013), and (deCarvalho et al. 2008), that satisfaction from extant literature is also an important factor in the users' continuous intention of using an information system. If users are satisfied with a system, there is the tendency that they will increase the use of that system and continue to use such system. However, if they are not satisfied, no doubt, it will be the contrary.

7.0 Theoretical implication

The study contributes to the body of literature in the area of information system utilization among particular users of the library. Library cannot be isolated from the current technological trends and as an entity must find out what benefits its users. The resultant model is as shown and discussed in Figure 1.0.

The above study model is basically designed for this study, the variables are explained below:

Individual characteristics: Individual characteristics among users of a system are believed to be relevant to this study since it is human-computer interaction research.
i.   Computer self-efficacy: To accomplish a successful use of the virtua-library management system, the user of this information system must have some required skills which include computer self-efficacy, and be free from computer anxiety which is an uneasy desire to operate in an information system environment.
ii.   Satisfaction: Postgraduate students' satisfaction means the fulfilment of a need or desire with the continuous use of library management system.

Service characteristics: Service characteristic in this context is the instructional service rendered to postgraduate students by the library on the usage of library management system. This will go a long way to inform the students on their decision to use the system efficiently. Service characteristic is believed to be important construct to this research, no matter how beautiful a technology is, it cannot be judiciously exploited without a guide.
iii.   Level of awareness: Creating awareness among postgraduate students on the existence, use and benefits of some of the recent developments in academic libraries such as the library management system is the key to utilization.

8.   CONCLUSIONS AND RECOMMENDATIONS

Library management system/integrated library system is a well organized and integrated software solution for libraries, with updated databases that help to provide information about current and location of library resources to clients, by keeping track of books issued, returned and

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added to library's collections. It allows clients to virtually or remotely browse library information resources without going into the library.

In higher institutions of learning, postgraduate students constitute one of the fundamental users of academic library resources due to their inherent nature of learning and research activities. The library management system aid learning and research activities; it can be considered facilitating and enhancing technology. However, despite the subscription to this contemporary technology (virtua-library management system) by the institution under study, the findings of the research have shown that there was no maximum utilization of the resources among the postgraduate students. This was because of low level of awareness among the postgraduate students; although, they exhibited high level of computer self-efficacies.

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

i.   The library management should create more awareness on the availability and purpose of the library management system among postgraduate students. This could be through organized workshops, library orientation and sensitization week, provision and distribution of manual or pamphlet of the software through outreach services etc.
ii.   The management should make provision for adequate and hands-on training to postgraduate students through orientations and workshops as this will increase their ability to use the library management system.
iii.   Acquisitions of basic and advanced knowledge of computer and web based applications by postgraduates is highly recommended; this is fundamental to actual usage of the contemporary technologies deployed in libraries such the virtua-library management system. Postgraduate students can adequately acquire the knowledge by first owning a personal laptop or desktop computer, then register for computer training in accredited or certify computer centre, it can be acquired through friends/colleagues that has the knowledge. The requisite knowledge can also be acquired online, and by regular visit to the library where computer can be accessed and utilize easily.
iv.   Manufacturers of hardware and software should work on more user-friendly approach so that users can access and benefit from such technology,

thereby creating easier & quick ways to understanding the techniques by all type of users.

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Table 1: Distribution of the respondents by Faculty

Faculty	Frequency (f)	Percentage (%)
Administration	17	5.7
Agriculture	22	7.4
Art	15	5.0
Education	45	15.2
Engineering	24	8.1
Environmental Design	36	12.1
Law	15	5.0
Medicine	21	7.1
Pharmaceutical Sciences	17	5.7
Sciences	45	15.2
Social Sciences	22	7.4
Veterinary Medicine	18	6.1
Total	297	100.0

Table 2: Distribution of the respondents by programmes

Programmes	Frequency (f)	Percentage (%)
Master	204	68.7
Ph.D	93	31.3
Total	297	100.0

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Table 3: Distribution of the respondents by sex

Sex	Frequency (f)	Percentage (%)
Male	208	70.0
Female	89	30.0
Total	297	100.0

Table 4: Postgraduate students' computer self-efficacies on the use of the library management system (N= 297)

S/N	ITEM	SA	A	D	SD	TOTAL (%)
1.	I found it easier to use the virtua-library management system because of my knowledge of these computer and web-based applications.					
a.	Word processing software	141	93	23	40	297
		47.5%	31.3%	7.7%	13.5%	100%
b.	Spreadsheet software	74	126	38	59	297
		24.9%	42.4%	12.8%	19.9%	100%
c.	Database software	92	111	35	59	297
		30.9%	37.4%	11.8%	19.9%	100%
d.	E-mail	146	79	26	46	297
		49.2%	26.6%	8.8%	15.4%	100%
e.	File sharing	121	88	35	53	297
		40.7%	29.6%	11.8%	17.9%	100%
f.	World Wide Web	160	67	20	50	297
		53.9%	22.6%	16.8%	6.7%	100%
2.	I have the confidence to efficiently & effectively use the virtua-library management system	125	113	32	27	297
		42.1%	38.0%	10.8%	9.1%	100%
3.	My phobia for computer never allow me to use the virtua-library management system	16	38	90	153	297
		5.4%	12.8%	30.3%	51.5%	100%

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Table 5: Postgraduate students' levels of awareness in the use of library management system

Items	Responses	(f)	(%)
I get to know about the availability of virtua- library management system in my library through:	Friend	135	45.5
	Library staff	79	26.6
	University website	49	16.5
	Library publications	15	5.0
	University bulletin	19	6.4
	Total	**297**	**100%**
I learnt to use virtua-library management system in my library through:	Self-study/trial and error	148	49.8
	Orientation instruction by the university library	50	16.8
	My previous computer experience	71	23.9
	Through colleagues	21	7.1
	Manual on virtual-library management system	7	2.4
	Total	**297**	**100%**
I consider my level of awareness about the availability and use of virtua-library management system to be:	Very low	51	17.2
	Low	41	13.8
	Moderate	137	46.1
	High	45	15.2
	Very High	23	7.7
	Total	**297**	**100%**

Table 6: Postgraduate students' levels of satisfaction in the use of library management system

| S/N	ITEM	SA	A	D	SD	TOTAL
1	Information provided on the user interface is clearly presented and unambiguous.	87	154	40	16	297
		29.2%	51.9%	13.5%	5.4%	100%
2	The virtua-library management system is adequate to support my research needs.	112	116	49	20	297
		37.7%	39.1%	16.5%	6.7%	100%
3	I am satisfied with the design and the use of virtua-library management system because it can be accessed outside the library.	93	134	43	27	297
		31.3%	45.1%	14.5%	9.1%	100%

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Individual Characteristics
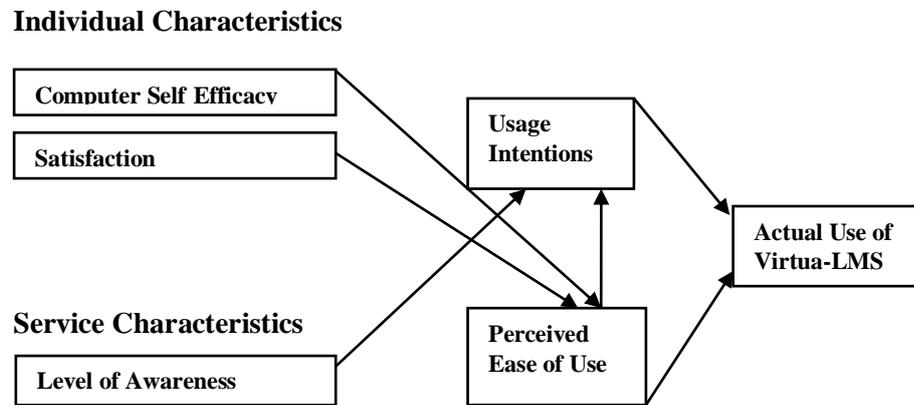
Figure 1.0:   LMS TAM Adapted conceptual frame work