



Research Article

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User education, adjustment factors and use of online databases by postgraduate students in Nigeria

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Abstract: Postgraduate students use online databases for various academic activities. However, past studies have revealed low utilisation of online databases by postgraduate students in Nigeria. The general objective of this study was to examine the influence of user education and adjustment factors (perceived enjoyment and objective usability) on use of online databases by postgraduate students of four private universities in southwest Nigeria. A descriptive survey research design of the correlational type was used, and the population was comprised of 1,067 postgraduate students in four private universities. A sample size of 513 was selected through a purposive sampling technique. Data was collected using a questionnaire and analysed using descriptive and inferential statistics. Findings revealed varying degrees of usage, perceived enjoyment and objective usability of online databases among the respondents. The study established a significant relationship between: user education and use of online databases; perceived enjoyment and use of online databases; and objective usability and use of online databases. User education, perceived enjoyment and objective usability therefore influenced the use of online databases by the postgraduate students of the four universities.

Keywords: Objective usability, online databases, perceived enjoyment, postgraduate students, User education

1 Introduction

Postgraduate students form a significant group in the university. The success of their programmes largely depends on the educational resources made available by the university and through the library. The library provides information and educational resources which include textbooks, periodicals, reference materials and electronic resources (e-resources). An example of electronic resources is the online database.

Over the years, university libraries in Nigeria have witnessed remarkable growth in their collections of electronic resources including online databases which were provided and expected to be accessed and utilised by patrons of which the postgraduate student is a major constituent. However, past studies have revealed low utilisation of online databases by postgraduate students (Nkoyo & Nsanta, 2016) and have tried to investigate the factors which could be responsible but the use of online databases by postgraduate students were not improved by the findings.

Observations have shown that user education and the adjustment factors (perceived enjoyment and objective usability) could be responsible for the low utilization of online databases by postgraduate

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students. According to Murugan (2013), user education is the collection of instructions which equips library users with the skills which would enable them to be independent and sophisticated users of the library and its resources. It entails the library instruction which is usually aimed at guiding the students on the literature in their subject field with specific instructions in the use of bibliographic tools. Broadly, user education aims to bring about awareness and guide users in the use of library facilities, collections, and services as these are necessary for library user's achievements (Ekere, 2016).

User education provides the postgraduate student with the necessary knowledge and skills on how to find relevant information through the Online Public Access Catalogue and other information sources in the library (Suleiman, 2012). It also provides the postgraduate student with skills in accessing and using the available online databases thereby improving his efficiency in literature searches. The lack or ineffectiveness of user education programmes produces ill-equipped postgraduate students who cannot access and use the online information resources leading to poor research works.

The adjustment factors (perceived enjoyment and objective usability) are variables of the Technology Acceptance Model (TAM) 3. TAM 3 is a combination of TAM 2 and antecedents of ease of use such as computer anxiety, perceived external control, computer playfulness and self-efficacy (Wunderlich, 2009). The adjustment factors modify and balance the judgments which users form after having an experience with the use of an online database (Muller, 2013). Perceived enjoyment of an online database is the extent to which the activity of using a specific system is perceived to be enjoyable in its own right aside from any performance consequences resulting from system use (Muller, 2013). It has also been viewed as a source of motivation because when a user of a technology finds the technology to be enjoyable and pleasant to use, he is motivated and looks forward to using that technology, not because he wants to use the technology to carry out any particular function, but simply because he finds its use to be fun.

Perceived enjoyment has an effect on both attitude and behavioral intention of library users toward the use of an online database. A user can experience immediate enjoyment or fun from using a specific online database, and can also perceive any active involvement in using the online database to be enjoyable in its own right (Teo, 2011). Perceived enjoyment helps to gain a more accurate prediction of user's acceptance of an online database primarily because if the use of an online database is associated with enjoyment, the user would desire to use it again.

Objective usability of an online database refers to how easy such a database is to use, independent of user's experience. It is rated by how easy it is for a user to use such an online database even if the user has no prior experience in its use. (Mahapatra, 2013).

An online database must meet the information needs of the postgraduate student, otherwise it will not be seen as useful to the student. Similarly, such an online database must be user friendly and fun to access and use as this will improve and sustain its patronage. However, these factors are discountenanced in the provision and promotion of the use of online databases. This may cause the underutilisation of the online databases, lack of knowledge on its use and poor academic research.

Based on this backdrop, this study therefore sought to empirically determine the influence of user education and adjustment factors on use of online databases by postgraduate students of four private universities in Nigeria.

1.1 Statement of the problem

The relevance of online databases to postgraduate students cannot be overemphasised. This medium provides access to current information which can be accessed from anywhere and at any time. Despite the benefits of online databases to postgraduate students, findings from previous studies have revealed low utilization of online databases by this group of students. This limitation could be attributed to lack of user education, low perceived enjoyment and low objective usability (adjustment factors). Although quite a number of studies have been conducted on the use of online databases by postgraduate students in Nigeria, it seems no study has focused on the influence of user education and adjustment factors on the use of online databases by postgraduate students. Thus, this study is important.

1.2 Research questions

1. What is the frequency of use of online databases by postgraduate students in four private universities in southwest Nigeria?
2. What are the types of user education programmes provided for postgraduate students in four private universities in southwest Nigeria?
3. To what extent do postgraduate students in Nigeria perceive online databases to be enjoyable?
4. To what extent do postgraduate students in Nigeria perceive online databases to be useful for the purpose intended?
5. How significant is the relationship between user education and use of online databases?
6. How significant is the relationship between adjustment factors and use of online databases?
7. How significant is the relationship between user education and adjustment factors?

1.3 Hypotheses

The following hypotheses will be tested in this study at a 0.05 level of significance:

- Ho1: There is no significant relationship between postgraduate students' user education and their use of online databases.
- Ho2: There is no significant relationship between adjustment factors (perceived enjoyment and objective usability) and use of online databases by the postgraduate students.
- Ho3: There is no significant relationship between user education and adjustment factors.

2 Literature review

2.1 User education and use of online databases

Nur' Aini (2011) opines that with the development of technology and the vast information resources available, it is imperative to educate library customers in locating, evaluating and the using the library resources effectively. In agreement with this view, Okoye (2013) affirmed that the rapid development of ICTs has led to increase in the complexity of accessing and retrieval of information from libraries. He found that inability to find necessary information delays research or decisions and lack of awareness of information leads to duplication of effort. These results could furthermore lead to a low frequency of use of the library resources including the online databases as is the position of Muhammad (2017) who stated that students do not utilise journal publications for their research work. There is therefore the need to acquire user education.

In the same vein, Moyane, Dube and Hoskins (2015) posit that "user education is critical to ensuring that users get continuous guidance on how to access, evaluate, and handle information in all its levels and forms". They are strongly of the view that the received instruction and guidance is a means to overcoming the challenges encountered in searching and retrieval of needed information resources in large collections of resources.

Similarly, Abubakar and Adetimirin (2015) carried out research on the influence of computer literacy on postgraduates' use of e-resources in Nigerian university libraries in which they established user education as one of the factors that could influence the use of online databases by postgraduate students. They posit that user education is critical for retrieving e-resources for scholarly work as it is required for postgraduate students to retrieve accurate and adequate electronic information.

However, Abubakar & Kacholom (2017) are of the opinion that positive influence of user education on the use of online databases by postgraduate students is limited and would remain so unless the students receive constant and continuous library orientation and acquire computer literacy skills.

2.2 Adjustment factors and use of online databases by postgraduate students

The adjustment factors, according to the Technology Acceptance Model (TAM3), are objective usability and perceived enjoyment.

2.2.1 Objective usability and use of online databases by postgraduate students

Popoola and Zaid (2008) emphasized the importance of making the users aware of the available information resources in order to avoid underutilization of library resources. They, however, noted that the resources must also be “presented in more personalized and specialized information services which will combine with analysis, synthesis and delivery in usable form.” This means the various online databases available for use by postgraduate students might remain underutilised if they are not found to be usable for the purposes for which they are intended. The usability of the online databases must be reflected in how easy they are to use by the postgraduate students.

Also, Wahab, Jusoff, Al Momani, Noor, and Zahari, (2011) stated five factors which must be considered in defining objective usability. The factors are: ease of learning, task efficiency, ease of remembering, understandability and subjective satisfaction. It can be deduced that an online database must be easy to learn and devoid of complicated exercises. It must be straightforward, simple and understandable. Supporting this view, Ruzegza (2012) stated the criteria of an online database which determines the usability of the database to a large extent, as consistency in terminology, shortcuts for experienced users, informative feedback about the search, ability to undo or modify action, user control in specifying parameters, clear error messages and ease of correcting errors, and alternative interfaces for expert and novice users.

2.2.2 Perceived enjoyment and use of online databases by postgraduate students

Shaqour and Dahar (2010) in their study of factors influencing students’ use of electronic resources and their opinions about the use, found out that students’ opinion of electronic resources has significant strong positive relationships with students’ use and level of use of electronic resources. It can be deduced from their study that what a postgraduate student perceives of an online database influences their use of the system. This therefore implies that if a postgraduate student perceives an online database to be highly enjoyable, patronage of the online database will be high. Similarly, if the student perceives the use of the online database to be uninteresting and boring, they will use it less often.

Also, Praveena and Thomas (2014) affirm that perceived enjoyment is found to be positively related to their attitude towards using a system, and that the more a user finds the use of a social networking site to be interesting, the more they will visit it. This also means that the less enjoyable a user finds the social networking site, the less they will visit it. Saade and Sharhan (2015) also uphold perceived enjoyment as a source of intrinsic motivation which makes a postgraduate student tend to underestimate the difficulty associated with using an online database because he or she enjoys the process and did not perceive it as being effortful compared to another student who has less intrinsic motivation, and he or she would not be discouraged by any challenges faced in the course of its use.

Disagreeing with this view, Okiki and Asiru (2011) concluded from their study on factors influencing use of electronic information sources (EIS) by postgraduate students in Nigeria that perceived enjoyment is not a motivating factor in the use of online databases by postgraduate students. They examined the factors that motivate students to use the EIS. The results show that respondents who were motivated to use electronic information sources represent 24.83% of the sample population. From the result, it can be deduced that pleasure is not the major motivating factor for using online databases among postgraduate students. This means that a postgraduate student can derive pleasure from the use of the online database, but the pleasure would not be sufficient to motivate him to use the online database.

2.3 Theoretical framework

Bruner's Theory on Constructivism and Technology Acceptance Model III (TAM3) will guide this study.

2.3.1 Bruner's Theory on Constructivism

Bruner's theoretical framework is based on the theory that learners construct new ideas or concepts based upon existing knowledge. Bruner's Theory on Constructivism (1961) will be used as the underlying framework for User Education.

Bruner (1961) proposes that learners' construct their own knowledge through acts of discovery, rearrange and transform what is learned in such a way that one is enabled to go beyond the evidence that was discovered and rearrange to new ideas and discoveries. He argues that "practice in discovering for oneself teaches one to acquire information in a way that makes that information more readily viable in problem solving." This is done by organizing and categorizing information using a coding system. Bruner believed that the most effective way to develop a coding system is to discover it rather than being told it by the teacher. When an individual is made to explore and make discoveries, initiatives come into play so that the person will be able to develop new ideas (Weibell, 2011).

2.3.2 Technology Acceptance Model

The Technology Acceptance Model (TAM) is an information systems model that illustrates how users come to accept and use a technology. The theoretical grounding of the model was based on some theories among which is Fishbein and Ajzen's Theory of Reasoned Action (TRA). TRA theorized that beliefs influence attitude, which then leads to intentions, which in turn generate behaviours.

The Technology Acceptance Model was proposed by Fred Davis in 1985. In his doctoral thesis, he proposed that system use is a response that can be explained or predicted by user motivation, which in turn is directly influenced by an external stimulus consisting of the actual system's features and capabilities. In this proposal, Davis (1985) suggested that a users' motivation can be explained by three factors: perceived ease of use, perceived usefulness and attitude toward using the system. He hypothesized that the attitude of a user toward a system was a major determinant of whether the user will actually use or reject the system. The attitude of the user in turn was considered to be influenced by two major beliefs: perceived usefulness and perceived ease of use, with perceived ease of use having a direct influence on perceived usefulness. Both beliefs were hypothesised to be influenced by system design characteristics.

A further modification of this model led to the Technology Acceptance Model 3 (TAM 3). The variables in this model include the following: Voluntariness, Experience, Subjective Norm, Image, Job Relevance, Output quality, Result Demonstrability, Perceived Usefulness, Perceived Ease of Use, Behavioural Intention, Use Behaviour. Others are Anchor factors (Computer Self Efficacy, Perception of External Control, Computer Anxiety), Computer Playfulness, and Adjustment factors (Perceived Enjoyment and Objective Usability).

For the purpose of this study, the Adjustment factors, i.e. Perceived Enjoyment and Objective, Usability will be adopted.

Perceived enjoyment can be measured by how much a user of an information system likes the information system in question, finds it to be fun to use, interesting, enjoyable and pleasant to use.

Objective usability is defined by **five quality components**. These are: **learnability**, which refers to how easy it is for users to accomplish basic tasks the first time they encounter the design; **efficiency**, that is, how quickly users can perform tasks once they have learned the design; **memorability**, which means how easily users reestablish proficiency when they return to the design after a period of not using it; **errors**, that is the number of errors users make, the severity of these errors, and how easily they can recover from the errors; **satisfaction** which refers to how pleasant and fulfilling it is to use the design; and utility which has to do with design functionality.

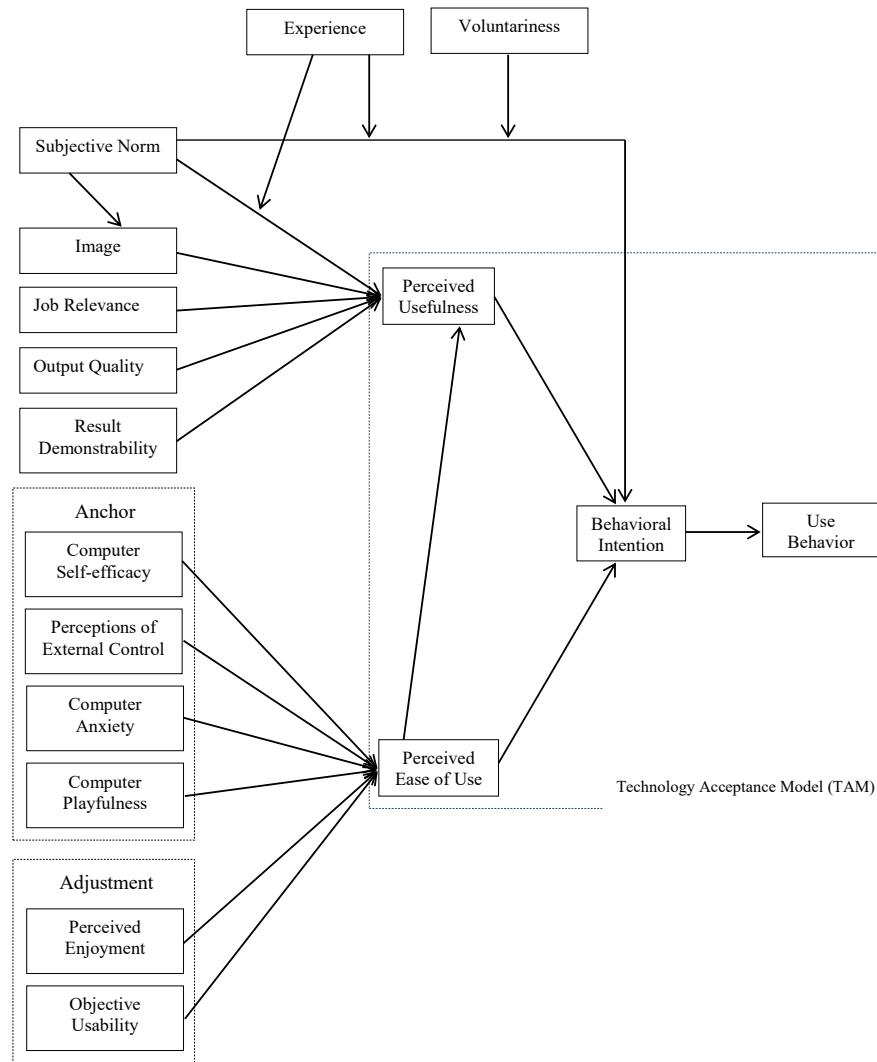


Figure 1: Technology Acceptance Model (TAM) 3

Both factors, perceived enjoyment and objective usability, can influence a user's perception of the system's ease of use, which in turn affects the likelihood that a user will continue to use the system in the future.

2.4 Conceptual model

The present study is about the effects of user education and adjustment factors (perceived enjoyment and objective usability) on the use of online databases by postgraduate students. The title consists of three variables: two independent variables and one dependent variable. The independent variables in the study are user education and adjustment factors (perceived enjoyment and objective usability) while the dependent variable is use of online databases. User education and adjustment factors are the independent variables as they are not stated to be dependent on or determined by any other variables. The dependent variable, the use of online databases, is termed dependent as it can be influenced or determined by the independent variables (user education and adjustment factors). Each variable appears along with the indicators that will be used for measuring them.

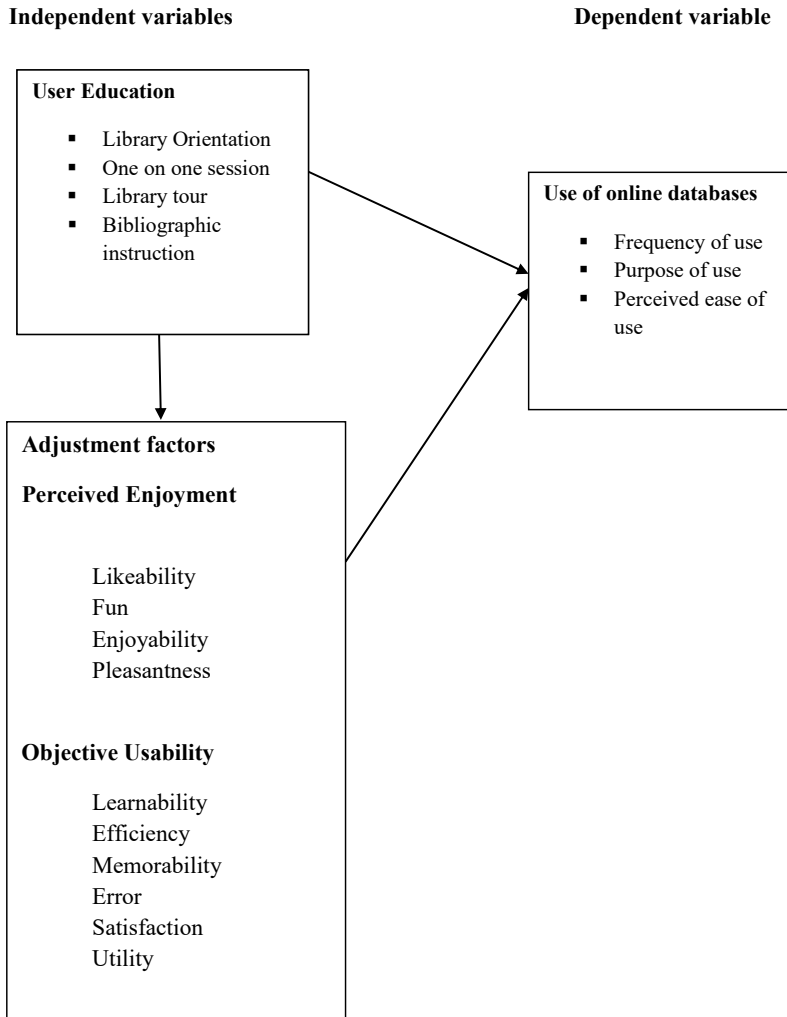


Figure 2: Influence of User Education and Adjustment Factors on Use of Online databases by Postgraduate Students in four private universities in Southwest, Nigeria

2.5 Methodology

This study adopts a descriptive survey design. The population of this study is comprised of 1,067 postgraduate students of Afe Babalola University, Ado Ekiti, Lead City University, Ibadan, Redeemer’s University, Ede, Osun State and Babcock University, Remo Ogun State. In Afe Babalola University, there are two faculties (colleges) offering postgraduate programmes: Social and Management Studies and Science. In Lead City University, two faculties offer postgraduate programmes: Faculty of Social and Management Science and the Faculty of Sciences. There are three faculties (colleges) offering postgraduate programmes in Redeemer’s University: Management Science, Natural Science and Humanities. In Babcock University, seven faculties (schools) offer postgraduate programmes: Computer and Engineering Science, Education and Humanities, Management Sciences, Technology, Public and Allied Health, Nursing and Social Sciences. The departments and the number of postgraduate students in each of the faculties in the four universities are presented in table 1.

Purposive sampling technique was adopted for this study. Two faculties common to the four universities (Faculty of Social and Management Science, and Faculty of Science) were chosen. 70% sampling fraction of the population of each faculty is taken to determine the sample size. Questionnaire was used for data collection and the data were analysed using descriptive statistics including simple percentage and frequency count for the research questions.

Table 1a Study population

University	Faculty	Department	Population
Afe Babalola University	College of Social Management Skills	Finance	9
		Business Administration	5
		Communication	8
		Accounting	20
		Economics	17
		Total	59
	Science	Microbiology	6
		Biology	7
		Chemistry	7
			Total
Lead City University		Social and Management Science	Mass Communication
	Accounting		18
	Public Administration		7
	Business Administration		17
	International Relations		4
		Total	57
	Science	Computer	3
		Microbiology	3
		Total	6

Table 1b. Study population

University	Faculty	Department	Population
Redeemer's University	Management Sciences	Economics and Business Studies	19
		Mass Communication	15
		Behavioural Studies	17
		Total	51
	Natural Sciences	Microbiology	7
		Biochemistry	14
		Statistics	6
		Chemistry	7
		Total	34
	Humanities	English	5
History and International Relations		12	
Total		17	

University	Faculty	Department	Population
Babcock University	Computer and Engineering	Computer Science	61
		Total	61
	Education and Humanities	History	4
		English	14
		Languages and Literary Studies	2
		Total	20
	Management Sciences	Accounting	89
		Finance	46
		Business Administration	144
		Marketing	16
		Information Resource Management	110
		Management	12
		Public Management	53
		Agronomy	3
		Animal Science	4
		Microbiology	10
		Biochemistry	16
		Agric Economics	3
	Total	506	
	Public and Allied Health	Public Health	53
		Total	53
	Nursing	Nursing	43
		Total	43
	Social Sciences	Political Science	77
		Mass Communication	63
		Total	140
Grand Total		1067	

Sources: Postgraduate School, Afe Babalola University, (As At July, 2016). Postgraduate School, Lead City University (As at 4th, August 2016), Postgraduate School, Redeemer's University (As At 19th July, 2016) and Postgraduate School, Babcock University (As At 16th August, 2016).

Table 2. Sample size

University	Faculty	Population	Sample size
Afe Babalola University	Social and Management Science	59	41
	Science	20	14
	Total	79	55
Lead City University	Social and Management Science	57	40
	Science	6	4
	Total	63	44
Redeemer's University	Social and Management Science	51	36
	Science	34	24
	Total	85	60
Babcock University	Social and Management Science	470	329
	Science	36	25
	Total	506	354
Grand Total		733	513

2.6 Questionnaire administration and return rate

A total number of 513 copies of the questionnaire designed for this study were administered to respondents in the four universities (Afe Babalola University, Lead City University, Redeemer's University, and Babcock University). 55 copies were administered at Afe Babalola University, out of which 53 copies were duly filled and returned giving a response rate of 96.4%. In the same vein, 44 copies were administered at Lead City University out of which 40 (90.9%) copies were returned. Similarly, 60 copies were administered at the Redeemer's University out of which 53 (88.3%) were returned. Finally, 354 copies were administered at Babcock University out of which 341 (96.3%) copies were returned. The overall response rate from the four universities was 487 (94.9%).

Table 3: Questionnaire response rate

Universities	Faculties						% Returned
	Science		Social Science		Total distributed	Total returned	
	Distributed	Returned	Distributed	Returned			
Afe Babalola University	14	14	41	39	55	53	96.4
Lead City University	4	4	40	36	44	40	90.9
Redeemer's University	24	21	36	32	60	53	88.3
Babcock University	25	23	329	318	354	341	96.3
N	67	62	446	425	513	487	94.9

3 Result and discussion

3.1 Research question one: What is the frequency of use of online databases by postgraduate students in four private universities in southwest Nigeria?

Table 4 has the results on the frequency of use of online databases by postgraduate students of Afe Babalola University, Babcock University, Lead City University and Redeemer's University. The scales used for frequency of use of online databases by postgraduate students in the four private universities were: daily, weekly, monthly, occasionally, and never. For the purpose of reporting, daily and weekly were modified to become regularly used (RU), monthly and occasionally were modified to become occasionally used (OU). Based on proportions, the highest response rate was recorded in Redeemer's University (77.4%) which indicated that they regularly used Science Direct. This is followed by 75.5% also in Redeemer's University where the respondents used HINARI the most frequently of the online databases. On the contrary, 72.5% of the respondents in Lead City University and 65.7% in Babcock University indicated that they never used DOAJ. However, the least regularly used online database was ProQuest as indicated by 13.2% in Redeemer's University. Similarly, 14.4% of the respondents in Babcock indicated that they regularly used JSTOR. Hence, the percentage of the response rate in favour of regular use of online databases was quite low in the four universities. However, observation of the results in Table 4 showed that while it is obvious that most of the respondents in the four universities never used many of the online databases, HINARI, Science Direct, Pub Med Central, and DOAJ were regularly used.

Table 4: Frequency of use of online databases by postgraduate students

Use of Online Databases	Afe Babalola						Babcock						Lead City						Redeemer's					
	NU		OU		RU		NU		OU		RU		NU		OU		RU		NU		OU		RU	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
HINARI	20	37.7	16	30.2	17	32	116	34.0	164	48.1	61	17.8	21	52.5	7	17.5	12	30	2	3.8	11	20.7	40	75.5
AGORA	21	39.6	21	39.6	11	20.8	185	54.3	58	17	98	28.8	23	57.5	11	27.5	6	15	34	64.2	7	13.2	12	22.6
JSTOR	20	37.7	15	28.3	18	33.9	225	66.0	67	19.7	49	14.4	23	57.5	12	30	5	12.5	37	69.8	6	11.4	10	18.8
Science Direct	21	39.6	19	35.9	13	24.5	141	41.4	152	44.6	48	14.1	21	52.5	9	22.5	10	25	6	11.3	6	11.3	41	77.4
Pub Med Central	23	43.4	19	35.8	11	20.7	183	53.7	70	20.6	88	25.8	20	52.5	8	20	11	27.5	8	15.1	7	13.2	38	71.7
ProQuest	24	45.3	16	30.2	13	24.6	186	54.5	63	18.4	92	26.9	25	62.5	8	20	7	17.5	40	75.5	6	11.3	7	13.2
AJOL	19	35.8	23	43.4	11	20.8	223	65.4	65	19.1	53	15.5	26	65.0	7	17.5	7	17.5	37	69.8	5	9.5	11	20.7
DOAJ	19	35.8	24	45.3	10	18.9	224	65.7	73	21.4	44	12.9	29	72.5	4	10	7	17.5	8	15.1	7	13.2	38	71.7

Key: NU – Never used; OU – Occasionally used; RU – Regularly Used

3.2 Research question two: What are the types of user education programmes provided for postgraduate students in four private universities in southwest Nigeria?

The results of the type of user education programmes in the four private universities are presented in Table 5. The scales used to measure the types of user education programmes provided for postgraduate students were: strongly agree, agree, disagree, and strongly disagree, but for the purpose of reporting, strongly agree and agree were merged to become agree (A), while strongly disagree and disagree were merged to become disagree (D). Results in Table 5 showed that the highest number of respondents in Babcock University (92.7%) and in Afe Babalola University (92.4%) indicated that library techniques were taught in these universities. This is followed by 92.4% of the respondents in Redeemer’s University which indicated that use of library catalogues was taught in their university. The lowest response rate was recorded in Redeemer’s University as 30.2% of the respondents affirmed that students were taught how to use search tools. This is followed by Lead City University where 47.5% indicated that better focused instructions are given to students. Based on the observation of results in Table 5, since library techniques, library tour, use of library catalogues, better focused instructions and how to easily locate library materials were taught to students in the four universities, it can be inferred that user education programmes provided for postgraduate students in the four private universities which cover library orientation, one-on-one sessions, library tours and bibliographic instructions.

3.3 Research question three: To what extent do postgraduate students in Nigeria perceive online databases to be enjoyable?

Table 6 presents the result on perceived enjoyment of online databases by postgraduate students. The scales used to measure the perceived enjoyment of online databases by postgraduate students were: strongly agree, agree, undecided, disagree, and strongly disagree. But for the purpose of reporting, strongly agree and agree were merged to become agree (A), while strongly disagree, and disagree were merged to become disagree (D). Results in Table 6 showed that 92.4% and 81.1% of the respondents in Afe Babalola and Redeemer’s Universities respectively indicated that they enjoyed using online databases. However, low response rates on enjoyment of online databases were recorded as 24.5% and 42.5% from Redeemer’s and

Table 5: Types of user education programmes provided for postgraduate students

S/N	Library orientation	Afe Babalola				Babcock				Lead City				Redeemer's			
		D		A		D		A		D		A		D		A	
		%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F
1	Library techniques are taught in my university	4	7.6	49	92.4	25	7.3	316	92.7	13	32.5	27	67.5	6	11.4	47	88.7
2	Information sources are readily available	9	17	44	83.1	43	12.6	298	87.4	12	30	28	70	4	7.6	49	92.5
3	Use of library catalogues is taught in my university	7	13.2	46	86.8	49	14.4	292	85.6	13	32.5	27	67.5	4	7.6	49	92.4
4	Special collections are available and shown to students	12	22.6	41	77.3	48	14	293	85.9	15	37.5	25	62.5	8	15.1	45	84.9
	One-on-one session																
5	Students undergo a teaching-learning process with a librarian	21	39.6	32	60.4	76	22.3	265	77.7	19	47.5	21	52.5	11	20.7	42	79.3
6	Students have the opportunity to ask questions on use of library	10	18.9	43	81.1	83	24.4	258	75.6	16	40	24	60	13	24.5	40	75.5
7	Better focused instructions are given to students	7	13.2	46	86.8	55	16.1	254.8	89	18	45	22	55	11	20.7	42	79.2
8	There is more flexibility in timing and structure in a teaching-learning process between a librarian and a student	13	24.6	40	75.4	66	19.3	275	80.7	21	52.5	19	47.5	6	11.3	47	88.7
	Library tour																
9	Students are shown the layout of the building	16	30.1	37	69.8	167	48.9	174	51.1	17	42.5	23	57.5	8	15.1	7	84.9
10	Students are taken on a visit to all sections of the library	16	30.1	37	69.8	167	48.9	174	51	16	40	24	60	7	13.2	36	86.8
11	Students are taken on a visit to major service points	16	30.2	37	69.8	161	47.2	180	52.8	19	47.5	21	52.5	6	11.3	7	88.7
12	Students are acquainted with library staff	16	30.1	37	69.8	85	24.9	256	75.1	18	45	22	55	7	13.2	37	86.8
13	Students are acquainted with library policies	7	13.2	46	86.8	73	21.4	268	78.6	16	40	24	60	9	17	33	83.1
	Bibliographic instruction																
14	Students are taught how to locate library materials quickly	4	7.6	49	92.5	44	12.9	297	87.1	15	37.5	25	62.5	15	28.3	38	71.7
15	Students are taught how to use library materials effectively	8	15.1	45	84.9	44	12.9	297	87.1	17	42.5	23	57.5	10	18.9	43	81.1
16	Students are taught how to make independent use of library materials	8	15.1	45	84.9	58	17.1	283	82.9	18	45	22	55	11	20.8	42	79.3
17	Students are taught how to use finding tools	9	17	44	83	142	41.6	199	58.4	19	47.5	21	52.5	37	69.8	16	30.2

Key: D – Disagree; A – Agree

Table 6: Perceived enjoyment of online databases by the postgraduate students

Likeness	Afe Babalola						Babcock						Lead City						Redeemers					
	D		A		F		D		A		F		D		A		F		D		A		F	
	%		%		%		%		%		%		%		%		%		%		%		%	
Using online databases is desirable for me	5	9.5	47	88.6	85	25	185	54.3	7	17.5	27	67.5	17	32.1	36	67.9								
I express willingness to use online databases	3	5.7	46	86.8	20	5.9	298	87.4	14	35	16	40	34	64.1	18	33.9								
I find the use of online databases appealing	5	9.5	43	81.1	74	21.7	246	72.1	11	27.5	21	52.5	34	64.1	16	30.2								
I don't mind using online databases	4	7.6	47	88.7	68	19.9	236	69.2	9	22.5	27	67.5	8	15.1	46	73.5								
I use online databases voluntarily	3	5.7	47	88.7	27	7.9	252	73.9	12	30	21	52.5	12	22.6	39	73.6								
I am disposed to using online databases	16	30.1	33	62.3	43	12.6	278	81.5	11	27.5	27	67.5	9	17	42	79.3								
I dislike using online databases	30	56.6	20	37.7	81	23.8	233	68.3	16	40	19	47.5	14	26.4	37	69.8								
Fun																								
Online databases are fun to use	6	11.3	42	79.2	79	23.2	226	66.3	12	30	23	57.5	23	43.4	29	54.7								
Online databases are pleasant to use	2	3.8	48	90.6	32	9.4	281	82.4	8	20	21	52.5	14	26.4	35	66								
Use of online database is interesting	2	3.8	48	90.5	21	6.1	298	87.4	9	22.5	28	70	13	24.6	39	73.6								
Use of online database is exciting	6	11.3	46	86.8	24	7	299	87.7	11	27.5	19	47.5	14	26.4	38	71.7								
Use of online database is amusing	4	7.6	42	79.3	34	10	292	85.6	11	27.5	25	62.5	34	64.1	16	30.2								
Use of online database is boring	9	17	26	49	140	41	184	53.9	11	27.5	18	45	17	32	36	67.9								
Enjoyment																								
Using online database is delightful	3	5.7	49	92.4	56	16.4	260	76.3	14	35	23	57.5	9	16.9	43	81.1								
Using online database is satisfying	3	5.7	45	84.9	37	10.9	290	85	13	32.5	20	50	7	13.2	46	86.8								
Using online database is a good way to spend my leisure time	11	20.7	40	75.4	41	12.1	285	83.6	11	27.5	22	55	14	26.4	39	73.6								
Using online database involves me in an enjoyable process	6	11.3	46	86.8	35	10.2	292	85.7	17	42.5	17	42.5	39	73.6	13	24.5								
The use of online database arouses my curiosity	16	30.2	35	66.1	174	51	151	44.3	13	32.5	16	40	19	35.9	31	58.5								
Pleasantness																								
Use of online database is undelightful	37	69.8	12	22.7	174	51.1	150	44	23	57.5	9	22.5	40	75.5	11	20.8								
Using online database pleases me	6	11.3	46	86.8	40	11.7	279	81.9	13	32.5	15	37.5	18	34	35	66								
Using online database leaves me happily satisfied	4	7.6	48	90.6	41	12	292	85.6	13	32.5	21	52.5	20	37.8	33	62.2								
Using of online database is pleasurable	6	11.3	46	86.8	37	10.9	296	86.8	11	27.5	18	45	15	28.3	38	71.7								
Using online database is enjoyable	9	17	43	81.1	39	11.5	296	86.8	12	30	20	50	17	32.1	36	67.9								
Using of online database is stress-free	15	28.3	36	67.9	51	15	279	81.8	13	32.5	18	45	12	22.7	41	77.4								
Use of online database is unpleasant	32	60.4	19	35.8	174	51	152	44.5	19	47.5	16	40	43	81.1	10	18.9								

Key: D – Disagree; A – Agree

Lead City Universities. 90.5% and 87.4% in Afe Babalola and Babcock Universities respectively submitted that the use of online databases is fun, but a low response from Redeemer's University (30.2%) indicated that the postgraduate students like using online databases. Since most of the respondents in the four universities indicated that they like using online databases and that it is also fun, enjoyable and pleasant, it could be inferred that the postgraduate students perceived the use of online databases to be enjoyable to a great extent.

3.4 Research question four: To what extent do postgraduate students in Nigeria perceive online databases to be useful for the purpose intended?

The results of the objective usability of online databases by the postgraduate students are presented in Table 7. The scales used to measure the objective usability of online databases by postgraduate students were: strongly agree, agree, undecided, disagree, and strongly disagree. However, for the purpose of reporting, strongly agree and agree were merged to become agree (A) while, strongly disagree and disagree were merged to become disagree (D). Results in table 7 showed that a majority of the respondents in Afe Babalola University (96.2%), Redeemer's University (92.5%), and Babcock University (89.7%) affirmed that they enjoyed using online databases while 96.2% in Afe Babalola, 85.0% in Redeemer's and 81.8% in Babcock Universities indicated that they were comfortable using online databases.

The use of other means by postgraduate students to retrieve the information they need after using online databases was found to have the least number of respondents in Redeemer's University (20.7%) followed by Lead City University (22.5%). The low response rate indicates that utility derived from using online databases is high. Respondents who indicated that they found it difficult to remember how they previously used online databases, that is, memorability, were in Babcock (32.0%), Lead City (30.0%) and Redeemer's (24.5%). Learnability of online databases enjoyed a very high response rate from Afe Babalola (90.5%) and Babcock (84.85%), followed by Redeemer's (79.3%), and then Lead City University (72.5%). Efficiency of online databases received a high response rate in all the four universities but was exceptionally high in Afe Babalola (94.4%) and Babcock (87.1%). Errors encountered in the use of online databases received a low response rate in all four universities. Satisfaction derived in the use of online databases had a very high response rate in all the universities except in Lead City University (65%) where the response rate was relatively low.

3.5 Research question five: What is the relationship between user education and use of online databases?

Information on the relationship between user education and use of online databases by postgraduate students in the four universities is presented in table 8. Results showed that a significant relationship exists between user education and use of online databases ($r = .207^*$; $df = 52$) in Afe Babalola; ($r = .413^{**}$; $df = 340$) in Babcock; ($r = .524^{**}$; $df = 39$) in Lead City; and ($r = .216^*$; $df = 39$) in Redeemer's University. Therefore, null hypothesis one is rejected. This implies that continuous user education programmes will facilitate improvement in use of online databases by postgraduate students.

3.6 Research question six: What is the relationship between adjustment factors and use of online databases?

Information on the relationship between perceived enjoyment and use of online databases by postgraduate students in the four universities is presented in table 9, while the relationship between objective usability and use of online databases by postgraduate students in the four universities is presented in table 10. Table 9 shows that a significant relationship exists between perceived enjoyment and use of online databases in

Table 7: Objective usability of online databases by postgraduate students

Learnability	Afe Babalola			Babcock			Lead City			Redeemer's						
	D	F	%	D	F	%	D	F	%	D	F	%				
It is easy to learn to use online databases	10	18.8	43	81.1	90	26.4	251	73.6	18	45	22	55	10	18.9	39	73.6
The terminologies used in online databases are easily understandable	13	24.5	40	75.5	60	17.6	281	82.4	11	27.5	29	72.5	16	30.2	37	69.8
Online databases offer easy to understand menus	6	11.3	47	88.7	63	18.5	278	81.6	19	47.5	21	52.5	15	28.3	38	71.7
Online databases have appropriate help functions	5	9.4	48	90.5	51	15	290	85	18	45	22	55	29	54.7	24	45.3
Online databases provide well organized help functions for new users	8	15.1	45	84.9	52	15.3	289	84.8	21	52.5	19	47.5	11	20.7	42	79.3
It does not take a great deal of effort for new users to become proficient in the use of online databases	12	22.7	41	77.4	62	18.2	279	81.8	20	50	20	50	17	32.1	36	68
Use of online database is difficult to learn	22	41.5	31	58.5	161	47.2	180	52.8	26	65	14	35	14	26.4	39	73.6
Efficiency																
Online databases are designed to help find what I want	11	20.8	42	79.2	103	30.2	238	69.8	16	40	24	60	17	32.1	10	68
Use of online database requires little effort	12	22.7	41	77.3	59	17.3	282	82.7	15	37.5	25	62.5	16	30.2	10	69.8
I get results of searches quickly when I use online databases	9	17	44	83	56	16.4	285	83.6	15	37.5	25	62.5	14	47.2	24	52.8
I can complete a result finding task quickly with the use of online databases	3	5.7	50	94.4	44	12.9	297	87.1	14	35	26	65	19	35.9	30	64.1
Use of online database produces quick results	9	17	44	83	44	12.9	297	87.1	21	52.5	19	47.5	27	50.9	26	49
Use of online database wastes time	28	52.9	25	47.2	203	59.6	138	40.4	23	57.5	17	42.5	37	69.8	16	30.2
Memorability																
I can easily remember the steps required to use an online database	10	18.9	43	81.2	139	40.7	202	59.3	20	50	20	50	16	30.2	37	69.8
I find it difficult to remember the steps required to use online databases	25	47.2	28	52.8	164	48.1	177	51.9	23	57.5	17	42.5	16	30.2	37	69.8
It usually takes long before I remember how I used an online database	28	52.8	25	47.2	201	59	140	41.1	22	55	18	45	14	26.4	39	73.5
Use of online database is interactive	7	13.2	46	86.8	98	28.7	243	71.2	20	50	20	50	14	26.4	39	73.6
Use of online database leaves a lasting memory	7	13.2	46	86.8	56	16.4	285	83.5	15	37.5	25	62.5	16	30.2	37	69.8
Use of online database is complex	23	43.3	30	56.6	150	44	191	56	24	60	16	40	36	67.9	17	32.1
I find it difficult to remember how I previously used an online database	28	52.8	25	47.2	232	68	109	32	28	70	12	30	40	75.5	13	24.5
Error																
I encounter errors in the use of online databases	26	49	27	50.9	248	72.8	93	27.3	19	47.5	21	52.5	30	56.6	23	43.3
The results I get are different from what I expect	20	37.8	33	62.2	179	52.5	162	47.5	22	55	18	45	28	52.8	25	47.2
It is normal to encounter errors in the use of online databases	12	22.7	41	77.4	174	51.1	167	48.9	15	37.5	25	62.5	25	47.2	28	52.8
I achieve high precision results whenever I use online databases	8	15.1	45	85	54	15.8	287	84.2	22	55	18	45	20	37.7	33	62.3
Satisfaction																
I am comfortable using online databases	2	3.8	51	96.2	62	18.2	279	81.8	18	45	22	55	8	15.1	45	85
I feel very confident using online databases	3	5.7	50	94.4	41	12	300	88	16	40	24	60	10	18.8	43	81.1
I enjoy using online databases	2	3.8	51	96.2	35	10.3	306	89.7	14	35	26	65	4	7.6	49	92.5
Use of online database is educative	4	7.6	49	92.4	34	10	307	90.1	14	35	26	65	17	32.1	36	67.9
Online databases are helpful	3	5.7	50	94.4	35	10.3	306	89.7	15	37.5	25	62.5	13	24.5	40	75.5
Use of online database is beneficial to me	5	9.5	48	90.6	117	34.3	224	65.7	14	35	26	65	14	26.4	39	73.5

Table 8: Relationship between user education and use of online databases by postgraduate students

Variable	N	Mean	Std.	R	Df	Sig.
Afe Babalola University						
User Education Programmes	53	51.4	8.816			
				.207*	52	.014
Use of online databases	53	18.8	9.550			
Babcock University						
User Education Programmes	341	49.4	9.747			
				.413**	340	.000
Use of online databases	341	16.4	8.405			
Lead City University						
User Education Programmes	40	44.2	14.010			
				.524**	39	.001
Use of online databases	40	15.8	9.344			
Redeemer's University						
User Education Programmes	53	53.6	6.029			
				.216*	52	.020
Use of online databases	53	19.8	4.720			

**Significant at 0.05

Afe Babalola University ($r = .182^*$), Lead City University; ($r = .549^{**}$) and Redeemer's University ($r = .180^*$). This implies that the more the postgraduate students perceived online databases to be enjoyable, the more they will use them. Therefore, null hypothesis two is rejected. However, there is no significant relationship between perceived enjoyment and use of online databases in Babcock University ($r = .095$).

Table 10 shows that a significant relationship exists between objective usability and use of online databases in Afe Babalola University ($r = .352^*$), Babcock University ($r = .353^{**}$), and Lead City University ($r = .588^{**}$). This implies that the more the postgraduate students perceive an online database to be useful for the purposes intended, the more they will use online databases. Therefore, null hypothesis 2 is rejected. However, there is no significant relationship between objective usability and use of online databases in Redeemer's University ($r = .237$).

Table 9: Relationship between perceived enjoyment and use of online databases by postgraduate students

Variable	N	Mean	Std.	R	Df	Sig.
Afe Babalola University						
Perceived Enjoyment (Adjustment)	53	71.7	13.662			
				.182*	52	.017
Use of online databases	53	18.8	9.550			
Babcock University						
Perceived Enjoyment (Adjustment)	341	69.0	15.540			
				.095	340	.081
Use of online databases	341	16.4	8.405			
Lead City University						
Perceived Enjoyment (Adjustment)	40	59.1	22.199			
				.549**	39	.000
Use of online databases	40	15.8	9.344			
Redeemer's University						
Perceived Enjoyment (Adjustment)	53	69.8	9.399			
				.180*	52	.018
Use of online databases	53	19.8	4.720			

**Significant at 0.05

Table 10: Relationship between objective usability and use of online databases by postgraduate students

Variable	N	Mean	Std.	R	df	Sig.
Afe Babalola University						
Objective usability (Adjustment)	53	103.1	11.0	.352*	52	.011
Use of online databases	53	18.8	10.0			
Babcock University						
Objective usability (Adjustment)	341	99.5	13.8	.353**	340	.000
Use of online databases	341	16.4	8.4			
Lead City University						
Objective usability (Adjustment)	40	85.8	23.0	.588**	39	.000
Use of online databases	40	15.8	9.3			
Redeemer's University						
Objective usability (Adjustment)	53	94.8	13.2	.237	52	.088
Use of online databases	53	19.8	4.7			

**Significant at 0.05

3.7 Research question seven: What is the relationship between user education and adjustment factors?

Information on the relationship between user education and perceived enjoyment by postgraduate students in the four universities is presented in table 11, while the relationship between user education and objective usability by postgraduate students in the four universities is presented in table 12. Pearson's correlation was used to test the null hypothesis. Table 11 shows that a significant relationship exists between user education and perceived enjoyment in Afe Babalola University ($r = .298^*$) and in Lead City University ($r = .323^*$). This implies that providing continuous user education programmes for the postgraduate students will create positive perception and enjoyment in the use of online databases. Therefore, null hypothesis 3 is rejected. However, there is no significant relationship between user education and perceived enjoyment in Babcock University ($r = .034$) and in Redeemer's university ($r = .190$). It can therefore be inferred that acquiring user education does not have any influence on perceived enjoyment of online databases by the postgraduate students.

Table 12 shows that a significant relationship exists between user education and objective usability in Afe Babalola University ($r = .414^{**}$), Babcock University ($r = .477^{**}$) and Lead City University ($r = .487^{**}$). This implies that students who are given user education will understand how to use online databases for specific objectives and will find the online databases to be useful for the purposes intended. Therefore, null hypothesis 3 is rejected. However, there is no significant relationship between user education and objective usability in Redeemer's University ($r = .261$). This implies that the user education programmes given to the postgraduate students of Redeemer's University do not influence the students' perception of how useful the online databases are in achieving their various objectives.

Table 11: Relationship between user education and perceived enjoyment

Variable	N	Mean	Std.	R	df	Sig.
Afe Babalola University						
User Education Programmes	53	51.4	8.8	.298*	52	.032
Perceived Enjoyment (Adjustment)	53	71.7	13.7			
Babcock University						
User Education Programmes	341	49.4	9.7	.034	340	.531
Perceived Enjoyment (Adjustment)	341	69.0	15.5			
Lead City University						
User Education Programmes	40	44.2	14.0	.323*	39	.042
Perceived Enjoyment (Adjustment)	40	59.1	22.2			
Redeemer's University						
User Education Programmes	53	53.6	6.0	.190	52	.173
Perceived Enjoyment (Adjustment)	53	69.8	9.4			

**Significant at 0.05

Table 12: Relationship between user education and objective usability

Variable	N	Mean	Std.	R	df	Sig.
Afe Babalola University						
User Education Programmes	53	51.4	8.8	.414**	52	.002
Objective usability (Adjustment)	53	103.1	11.0			
Babcock University						
User Education Programmes	341	49.4	9.8	.477**	340	.000
Objective usability (Adjustment)	341	99.5	13.9			
Lead City University						
User Education Programmes	40	44.2	14.0	.487**	39	.003
Objective usability (Adjustment)	40	85.8	23.0			
Redeemer's University						
User Education Programmes	53	53.6	6.0	.261	52	.059
Objective usability (Adjustment)	53	94.8	13.2			

**Significant at 0.05

4 Discussion of the findings

The study showed that frequency of use of online databases by the postgraduate students is quite low for three of the four case universities. This is in line with the view of Yusuf & Farouk (2017) that students do not use library resources including journal articles for their research. On the other hand, the high frequency of the use of online databases recorded in just one of the case universities supports the position of Naqvi (2012) who affirmed that postgraduate students and research scholars frequently used online databases. The difference in the results indicates that there could be some factors in place that promote the use of online databases, hence the result of the high use of online databases by the one university. This difference can be explored for further research.

Given that students are taken on a visit to major service points, and library techniques, use of library catalogues, better focused instructions and the ability to locate library materials quickly were taught to them in the four universities, it could be inferred that user education programmes that were provided for postgraduate students in the four private universities cover library orientation, one-on-one sessions, library tours and bibliographic instructions. The finding supports Zhu (2009) who stressed that user education programmes involve teaching library and information users about the use of library techniques such as information resources and literature retrieval skills and these skills would improve the student's ability to access information. Zhu maintained that students would be taught how to effectively utilise the collected information resources through user education programmes. The finding is also in support of Agyen-Gyasi (2008), who submitted that objectives of user education were outlined as the following: to introduce students to facilities and resources in the library, to develop library skills; to make students independent users and learners in the library, to develop capabilities as self-sufficient users, to establish the library as the centre of academic activity, to provide basic understanding of the library so that users can make efficient use of library material and services, to educate users about information sources and resources and how to exploit such resources effectively and efficiently.

The study showed that to most of the respondents in the four universities, using online databases is desirable, exciting, delightful, satisfying and pleasurable. Therefore, perceived enjoyment of online databases in the four private universities is quite high. This is in line with the OECD (2011) statement that a postgraduate student's perceived enjoyment in the use of an online database determines his continuous use of the database and also the extent of his interest and involvement in the use.

Findings showed that most of the respondents do not find it difficult to remember how they previously used an online database. Hence, because of the ease of learning and using an online database, its effectiveness, comfortability, enjoyment and satisfaction, most of the respondents used online databases to a high extent. This supports Saade and Sharhan (2015), who stressed that perceived enjoyment is a source of intrinsic motivation which makes a postgraduate student underestimate the difficulty associated with using an online database because he or she enjoys the process.

Findings established that a significant relationship exists between user education and use of online databases in Afe Babalola University, Babcock University, Lead City University and Redeemer's University. This supports the opinion of Suleiman (2012) that use of library resources, especially online databases, requires some skills which are acquired through some form of user education programmes.

Similarly, there is a significant relationship between perceived enjoyment and use of online databases in Afe Babalola, Lead City and Redeemer's University. Wang, Lin and Liao (2010), in investigating the individual difference antecedents of perceived enjoyment in the acceptance of blogging, found out that perceived enjoyment was a significant determinant of blogging intention. Therefore, perceived enjoyment is a significant determinant of use of technology like online databases.

In addition, the study established a significant relationship between objective usability and use of online databases in Afe Babalola, Babcock, and Lead City University. This finding corroborates the position of Wahab, Jusoff, Al Momani, Noor, and Zahari, (2011) in the investigation of factors influencing usability and enjoyment on electronic customer relationship management performance. They affirmed that the most important motive for playing online games is seeking to have fun and pleasure. Thus, when users achieve the objective of using technologies, they are more likely to be motivated to use the service frequently. This

finding confirms the statement by Popoola and Zaid (2008) that “various online databases available for use by postgraduate students might remain underutilised if they are not found to be usable for the purposes for which they are intended”.

Findings revealed further that a significant relationship exists between user education and perceived enjoyment in Afe Babalola and Lead City universities. This corroborates Shaqour and Dahar (2010) who submitted that education on the use of electronic resources arouses the students’ opinions about the use, which in turn has significant strong positive relationships with the level of use of electronic resources.

There is significant relationship between user education and objective usability in Afe Babalola, Babcock and Lead City universities. This supports Ndubuisi and Udu (2013), who maintained that education about technology use is a component of objective usability of online databases. Therefore, it can be deduced from the study that objective usability of online databases motivates the postgraduate students in the four universities to access and use the online databases.

The study showed that in Afe Babalola University, objective usability is the most potent factor that has effect on the use of online databases, followed by user education in Babcock University, while perceived enjoyment has the least effect on the use of online databases in Redeemer’s University. This supports Gakibayo, Ikoja-Odongo and Okello-Obura (2013), who observed that high usage of online databases was attributed to factors such as freely available access, ease of use, currency, training acquired on the ability to find and retrieve information effectively (user education), the objective of information use and enjoyment derived.

Finally, the highest coefficient of multiple correlation in Lead City University and Afe Babalola University constituted the least contribution. This is an indication that user education and adjustment factors have significant relative contributions to the use of online databases. This affirms Praveena and Thomas’ (2014) opinion that perceived enjoyment is found to be positively related to attitudes towards using a system. Thus, the more a user finds the use of a technology to be interesting, the more he will use it. Praveena and Thomas stressed further that the less enjoyable a user finds a technology, the less he will use it, especially if the user is not educated on effective use of such technologies.

5 Conclusion and recommendations

5.1 Conclusion

Postgraduate students can improve their use of online databases when they find it enjoyable and useful in performing their tasks. The process of information access and retrieval through the use of online databases is perceived to be enjoyable to the postgraduate student who has acquired the necessary skills in the use of online databases through user education. The postgraduate student would also find online databases to be useful for the purposes he intends to use them for if he has been given some form of user education on the use of online databases. User education, perceived enjoyment and objective usability therefore influenced the use of online databases by the postgraduate students of the four universities.

5.2 Recommendations

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

1. Librarians in Nigerian universities should expose postgraduate students to all available online databases through user education programmes. This will attract the perception of the postgraduate students towards enjoyment and objective usability of the online databases. In other words, it will encourage the postgraduate students to use the online databases more regularly. This is derived from the established relationship between user education, perceived enjoyment and objective usability.
2. Library administrators should ensure that adequate funds are provided in order to make user education available to the postgraduate students. They should also endeavor to ensure that the library staff are

well motivated to give user education to the postgraduate students because user education increases the patronage of online databases by postgraduate students.

3. Lecturers in Nigerian universities should continue to give assignments and other academic activities to the postgraduate students in order to ensure a continuous and improved use of online databases for academic purposes like writing research, seminars and group presentations, assignments, and other activities that would require the use of online databases. This will encourage the postgraduate students to have hands-on experience by which they can master the use of the online databases.
4. Librarians should always assist postgraduate students in developing skills in Information and Communication Technologies (ICT) utilization through user education programme. ICT skills are a prerequisite to online databases utilization because the latter can only be accessible through computer networks. Therefore, students who are deficient in the use of ICT skills would find the use of online databases to be difficult.
5. Libraries should ensure that online databases built for the library are user friendly. User friendly online databases would be found to be enjoyable and always appealing to postgraduate students, resulting in improved usage.
6. To maintain high and satisfactory use of online databases, there should be a regular re-orientation of postgraduate students by the library staff, especially after new online databases are acquired so that postgraduate students are made familiar with the new online databases.
7. User education should also be a continuous process for postgraduate students to remain skilled in the use of the online databases. As new ways are constantly provided by ICT, postgraduate students should also be taught the new skills so that the high use of online databases is maintained.
8. Library administrators should include in the policy of libraries that online databases must be tested for their user-friendliness before they are acquired. This is so that non-user friendly databases are not acquired for the library.

5.3 Suggestions for further studies

This study can be expanded to consider:

1. Computer self-efficacy, adjustment factors and use of online databases by postgraduate students in selected Nigerian universities.
2. Influence of adjustment factors and user education programmes on undergraduates' use of online databases for academic activities could also be considered.

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