



# Awareness and Utilisation of Online Subscription Databases Among Postgraduate Students in Ahmadu Bello University, Zaria

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Received: 13<sup>th</sup> October 2021 Accepted: 10<sup>th</sup> June 2022 Date of Publication: 30<sup>th</sup> June 2022

## Abstract

**Purpose:** The study was carried out to investigate the level of awareness and utilisation of online subscription databases, and challenges to effective utilization of online subscription databases among the Postgraduate Students in Ahmadu Bello University, Zaria.

**Methodology:** A cross-sectional descriptive survey design was adopted for the study with a total population of 8,376 postgraduate students. A sample of 400 students was selected for the study using proportionate stratified sampling and simple random sampling techniques. The data collected were analysed using percentages, frequency, mean, and One-Way MANOVA.

**Findings:** The study discovered that postgraduate students in ABU Zaria are only aware of Science Direct, JSTOR and EBSCOHOST databases out of the 12 databases investigated. The level of utilisation of online subscription databases by postgraduate students in ABU Zaria is low. The result of the hypotheses showed significant differences in the awareness and utilization of online subscription databases among PhD, Masters and PGD postgraduate students Ahmadu Bello University, Zaria. Lastly, lack of training and orientation on how to use databases, lack of online guide on how to use online subscription databases, lack of ICT and computer literacy skills, non-functioning links to some of the databases, and the inability to locate relevant information resources from the databases were the major challenges impeding effective utilization of online subscription databases.

**Originality/value:** The study showed that the differences that exist in the utilization level of online subscription databases among different categories of postgraduate students is largely occasioned by the awareness factor.

**Keywords:** Awareness, Utilization, Online subscription databases, Postgraduate students, Ahmadu Bello University, Zaria

## Introduction

The growing intrusion of Information and Communication Technologies (ICTs) in libraries has brought about a vast amount of high-quality electronic resources available for student use when writing academic papers and carrying out research. With the internet, electronic resources in the library like e-books and e-journals can now be accessed outside the library walls. With the internet and a computer device, it is easier to access the digital contents of libraries. Electronic databases have become a major element of library collections around the globe (Abdulganiyu, Mshelia, and Bello, 2019).

Online subscription databases provide accurate and timely information, especially for students who depend greatly on them for information to advance their research and collaborate with other researchers around the world for intellectual growth (Ukpebor 2012).

Online subscription databases contain structured information resources about a specific topic or multi-disciplinary subject areas. The information contained in an e-database can be searched and retrieved electronically. Databases contain journal articles, newspaper articles, book reviews,

conference proceedings, etc. which are updated regularly. There are different types of electronic databases in the world today, these include statistical databases, image databases, and others. Uzuegbu, Chukwu, and Ibegwam (2012) have listed the major online subscription databases in Nigerian universities to include ScienceDirect, ECONLIT, ERIC, AGORA, OARE, HINARI, LANTEEL, LEXIS NEXIS, and MEDLINE, JSTOR, EbscoHost, and many others.

For every institution to produce quality graduates that would compete globally there is a need for them to adequately stock their library with electronic information resources through subscription to scholarly databases. According to Erwat and Fabunmi (2006), the Nigerian educational system has been expanding at a rapid rate and as the system expands, so also with a corresponding need for increased information acquisition. University libraries in Nigeria spend a large amount of money on these databases to satisfy the teaching, learning and research needs of their staff and students. As universities spend a substantial amount of money on a subscription to databases, it is only appropriate and economical that these databases are optimally utilized to contribute to the academic achievement of students and to get value for money (Kwadzo, 2015). Thus, it is pragmatic for this paper to investigate the level of awareness and utilization of online subscription databases by postgraduate students in Ahmadu Bello University, Zaria.

Online subscription databases consume an increasing percentage of the library's budget. It is of great importance for the library to know how the students utilize these databases. The library can use evidence of effective utilization as justification for acquiring or providing access to these resources. On the other hand, underutilization of online subscription databases should be a matter of

concern for the library, factors contributing to that should be investigated, and suggestions for improved usage found. Since most universities receive funding from the government, they have to account for the money they spend. Abdulganiyu, Mshelia, and Bello (2019) explained that university libraries spend substantial amounts of money for subscribing to databases even when facing shrinking budgets. In this regard those for which the databases are purchased must equally utilize them to justify the financial involvement.

### **A Brief History of Ahmadu Bello University Library**

The Library System in Ahmadu Bello University comprises Kashim Ibrahim Library (the main library) and eleven other satellite libraries located on different campuses of the university. The university library has always been at the centre of research and scholarship, playing a major role in acquiring, processing and lending library materials and responding to patron inquiries. Today, online subscription databases and internet searches are common features among staff and students of the university. Due to donations by the MacArthur Foundation and the Carnegie Corporation, rapid progress has been made not only in updating the collections but also in automating the resources and services of the library. Online and CD-ROM searches are a common feature among staff and students of the university (ABU Library Complex Bulletin 2012).

Kashim Ibrahim Library, ABU Zaria has a list of fourteen (14) subscribed databases on the library webpage which are: AGORA, AJOL, ARDI, ASCE, BMJ Publishing Group, Ebrary, EBSCOHOST, e-Granary, Emerald Insight, HathiTrust Digital Library, HINARI, JSTOR, Science Direct and, TEEAL. Among these databases, thirteen of them are online except TEEAL which is offline. The

university library has made great financial investments in prestigious databases for most disciplines which will make ways for gaining access to a large volume of scholarly information through which users can satisfy their information needs.

### **Problem Statement**

Online subscription databases can be accessed from anywhere and by many users at the same time. It contains information on current issues, studies and researches in various fields. Studies have shown that online subscription databases usage among students is not up to the level expected or is simply underutilized (Ahmed 2013).

This poor level of database utilization especially among Nigerian university students is a source of worry and concern as the students are now getting more accustomed to the use of general search engines while neglecting quality scholarly databases that have been paid for which contains books, articles, and journals that are very relevant to their field of study. Based on the observation of the researcher and interaction with some postgraduate students in ABU Zaria, library users, most especially postgraduate students seem to be unaware of the online subscription databases that the library provided. Although, Kashim Ibrahim Library, ABU Zaria has gone as far as making available the link, username, and passwords of the online subscription databases, using information literacy programs and training as a means of orientating lecturers, students and staff. Irrespective of these efforts, postgraduate students in ABU Zaria have not yielded fully to the use of these library online subscription databases. This might be due to the lack of awareness of the databases on the part of the postgraduate students (Scholastica, Nkiruka & Ifeanyichukwu 2016).

From the various literature on online subscription databases available, to the best of

the researcher's knowledge, no study seems to have been carried out on postgraduate students in ABU Zaria and online subscription databases. Therefore, this paper intends to fill this gap and investigate the level of awareness and utilization of online subscription databases among postgraduate students in ABU Zaria.

### **Research Objectives**

The main objective of this study was to investigate the level of awareness and utilisation of online subscription databases among postgraduate students in Ahmadu Bello University, Zaria. The specific objectives are:

1. To find out the level of awareness of online subscription databases among Postgraduate students in Ahmadu Bello University, Zaria
2. To determine the level of utilization of online subscription databases among Postgraduate students in Ahmadu Bello University, Zaria
3. To identify the challenges to the effective utilization of online subscription databases by Postgraduate students in Ahmadu Bello University, Zaria

### **Research Questions**

The study posed the following questions:

1. What is the level of awareness of online subscription databases among Postgraduate students in Ahmadu Bello University, Zaria?
2. What is the level of utilization of online subscription databases among Postgraduate students in Ahmadu Bello University, Zaria?
3. What are the challenges to the effective utilization of online subscription databases by Postgraduate students in Ahmadu Bello University, Zaria?

### **Research Hypotheses**

The following null hypotheses were postulated:

Ho<sub>1</sub>: There is no significant difference in the level of awareness of online subscription databases among PhD, Masters and PGD students in ABU Zaria

Ho<sub>2</sub>: There is no significant difference in the level of utilization of online subscription databases among PhD, Masters and PGD students in ABU Zaria.

### Literature Review

Awareness of online subscription databases in the library indicates that library users have adequate information and knowledge about the subscribed databases in the library. In a study conducted by Abdulganiyu, Mshelia, and Bello (2019) on Awareness, Accessibility and use of Library online subscription Electronic Databases by Students of University of Maiduguri, the result showed that the level of awareness of online electronic databases among the students is to a very low extent. For instance, majority of respondents were scarcely aware of OARE 100(40.5%), followed by ARDI 110(44.5%), as well as EBSCOHOST 115(46.5%), EBRARY 100(40.5%), and PROQUEST 100(40.5%), the analysis also revealed that majority of the respondents were not aware of AGORA, HINARI, GOALI, LAW PAVILLION and LEXIS AND LEXIS with 100(40.5%), 107(43.3%), 167(67.6%), 167(67.6%) and 167(67.6%) respectively. This implies that there is need to increase awareness to cover all electronic resources the library subscribed to. Ngozi, Genevieve & Ogaraku (2018) conducted a study on “Awareness and Utilization of Databases Subscribed to by FUTO Library among FUTO Academic Staff” reveals that the level of awareness by of the databases subscribed by Academic Staff in FUTO is very low with AGORA being the only database above average (2.50).

Aina (2014) carried out a study on awareness, accessibility, and use of electronic databases among academic staff of Babcock University Business School, Ogun State Nigeria, results from her findings revealed that the level of awareness of electronic resources among the academic staff of Babcock Business School varies. For instance, the majority of respondents 69.4% were aware of the Academic Journal, followed by JSTOR 56.5% as well as Dissertation and Theses and Ebscohost with 54.1% and 50.6% respectively. The analyses also revealed that the majority of respondents were not aware of Bookboon, World Bank Open Knowledge Repository and National Virtual Library with 25.9%, 32.9% and 29.4 respectively. Findings also showed that nine out of thirteen databases under consideration were averagely aware of by respondents. Although these resources were subscribed to and respondents were aware of them still, they are not all fully accessible by the users due to one challenge or the other.

Dange, Girish, Savitha, Sushma and Veenakumari (2013) study on awareness and usage of digital information sources and services by postgraduate students of Kuvempu University revealed that there is a significant difference between previous and final year students of digital information sources awareness, digital information services awareness, and digital information sources usage. In addition, there is a significant difference between arts, science and education postgraduate students’ digital information sources awareness, digital information services awareness, digital information sources usage and, digital information services usage. A deduction from Anaraki and Babalhavaeji’s (2013) study was that when students are not aware of the existence of e-resources in their library system they tend to use general search engines to meet their

information needs. They found that only 16% of the medical students in Iran were well acquainted with the e-resources of the Integrated Digital Library portal provided for them. Ahmed (2013) also found that postgraduate students from Bangabandhu Sheikh Mujib Medical University and undergraduate students from Bangladesh University of Engineering and Technology used free electronic resources more than university subscribed resources because of lack of awareness of subscribed ones.

Academic libraries stand to gain more from subscribing to databases and ensuring that the resources are accessible to users. When academic librarians learn about the impact of their electronic resources and services on users, they increase their value by proactively delivering improved resources to students completing their academic work; to faculty preparing publications and proposals and to administrators needing evidence to make decisions. The situation in some Nigerian universities is not different from other universities in Botswana and Ghana. For example, a study by Egberongbe (2011) at the University of Lagos, Nigeria found that e-resources such as bibliographic databases, e-newspapers, and e-magazines were not used very much. The study showed that the majority of scholars did not get training in the use of the databases. Similarly, Cothran (2011) found that graduate students used Google Scholar a lot because they found it easy to learn; easy to use; and easy to navigate. In addition, the design and interface were user-friendly and it was a useful resource for their research. He, Wu, Yue, Fu, and Vo, (2012) argued that students thought of online academic search engines such as Google as more important resources than university online subscription databases such as EBSCO, Emerald, Pubmed, and JSTOR. And that depending on their tasks, they would prefer a particular resource to another.

John-Okeke (2012) in her study on “Evaluation of the Resources and Services Available at the MTN Foundation Digital Libraries in Nigeria Universities” explained that users might not have been exposed to a subject-based database such as HINARI (Health Internetwork Access to Research), AGORA (Access to Global Online Research in Agriculture), etc. This account for the lesser use of the subject based databases which ought to have been more useful to students of the universities than Google Search Engine. Toteng, Hoskins and Bell (2013), conducted a study on the use of subscribed databases by law students at the University of Botswana library. A list of databases was provided from which students had to make a selection database they used, the list included the following: OPAC, EBSCOHost, JSTOR, LexisNexis, Westlaw, SAE-Publications and Juta Publications. Results showed that Juta Publications was used by 76.5% of the respondents. EBSCOHost was used by 45.4% of the students. 29% used LexisNexis and 22.4% used SAE-Publications. The database that had the lowest usage was Westlaw, with 7.7%. Respondents were asked to indicate other databases that they used but were not listed. The students indicated that they also used the following databases: Black Hall publishing with 3.3%; Botswana Law Reports 3.3%; SAFLII 3.3%; and Find law 0.5%. Significantly, few students used the subject-specific law databases, such as LexisNexis and Westlaw. The low use of these databases could have been due to the difficulties of its complicated interface.

Azubuikwe, Ekere, and Orsu, (2021) study on awareness and utilization of electronic databases for scholarly research by faculty of education lecturers in Federal Universities in South East, Nigeria revealed that challenges abound as regards the awareness and utilization of online subscription databases for

scholarly research. From their findings, faculty of education lecturers in the three universities under study strongly agreed that epileptic network connectivity is the major challenge faced in utilizing e-databases with mean scores of 3.56 (UNN), 3.65 (NAU) and 3.54 (MOUAU); Erratic power supply with mean scores of 3.57 (UNN), 3.70 (NAU) and 3.38 (MOUAU); apathy towards information technologies with mean scores of 3.43 (UNN), 3.70 (NAU) and 3.63 (MOUAU); indifference with mean scores of 3.44 (UNN), 3.73 (NAU) and 3.54 (MOUAU); poor computer literacy education with mean scores of 3.39 (UNN), 3.56 (NAU) and 3.36 (MOUAU).

### Methodology

The quantitative research method was adopted using a cross-sectional descriptive survey research design. The population for this study were the postgraduate students in ABU Zaria. The total number of postgraduate students in ABU Zaria as of (2017/2018) session was 8,376, which consist of PhD (1438), Masters (5840), and PGD (1098). According to Isreal (2009), if the population is in the range of 8,000 and with a confidence interval of  $\pm 5\%$ , the appropriate sample to be selected is 381. Given a population of 8376, the sample size of 400 was considered appropriate for this study. The choice of 400 as sample was able to cover for non-response bias. A sample of 400 students was selected using a proportionate stratified sampling technique. Stratification according to Fowler (2009) means that specific characteristics of individuals (e.g., gender—females, and males) were represented in the sample and the sample reflects the true proportion in the population of individuals with certain characteristics. The characteristic used in stratifying the population was the category of the postgraduate program (PGD, Masters, and PhD). This technique was chosen because the researcher desired the sample to exhibit a proportionate representation of the different

postgraduate programmes to which postgraduate students in ABU Zaria are attached, that is, PGD, Masters, and PhD. Using the sample fraction of 20.9 (this was derived by dividing the population 8376 by the sample size 400), the sample was derived by simply dividing the sample fraction with the population of each stratum (i.e.,  $\text{Population} \div 20.9 = \text{Sample}$ ). The sample for each stratum was further selected using simple random sampling; PhD (69), Masters (279), and PGD (52).

A questionnaire containing both open and closed-ended questions was used to collect data. For effective face and content validity of the questionnaire, the initial drafts of the instrument were given to experts in the field of Library and Information Science for comments and inputs. A pilot study was conducted to determine the reliability of the instrument, and Cronbach's Alpha coefficient test was used to determine the reliability of the instrument. The result of the reliability coefficient was 0.84. A total of 400 copies of the questionnaire were administered to the postgraduate students. Descriptive statistics of frequency, percentages, and mean were used in analysing demographic variables and research questions. Inferential statistics of One-Way Multivariate ANOVA was used to test the hypotheses. SPSS version 23.0 software was used to compute the frequency, percentages, mean, and MANOVA. The benchmark for the responses was obtained by adding the value in the Likert scale (4+3+2+1=10) and dividing by 4 to obtain a mean benchmark of 2.5. Any item ranked from 2.5 and above was regarded as positive/agreed; while anyone from 2.49 and below was regarded as negative/disagreed.

**Findings**

**Table1 Level of Awareness of Online Subscription Databases by Postgraduate Students**

S/N	Online Subscription Databases	PhD ( $\bar{x}$ )	Masters ( $\bar{x}$ )	PGD ( $\bar{x}$ )	OM	Rank	Decision
1	Science Direct	2.78	2.56	2.18	2.55	1 <sup>st</sup>	A
2	JSTOR	2.74	2.54	2.16	2.53	2 <sup>nd</sup>	A
3	EBSCOHOST	2.69	2.52	2.11	2.50	3 <sup>rd</sup>	A
4	Ebrary	2.56	2.19	2.09	2.23	4 <sup>th</sup>	NA
5	AGORA	2.47	2.16	1.97	2.19	5 <sup>th</sup>	NA
6	ARDI	2.30	2.16	1.86	2.14	6 <sup>th</sup>	NA
7	e-Granary	2.30	2.03	1.79	2.04	7 <sup>th</sup>	NA
8	AJOL	2.25	2.00	1.72	2.00	8 <sup>th</sup>	NA
9	ASCE	2.20	1.86	1.67	1.89	9 <sup>th</sup>	NA
10	HINARI	2.16	1.88	1.65	1.89	9 <sup>th</sup>	NA
11	Hathtrust Digital Library	2.12	1.75	1.65	1.79	10 <sup>th</sup>	NA
12	BMJ Publishing Group	2.10	1.71	1.51	1.75	11 <sup>th</sup>	NA

**Note:** A= Aware, NA= Not Aware, OM=Overall Mean

Table 1 presents the mean ratings of postgraduate students in ABU Zaria on their level of awareness of online subscription databases. Science Direct has the highest overall mean score among the list of the databases. The mean score for the Science Direct database showed that PhD (2.78) and Masters (2.56) students are aware of the database with a mean score that is above the benchmark (2.5), whereas, PGD students (2.18) are not aware of Science Direct. Among

the list of the databases available in ABU Zaria. Table 1 revealed that PhD (2.74), and Masters (2.54) students are aware of the JSTOR database, PGD students (2.16) are not aware. Also, Table 1 showed that both PhD students (2.69) and Masters (2.52) are aware of EBSCOHOST, whereas PGD (2.11) students are not aware. Ebrary has a mean score that revealed that only PhD students (2.56) are aware of the database, the other postgraduate students: Masters (2.19) and PGD (2.09) are not aware of Ebrary.

**Table 2 Level of Utilisation of Online Subscription Databases by Postgraduate Students**

S/N	Online Subscription Databases	PhD ( $\bar{x}$ )	Masters ( $\bar{x}$ )	PGD ( $\bar{x}$ )	OM	Rank	Decision
1	Science Direct	2.63	2.52	2.16	2.50	1 <sup>st</sup>	U
2	JSTOR	2.60	2.49	2.02	2.45	2 <sup>nd</sup>	NU
3	EBSCOHOST	2.58	2.46	1.86	2.40	3 <sup>rd</sup>	NU
4	Ebrary	2.50	2.16	1.79	2.17	4 <sup>th</sup>	NU
5	ARDI	2.18	2.01	1.74	2.00	5 <sup>th</sup>	NU
6	AGORA	2.16	2.00	1.76	2.00	5 <sup>th</sup>	NU
7	e-Granary	2.16	1.99	1.69	1.98	6 <sup>th</sup>	NU
8	AJOL	2.14	1.98	1.67	1.97	7 <sup>th</sup>	NU
9	HINARI	2.12	1.86	1.62	1.87	8 <sup>th</sup>	NU
10	ASCE	2.10	1.83	1.62	1.85	9 <sup>th</sup>	NU
11	Hathtrust Digital Library	2.09	1.71	1.60	1.76	10 <sup>th</sup>	NU
12	BMJ Publishing Group	2.05	1.68	1.46	1.71	11 <sup>th</sup>	NU

**Note:** U= Utilised, NU= Not Utilised, OM=Overall Mean

The result from Table 2 indicates that both PhD (2.63) and Masters (2.52) students utilise Science Direct, PGD students (2.16) do not utilise Science direct. JSTOR has a mean score that indicates that only PhD students (2.60) utilise it. Other categories of postgraduate students such as Masters (2.49) and PGD (2.02) do not utilise JSTOR. Only PhD students (2.58) utilise EBSCOHOST, Masters (2.46) and PGD (1.86) students do not utilise it. Also, only PhD students (2.50) utilise Ebrary, Masters (2.16) and PGD (1.79) students do not utilise it.

**Table 3 Challenges to Effective Utilisation of Online Subscription Databases by Postgraduate Students**

S/N	Challenges	Frequency	Percentage (%)
1	Lack of training and orientation on how to use databases	271	74.2
2	The library’s webpage does not have an online guide to use the databases	238	65.2
3	Lack of ICT and computer literacy skills	235	64.4
4	The links to some of the databases are not working	235	64.4
5	Inability to locate relevant information resources from the databases	234	64.1
6	I do not know the databases’ username and passwords	199	54.5
7	The library webpage does not have feedback systems (online and offline)	190	52.1
8	The information I get from the database is outdated	127	34.8
9	Internet connectivity issues	108	29.6
10	The database interface is not friendly and easy to use	099	27.1
11	Slow downloading speed	098	26.8
12	Lack of time to search the databases	043	11.8
13	Irregular power supply	014	3.8

The result from Table 3 revealed that the greatest challenge to the utilisation of online subscription databases by postgraduate students is a lack of training and orientation on how to utilise the databases (74.2%). Also, the majority of the postgraduate students indicated that the library’s webpage does not

have an online guide to use the databases (65.2%). Respondents further indicated that lack of ICT and computer literacy skills (64.4%) is a challenge hindering their effective utilisation of online subscription databases. Other issues that hinder postgraduate students from utilising the databases are the links to some of the databases not working (64.4%), inability to locate relevant information resources from the databases (64.1%), some of the respondents do not know the databases’ username and passwords (54.5%) and that the library webpage does not have feedback systems (52.1%). Results from Table 3 further revealed that only a few of the respondents have a challenge with the outdated information they get from the database (34.8%), Internet connectivity issues (29.6%), the database interface not being friendly and easy to use (27.1%) and slow downloading speed (26.8%).

**Hypothesis Test**

***Hypothesis One***

There is no significant difference in the level of awareness among PhD, Masters and PGD students in ABU Zaria on the online subscription databases. The first hypothesis seeks to determine whether there is any difference in the level of awareness of online subscription databases among postgraduate students.



**Table 4 Multivariate ANOVA Tests I**

Effect	Tests	Value	F	Hypothesis df	Error df	Sig. (p-value)
Postgraduate Students	Pillai's Trace	0.158	2.513	24.000	704.000	0.000
	Wilks' Lambda	0.847	2.537	24.000	702.000	0.000
	Hotelling's Trace	0.176	2.562	24.000	700.000	0.000
	Roy's Largest Root	0.136	3.998	12.000	352.000	0.000

From the analysis of data presented, the null hypothesis of no significant difference in the level of awareness among PhD, Masters and PGD students in ABU Zaria on the online subscription databases was rejected because the p-value is less than 0.05. All the four multivariate tests lead to the same conclusion that  $p < 0.05$ .

This implies that there is a significant difference in the level of awareness of online subscription databases among postgraduate students. A Post-Hoc test was carried out to determine where the differences exist among the postgraduate students.

**Table 5 Tamhane Post-Hoc Test I**

Postgraduate Students (I)	Postgraduate Students (J)	Mean Difference	Sig.	95% Confidence Interval	
		(I-J)		Lower Bound	Upper Bound
<b>PhD</b>	Masters	0.2829	0.000	0.1362	0.4296
	PGD	0.5352	0.000	0.3736	0.6969
<b>Masters</b>	PhD	-0.2829	0.000	-0.4296	-0.1362
	PGD	0.2523	0.000	0.1352	0.3694
<b>PGD</b>	PhD	-0.5352	0.000	-0.6969	-0.3736
	Masters	-0.2523	0.000	-0.3694	-0.1352

The Post-Hoc Test in Table 5 indicated that the level of awareness of online subscription databases is different among PhD, Masters and PGD students in ABU Zaria. From the findings, there was a significant difference between the mean score of PhD and Masters (0.2829); PhD and PGD (0.5352) students in their level of awareness of online subscription databases. Also, there was a significant difference between the mean score of Masters and PGD students (0.2523).

**Hypothesis Two**

There is no significant difference in the level of utilisation of online subscription databases among PhD, Masters and PGD students in ABU Zaria. This second hypothesis seeks to determine whether there is any difference in the level of utilisation of online subscription databases among postgraduate students.

**Table 6 Multivariate ANOVA Tests II**

Effect	Tests	Value	F	Hypothesis df	Error df	Sig. (p-value)
Postgraduate Students	Pillai's Trace	0.216	3.546	24.000	704.000	0.000
	Wilks' Lambda	0.793	3.607	24.000	702.000	0.000
	Hotelling's Trace	0.251	3.667	24.000	700.000	0.000
	Roy's Largest Root	0.200	5.858	12.000	352.000	0.000

From the analysis of data presented in Table 6, the null hypothesis of no significant difference in the level of utilisation of online subscription databases among PhD, Masters and PGD students in ABU Zaria was rejected because the p-value is less than the alpha value (0.05). All the four multivariate tests lead to the same conclusion that  $p < 0.05$ .

This implies that there is a significant difference in the level of utilisation of online subscription databases among postgraduate students. A Post-Hoc test was conducted to know where the differences exist.

**Table 7 Tamhane Post-Hoc Test II**

Postgraduate Students (I)	Postgraduate Students (J)	Mean Difference (I-J)	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
<b>PhD</b>	Masters	0.2176	0.001	0.0821	0.3531
	PGD	0.5264	0.000	0.3498	0.7031
<b>Masters</b>	PhD	-0.2176	0.001	-0.3531	-0.0821
	PGD	0.3089	0.000	0.1712	0.4465
<b>PGD</b>	PhD	-0.5264	0.000	-0.7031	-0.3498
	Masters	-0.3089	0.000	-0.4465	-0.1712

The Post-Hoc Test in Table 7 showed that the level of utilisation of online subscription databases is different among PhD, Masters and PGD students in ABU Zaria. There was a significant difference between the mean score of PhD and Masters (0.2176); PhD and PGD (0.5264) students. Also, there was a significant difference between the mean score of Masters and PGD (0.3089).

### Discussion of Findings

The first objective of the study was to ascertain the level of awareness of online subscription databases among postgraduate students. It was revealed that the students were majorly aware of ScienceDirect, JSTOR, and Ebscohost. The high mean weight recorded for ScienceDirect, JSTOR, and Ebscohost is a result of their popularity. These databases are not just subject restricted but offer quality scholarly resources in a lot of topics especially those disciplines or courses offered in Nigerian universities. So, postgraduate students in ABU Zaria are expected to have encountered these popular databases during their first or second degrees from their previous institutions. This finding supports previous studies (Aina, 2014; Chimah & Nwokocha, 2015; Kwadzo, 2015) that have recorded a high level of awareness on JSTOR, EbscoHost, databases by PhD and Master students. An earlier study by (Kwadzo, 2015) on postgraduate students of Information Studies from the University of Ghana revealed that PhD and Master students are aware of databases like Science Direct, JSTOR, and EBSCOHOST.

The second aim of the study was to establish the level of utilization of online subscription databases among Postgraduate students in Ahmadu Bello University, Zaria. It emerged from the study that PhD students utilized Science Direct, JSTOR, and EBSCOHOST, while Masters students only utilized Science Direct and PGD utilized none of the databases.

The level of awareness recorded by PhD students may have influenced their level of utilisation of the online subscription databases. When students are aware of some databases, they tend to utilise them. This finding correlates with Naqvi (2012) study on the use of electronic databases by postgraduate students and research scholars at GBPUAT Library, India where results indicated that the majority of the PhD students used e-databases. The high mean weight recorded for PhD students on the utilisation of databases such as Science Direct, JSTOR, EBSCOHOST, and, Ebrary supports the findings from Aregbesola and Oguntayo (2014) that discovered that PhD degree holders in Landmark University used EBSCOHOST, JSTOR, Science Direct and Ebrary more than Masters students. Chimah and Nwokocha (2015) further explained that the research and academic activities of PhD students which have exposed them to these databases are the reason for their utilisation of the databases.

The fact that only a few postgraduate students utilise databases such as ARDI, AGORA, e-Granary, AJOL, HINARI, ASCE, Hathitrust Digital Library, and BMJ Publishing Group, shows that subject-based databases are not adequately utilised by postgraduate students and this may be associated with their lack of awareness of the databases. This supports the study by Ojedokun and Okafor (2015) who revealed that the underutilisation of databases like HDL (Hathitrust digital Library) and BMJ Publisher Group is due to lack of awareness and low popularity of the databases among librarians. He, Wu, Yue, Fu, and Vo (2012) argued that students thought of online search engines such as Google as more important resources than university online subscription databases such as AGORA and AJOL. The reason for underutilisation was surveyed by Egberongbe (2011) at the University of Lagos, Nigeria who revealed that the electronic databases were not used very much because

the majority of the scholars did not get training in the use of the databases.

The last objective was to identify challenges to effective utilization of online subscription databases among postgraduate students in Ahmadu Bello University, Zaria. Amongst others, it was found that lack of training and orientation on how to utilise the databases, lack of online guide on database use on library's webpage, and lack of ICT and computer literacy skills were the greatest challenges hindering effective utilisation of online subscription databases. The implication of this is that postgraduate students in ABU Zaria will underutilise the databases that the library has painstakingly subscribed to. Also, postgraduate students will be limited in their ability to retrieve relevant information resources from the databases, thereby not effectively benefiting from the scholarly peer-reviewed articles and precise information resources that are relevant to their area of interest. This lack of skills and competency was also discovered by Naqvi (2012) study on the Use of Electronic Databases by Postgraduate Students and Research Scholars at GBPUAT Library, India. This finding conforms to the results of (Aregbesola & Oguntayo, 2014; Akpojotor, 2016) that showed that postgraduate students lack the skills and competency in searching databases.

The hypothesis which states that there is no significant difference in the level of awareness of online subscription databases among PhD, Masters and PGD students in Ahmadu Bello University, Zaria was rejected. This implies that there is a significant difference in the level of awareness of online subscription databases among postgraduate students. The Post-Hoc revealed that the difference between PhD students and other categories of students. The difference could be attributed to the level of exposure and experience of PhD students to online subscription databases, having

expected to have obtained at least two degrees. This consummates an earlier study by Kwadzo (2015) on the postgraduate student of Information Studies from the University of Ghana who revealed that there are differences in the level of awareness of online subscription databases among the categories of the postgraduate student.

The second hypothesis which There is no significant difference in the level of utilization of online subscription databases among PhD, Masters and PGD students in Ahmadu Bello University, Zaria was rejected. This implies that there is a significant difference in the level of utilisation of online subscription databases among postgraduate students. The Post-Hoc revealed that the difference between PhD students and other categories of students. This correlates with Aina (2014) who explained that the difference in the level of utilisation of databases is because research activities of PhD students have exposed them to databases. Aregbesola and Oguntayo (2014) discovered that PhD students at Landmark University used databases more than Masters Students.

### **Conclusion**

This study has exposed the situation of postgraduate students in Ahmadu Bello University, Zaria concerning their awareness and utilisation of online subscription databases. Despite the Library subscribing to 13 online databases, the level of awareness and utilization of the online subscription databases among the postgraduate students are not encouraging. ScienceDirect, JSTOR, and Ebscohost are the only databases the postgraduate students are aware of. Furthermore, Masters and PGD students do not utilize the online subscription databases like the PhD students. This should be a source of concern especially among the Masters students who only utilize ScienceDirect database. This study has clearly shown that the postgraduate students have not familiarize themselves with all the databases the library

subscribed to, only limiting themselves to a few. This may be associated with their lack of awareness of the databases as well as other challenges encountered by the postgraduate students in ABU Zaria such as: lack of training and orientation on how to use databases, lack of online guide on how to use the databases, lack of ICT and computer literacy skills, non-functioning links to some of the databases, and the inability to locate relevant information resources from the databases. To surmount these challenges, recommendations were provided.

### Recommendations

Based on the major findings and conclusion, the following recommendations were made:

1. Library orientation programmes should be made compulsory for all postgraduate students as part of course requirements to create awareness of databases. Lecturers should be encouraged to incorporate database search activity or assignment to each course the postgraduate students are expected to offer. The librarians in various postgraduate sections of the library should subsequently take out time to introduce the library databases and their benefits to the postgraduate students.
2. University libraries should provide a PDF or online video tutorial/guide on their webpage on how to search databases.
3. University libraries should ensure that the links to online subscription databases are functioning and also make provision for both online and offline feedback systems.

### References

- Abdulganiyu, O. H., Mshelia, P. Y., & Bello, R. A. (2019). Awareness, accessibility and use of library subscribed online electronic databases by students of university of Maiduguri. *MAJASS*, 11, 15 – 26.
- ABU Library Complex Bulletin, (2012). *Monthly Bulletin*, 1 1, Monday, 22<sup>nd</sup>October, 2012.
- Ahmed, S. M. Z., (2013a). A survey of students' use of and satisfaction with university subscribed online-resources in two specialized universities in a developing country. *Library Hi Tech News*, (30)3, 6-8.
- Ahmed, S. M. Z., (2013b), Use of electronic resources by the faculty members in diverse public Universities in Bangladesh. *The Electronic Library*, (31)3, 290-312.
- Aina, R. F., (2014) Awareness, accessibility and use of electronic databases among academic staff of Babcock University. *Business School and Management Review*, (3)6, 40-47.
- Akpojotor, J. O., (2016). Awareness and usage of electronic information resources among postgraduate students of library and information science in southern Nigeria. *Library Philosophy and Practice e-journal* Paper 1408. Retrieved on 2<sup>nd</sup>September, 2016 from <http://digitalcommons.unl.edu/libphilprac/1408>.
- Anaraki, L. N., & Babalhavaeji, F., (2013). Investigating the awareness and ability of medical students in using electronic resources of the integrated digital library portal of Iran: a comparative study. *The Electronic Library*, (31)1, 70 - 83.
- Aregbesola, A., & Oguntayo, S., (2014). Use of electronic resources by faculty members in Landmark University. *Computing, Information Systems, Development Informatics & Allied Research Journal*, (5)2, 53-58.
- Azubuikwe, F. C., Ekere, F. C., & Orsu, N. (2021). Awareness and utilization of electronic databases for scholarly research by faculty of education lecturers in federal universities in south east, Nigeria. *Library Philosophy and Practice (e-journal)*. 5797. <https://>

- /digitalcommons.unl.edu/libphilprac/5797
- Chimah, J. N., & Nwokocha, U., (2015). Categories, availability and awareness of electronic information resources by postgraduate library users in south east nigerian federal universities. *International Journal of Library Science*, (4)1, 7-12.
- Cothran, T., (2011). Google scholar acceptance and use among graduate students: a quantitative study. *Library & Information Science Research*, (33)4, 293-301.
- Dange, J. K., Girish, T., Savitha, M., Sushma, N. J. & Veenakumari, (2013). A study on awareness and usage of digital information sources and services by postgraduate students of Kuvempu University. *Indian Journal of Education Research Experimentation and Innovation*, (8)6.
- Egberongbe, H. S., (2011). The use and impact of electronic resources at the University of Lagos. *Library Philosophy and Practice*. Retrieved from: <http://www.webpages.uidaho.edu/~mbolin/egberongbe.htm>
- Erwat, E. A., & Fabunmi, M., (2006). A comprehensive Analysis of Information Acquisition: Information Management Capacity and Administrators decision making effectiveness in Tertiary Institution in South Western Nigeria. *African Journal of Library and Information Sciences*, (16)2, 89.
- Fowler, F. J. (2009). *Survey research methods (4th ed.)*. Thousand Oaks: SAGE.
- He, D., Wu, D., Yue, Z., Fu, A., & Vo, K. T., (2012). Undergraduate students' interaction with online information resources in their academic tasks: a comparative study. *Aslib Proceedings: New Information Perspectives*, (64)6, 615 - 640.
- John-Okeke, R.C., (2012). *Evaluation of the Resources and Services Available at the MTN Foundation Digital Libraries in Nigeria Universities*. Unpublished Thesis Submitted in Partial Fulfilment of the Requirements for the Award of Master's Degree MLS in Library and Information Science, Department of Library and Information Science, University of Nigeria, Nsukka.
- Kwadzo, G., (2015). Awareness and usage of electronic databases by geography and resource development information studies graduate students in the University of Ghana. *Library Philosophy and Practice e-journal*, Paper 1210. Retrieved from <http://digitalcommons.unl.edu/libphilprac/1210>.
- Naqvi, T. H., (2012). Use of electronic databases by postgraduate students and research scholars at GBPUAT library, India. *Library Philosophy and Practice e-journal*, Paper 809.
- Ngozi, C. J., Genevieve, O. & Ogaraku, D. N. (2018). Awareness and utilization of databases subscribed to by FUTO library among FUTO academic staff. *International Journal of Library and Information Science Studies*, 4(2), 21-31.
- Ojedokun, A. A., & Okafor, V. N., (2015). ICT skills acquisition and competencies of librarians: Implications for digital and electronic environment in Nigerian universities libraries. *The Electronic Library*, (33)3, 502-523.
- Toteng, B., Hoskins, R., & Bell, F., (2013). Use of electronic databases by law students at the University of Botswana Library. *African Journal of Library Archive & Information Science*, (23)1, 9-74.
- Ukpebor, C. O., (2012). Availability and use of electronic resources in African universities: The Nigerian perspective.

*PNLA Quarterly*, (76)3, 190-199.

Uzuegbu, C. P., Chukwu, O. C., & Ibegwam, A., (2012). Creating universal resource locator links on library computers desktop: A panacea for students' underutilisation of subscribed electronic databases in academic institutions in Nigeria. *Annals of Library and Information Studies*, vol. 59, 97-105.