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Perceptions and Use of Open Access Journals by Nigerian **Postgraduate Students**

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ABSTRACT

This article investigates perceptions and use of Open Access journals (OAJs) by master's degree students in two universities in the southwestern part of Nigeria. A descriptive survey design was used in the study and the study population was comprised of 7,423 master's degree students in the University of Ibadan and 1,867 from Obafemi Awolowo University. A multistage random sampling technique was used to select a sample size of 249 and the data collection instrument was a structured questionnaire. Data were analyzed using frequency counts, percentages, mean, standard deviation, correlation, and regression analyses. The findings revealed that OAJs were used for learning, dissertation writing, personal research, and development. OAJs were not frequently used because of download delays, unavailability of Internet facilities, and limited access to computers terminals, among other issues. OAJs were found to be of relative advantage, positively perceived, and found to be compatible with existing values and quality assurance in scholarly publications, hence their use for academic activities. The regression analyses showed that there was a significant positive relationship between positive perception, perception of relative advantage, perception of compatibility, perception complexity, and master's degree students' use of OAJs. Negative perception was found to have a significant negative correlation with the use of OAJs. This article recommends that quality assurance of OAJs should be ensured in order to boost users' positive perceptions to increase their patronage and usage of these scholarly outlets for various academic activities, which will in turn encourage research and development across the various institutions of higher learning in Nigeria.

Keywords: Perception, Use of Open Access Journals, Postgraduate students, Nigeria

Open Access

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1. INTRODUCTION

The demands of higher education and the need to create knowledge, innovations, and research have brought the need for scholarly and scientific research to the fore. This development has led to the relevance of journals which are important in engendering research and development, especially in the academic milieu. Akpochafo (2009) submits that universities are charged with the creation of knowledge and it is one of their primary mandates. In creating knowledge, a great deal of research has to be undertaken both in universities and in research centers. Universities are viewed as contributors to innovation. The primary aim of university education, however, is to engender teaching, learning, and research (Anunobi, Okoye, & James-Chima, 2012).

The use of Open Access Journals (OAJs) could be affected by the perception of users as regards their usefulness and relevance to meeting information needs. Perception has been reported by researchers as a critical factor in determining the intention to use and reuse a system. According to Olajide-Williams and Popoola (2013), citing Nelson (2006), perception is the subjective process of acquiring, interpreting, and organizing sensory information. It refers to how the brain organizes and interprets sensory information. Olajide-Williams and Popoola report that recently perception was considered by the school of psychology called behaviorism to be a largely passive and inevitable response to stimuli. Similarly, Ekvall, Isaksen, Lauer, and Britz (2000) posit that perception could be influenced by the intensity and physical dimensions of the stimulus, our own past experiences, how ready we are to respond, and our motivation and emotional state. They further assert that perception has to do with understanding issues. Perception is the cognitive impression that is formed of "reality" which in turn influences the individual's actions and behavior towards that object.

Unfortunately, Open Access publications are perceived to have low quality in comparison with traditional publications. Just recently, Gross and Ryan (2015) carried out a survey titled "Landscapes of research: perceptions of Open Access (OA) publishing in the Arts and Humanities" at Edith Cowan University. Checking the perception of quality in Open Access, some considered OA journals of lower quality than

subscription publications, of equal quality, higher quality, and some were unsure. Geib (2013) also submits that some researchers argue that Open Access journals lack quality control. This has hampered effective use of OAJs by them. The implication is that master's degree students with negative perception of OAJs might not use them for academic purposes. Those who perceived OAJs to be useful and to be of relative advantage might use them more for academic purposes.

This study was carried out in two federal universities in southwest Nigeria. The universities are the University of Ibadan, Ibadan Oyo State, and Obafemi Awolowo University, Ile-Ife, Osun State Nigeria. The University of Ibadan is the first university in Nigeria, established in 1948 with a view to promote education, learning, and research. Obafemi Awolowo University, Ife is also one of the most prestigious federal universities in Southwest Nigeria. It was established in 1961 and started its postgraduate studies in 1964. These two universities were selected based on their experience in research for over fifty years and it is expected that Open Access journals would have been maximally utilized by their master's degree students. However, despite the huge benefits presented by Open Access journals, especially in the aspect of ensuring equitable access to scholarly publications without the barrier of a subscription or access fees, it has been observed that there is a gross reduction in the usage of OAJs by master's degree students in Nigeria as compared to their contemporaries. This may owe to their varying perceptions about the quality and usefulness of these OAJs. It is to this end that this article sets out to investigate the perceptions and use of Open Access Journals by postgraduate students in two universities in Southwest Nigeria. In carrying out this research, this study employed six research questions and six hypotheses to ascertain the various perceptions and how these perceptions affect usage of OAJs by master's degree students.

2. OBJECTIVES

The broad objective of this research is to investigate the perceptions and use of OAJs by master's degree students of two universities in Nigeria. The specific objectives are to find out the master's degree students' usage patterns of Open Access Journals; determine the barriers that hinder the use of OAJs; investigate users' perceptions of OAJs, whether positive or negative; find out the users' perception of the relative advantage of OAJs; examine the perception of the complexities of using OAJs; and to investigate the perception of compatibility of OAJs with existing scientific and scholarly standards.

3. RESEARCH QUESTIONS

The study seeks to provide answers to the following questions:

- i. What is the frequency of use of Open Access Journals by master's degree students of universities in Southwest Nigeria?
- ii. What are the barriers that hinder the use of OAJs by master's degree students in Nigeria?
- iii. Do users have positive or negative perceptions towards OAJs in Nigeria?
- iv. What are users' perceptions of the relative advantage of OAJs?
- v. What are users' perceptions of the complexity of OAJs?
- vi. What are users' perceptions of the compatibility of OAJs?

4. RESEARCH HYPOTHESES

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

- **H0**₁: There is no significant relationship between positive perception and use of OAJS by master's degree students in Nigeria.
- **H0**₂: There is no significant relationship between negative perception and use of OAJs
- **H0**₃: There is no significant relationship between perception of relative advantage and use of OAJs
- **H04:** There is no significant relationship between perception of complexities and use of OAJs
- **H0₅:** There is no significant relationship between perception of compatibility and use of OAJs
- **H0**₆: There is no composite relationship between positive perception, negative perception, perception of relative advantage, perception of

complexities, perception of compatibility, and use of Open Access Journals by master's degree students in Nigeria.

5. LITERATURE REVIEW

The literature review will be comprised of relevant and existing research findings that have been carried out by different authors, delimiting it to variables identified in the study. The submissions and findings from the review will be used when discussing the findings of this study, looking at areas of similarities and discrepancies.

5.1 Use Of Open Access Journals

Use of Open Access journals has become important for scientific research and development. Postgraduate students have been observed to use Open Access journals for academic purposes. This has helped them in acquiring up-to-date scientific and scholarly information that is relevant to their various endeavors in the academic institutions. Mohammed and Garba (2013) carried out a study on awareness and use of Open Access scholarly publications by postgraduate students of the Faculty of Science in Ahmadu Bello University Zaria (ABU), Kaduna State, Nigeria. They found that 91 (95.8%) of the respondent use OA to support their thesis and dissertation projects, 60 (63.2%) use it to read for exams, 58 (61.1%) use it to write assignments, and 21 (22.1%) indicated that they use OA to publish their journal articles.

Another study by Ivwighreghweta and Onoriode (2012) on awareness and use of Open Access journals by LIS students at the University of Ibadan, Nigeria, revealed that 83 (59%) opined to have downloaded articles from Open Access journals, 76 (54%) revealed having published their research works in Open Access journals, 72 (51%) opined that they print out Open Access journal articles for reading, and 68 (49%) indicated that they reference Open Access journals. Other uses of Open Access journals by LIS postgraduate students include citing Open Access journals (49%), copying Open Access journals articles to flash drives (47%), and reading articles in Open Access journals 77 (55%). Eqbal and Khan (2007) carried out a study on the use of electronic journals by the research scholars of the Faculty of Science and Faculty of Engineering,

Aligarh. They found that the majority 67.64% of research scholars in the Faculty of Science and 69.23% of the Faculty of Engineering use Open Access journals for research work; whereas 35.29% in the Faculty of Science use Open Access journals to update their knowledge and 23.70% in the Faculty of Engineering use them for study.

As the use of Open Access journals has increased, some constraints were identified to have impeded their further use in the literature. The most prevalent constraints include: inadequate online scholarly communication skills, lack of awareness of Open Access, and poor Internet connectivity (Ivwighreghweta and Onoriode, 2012). This is similar to the findings of Dulle (2011) when he posits that one of the barriers hindering the use of Open Access journals is lack of Open Access awareness, and that lack of formal training programs targeted at postgraduate students in the respective universities is likely to contribute to the less effective usage of Open Access journals. As a result of insufficient skills, they most often find themselves spending much of their productive time in trying to get relevant information from the Internet than might have been the case if equipped with the necessary knowledge (Eger, 2008; Chilimo, 2008).

Dulle (2010) and Christian (2008) identified slow Internet connectivity as a major constraint indicated by respondents as contributing to their ineffective usage of this media in scholarly communication. Muthayan (2003) points out that only a few institutions with reliable and fast Internet connections would benefit from Open Access initiatives in South Africa. Similarly, Hirwade and Rajyalakshmi (2005) considered lack of infrastructural facilities and connectivity of high bandwidth as among the inhibitors of Open Access uptake in India.

This could also be a problem for Nigerian postgraduate students because presently there is no free access to the Internet in most public universities, as opposed to private universities where the children of the rich are schooling. Okoye and Ejikeme (2010) averred that unstable power supply and unavailability of Internet facilities were constraints to the use of Open Access by postgraduate students and researchers. Muhammed and Garba (2013) reported in their study that 71 (74.7%) of respondents indicated that they encountered problems of retrieval of too much irrelevant

information, 51 (53.7%) indicated lack of adequate knowledge of OA sources, 37 (38.9%) reported poor Internet surfing skills, 25 (26.3%) stated unavailability of Internet facilities and download delays, respectively, 19 (20.0%) said incessant power outage, and 18 (18.9%) said limited access to computer terminals. Presently in Nigeria having access to the Internet requires a subscription to data plans provided by network providers, which has to be paid for, and if there is a paucity of funds required to subscribe postgraduate students are not able to use Open Access journals online.

5.2 Perception Of Open Access Journals

Rogers (2003) in his work on diffusion of innovation submits that positive perception about an innovation is one of the key determinants of its eventual adoption and use. This implies that the way open journals are perceived by researchers will to a large extent determine how they use them. Taylor & Francis (2014), cited in Gross and Ryan (2014), surveyed authors who published in T&F journals during the year 2012. Within the Attitudes and Values section of the survey, 49% of authors strongly agreed that Open Access makes possible broader circulation of research than subscription models. Moreover, 35% strongly agreed that Open Access results in greater visibility, but only 15% strongly agreed that OA stimulates innovation. Contrary to these positive perceptions, 27% agreed that OA journals are of lower quality than their pay-to-read counterparts, 24% agreed that OA journals have lower production standards, and 25% were not aware of the general benefits of OA.

Dulle (2010) investigated perceptions of Open Access scholarly communication in Tanzania. 48 (73.8%) said that such publications represented adequate standards of high quality and had scientific merit, 34 (50.7%) said Open Access documents were original and of high quality, and 12 (18.2%) considered Open Access publications as mediocre or of little scientific merit. Geib (2013) also submits that some researchers argued that Open Access journals lack quality control. They opined that Open Access models incentivize journals to publish more articles. Journals have to cover their costs and when a large portion of their revenue comes from publication fees, they may be encouraged to publish more articles, with a negative impact on overall quality. In other studies, publications' quality

has been cited as among the important aspects considered by researchers and postgraduate students in making decisions about using Open Access scholarly content (Pickton, 2005; Warlick & Voughan, 2006; Utulu & Bolarinwa, 2009).

Dulle, Minishi-Majanja, and Cloete (2009), revealing the negative perceptions of researchers about Open Access, note that the respondents perceived there is a likelihood that Open Access publications will be misused or plagiarized (51%), others said OA publications were of low quality compared to traditional publications (55.2%), and they worry about the long-term availability of Open Access publications (35.4%). Fang and Zhu (2006)'s findings also revealed that some authors claim not to publish in Open Access outlets due to the fear of lack of integrity for their publications due to the perceived low quality of such documents. Swan and Brown (2005) also reported that some scholars did not use Open Access materials because of considering them as lacking quality control. Other studies have also reported strong support of Open Access as an alternative to the business model of scholarly publishing because of the potential of OA to facilitate wider dissemination of scholarly content (Swan & Brown, 2005; Schroter & Tite, 2006; Warlick & Voughan, 2006).

6. THEORETICAL FRAMEWORK

This study will be guided by Innovation Diffusion Theory developed by Rogers (2003). Perception of the usefulness and compatibility of Open Access journals could significantly influence intention to use. Innovation Diffusion Theory is considered appropriate for investigating users' perceptions. IDT has been employed in studying individuals' technology adoption. The main goal of IDT is to understand the adoption of innovation in terms of four elements of diffusion, including innovation, time, communication channels, and social systems. IDT also states that an individual's technology adoption behavior is determined by his or her perceptions regarding the relative advantage, compatibility, complexity, trialability, and observability of the innovation (Rogers, 2003).

According to Rogers (2003), compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs

of potential adopters. Complexity is the degree to which an innovation is perceived as relatively difficult to understand and use. As Rogers stated, opposite to the other attributes, complexity negatively correlates with the rate of adoption. Thus, excessive complexity of an innovation is an important obstacle in its adoption. Since Open Access journals are a product of ICT which can only be accessed on the Internet, the use of IDT becomes handy.

A lack of compatibility in IT with individual needs may negatively affect the individual's IT use (McKenzie, 2001). Compatibility was found to influence Perceived Usefulness (Bhattacherjee & Hikmet, 2007), Perceived Ease of Use (PEOU) (Hernandez, Jimenez, & Martin, 2010), attitude (Agarwal & Prasad, 2000; Lee, Kozar, & Larsen, 2003), and intention (Saeed & Muthitacharoen, 2008; Wu and Wang, 2005). Relative advantage was found to have a positive relationship with an attitude (Agarwal and Prasad, 2000), and relative usage intention (Lin, Chan, & Wei, 2006). Complexity was found to have a negative relationship with the technology adoption intention (Son & Benbasat, 2007).

7. CONCEPTUAL MODEL FOR THE STUDY

Figure 1 proposes a relationship between the five independent variables and the dependent variable, which is the use of Open Access Journals. It proposes that when users have positive perceptions about Open Access journals, it will affect use positively. Negative perception on the other hand also has a relationship on use in that it dissuades intention to use it because of the negative impression users have about OAJs. Some perceive that OAJs are of lower quality when compared with traditional journals. Hence, these negative perceptions will not encourage use. The relationship therefore is negative, which means that if negative perception reduces, use will increase and vice-versa. Further, perception of relative advantage has a relationship with users' use of OAJs. Users will utilize any technology if they perceive that it will be advantageous for academic activities, and if it will enhance productivity in academic pursuits. The model also proposes that if OAJs' interfaces and platforms are perceived as too complex, use may be discouraged; and if perceived as not to be complex, use will be encouraged. Lastly, the perception that OAJs are compatible with existing values and scholarly ethics will also determine users' usage of such. If users perceive that OAJs are less qualitative and undergo no serious review process before publishing, they may not use them for academic tasks in their institutions.

8. RESEARCH METHODOLOGY

The descriptive survey design was adopted for the study. The population of the study consists of the master's degree students of the University of Ibadan and Obafemi Awolowo University. The records office of the Postgraduate School, University of Ibadan revealed that there are thirteen faculties, three institutes and six centers offering postgraduate programs within the university with a population of 7,423 master's students for the 2014/2015 academic session. In OAU, there are twelve faculties offering postgraduate studies with a population of 1,867 master's degree students. This

gives a total population of 9,290, which is the population of the study.

The multi-stage sampling technique was used for the study. Data were collected from master's degree students at first and second year levels (Masters 1 and 2) in the selected universities. In the first stage, three faculties were purposively selected. These three faculties are Arts, Social Sciences, and Sciences. The second stage involved the purposive selection of two similar departments, each from the selected faculties of the universities. The selected departments are Religious Studies and History from the Faculty of Arts; Economics and Psychology from the Faculty of Social Sciences; and Geology and Physics from the Faculty of Sciences. At the last stage, a 30% sampling fraction was used to select the sample size for each of the selected departments. According to Aina (2004), the principle of sample size is that if the population is less than 1000, then a 30% sampling ratio will be adequate. Thus, the sample size is 249. The data collection instrument was a structured questionnaire. Some core Open Access journals

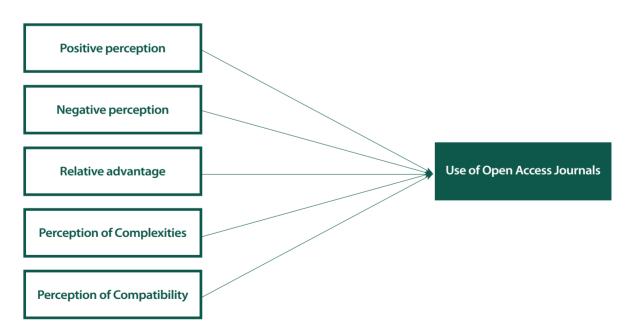


Fig. 1 The research model

were selected from DOAJ and used for the study. Data were analyzed using frequency counts and percentages for the research questions, while correlation and regression analyses were used for testing the hypotheses. The Statistical Package for the Social Sciences (SPSS) was used for coding and analyzing the data.

9. FINDINGS AND DISCUSSION

A total of 185 copies of the questionnaire were administered to master's degree students at the University of Ibadan (UI), Nigeria and 64 to those in Obafemi Awolowo University (OAU), Ile-Ife, Nigeria. 176 and 62 copies, respectively, were returned and found usable for analysis, giving a total of 238 (95.1% response rate) (See Table 1).

9.1 Demographic Information Of Respondents

Descriptive statistics such as frequency counts and percentages were used to analyze the demographic characteristics of the respondents. Table 2 reveals the distribution by universities. The University of Ibadan has the largest number of respondents with 176 (73.9%) while Obafemi Awolowo University has the least respondents with 62 (26.1%). The table also revealed the distribution by faculties in the two universities. The

Faculty of Science at the University of Ibadan has the largest number of respondents with 67 (36.2%) while in OAU, Arts had the least number of respondents with 8 (12.5%). As regards the year of study of the master's degree students, first year postgraduate students in UI had the largest number of respondents with 93 (52.8%) while the least responding were also the first year postgraduate students in OAU by 24 (37.8%). The table further reveals that the majority of the respondents were in the 26-30 years category with 110 (46.2%), giving 76 (43.2%) in UI and 34 (54.8%) in OAU. This means that the respondents were in their active years. The findings revealed that there were more male than female respondents in the studied universities. Table 2 revealed that there were 116 (65.9%) male respondents in the UI while in OAU there were 47 (75.8%).

9.2 Purpose Of Using Open Access Journals By Master's Degree Students

It was reported on the results that the academic purposes for which master's degree students in both universities used OAJs were: personal research (X=3.54), learning (X=3.50), project/thesis writing (X=3.50), seminar preparation (X=3.36), assignments (X=3.25), professional growth (X=3.16), and workshops/symposiums (X=3.09). The academic purposes for which master's degree students in both universities used OAJs were for personal research, learning, project/theses

Table 1. Population and Sample Size of the Study

| Faculties | Domoutusonto | Universit | y of Ibadan | Obafemi Awolowo Univ. | | | | |
|-----------------|-------------------|------------|-------------|-----------------------|--------|--|--|--|
| racuities | Departments | Population | Sample | Population | Sample | | | |
| Art | Religious Studies | 100 | 30 | 16 | 5 | | | |
| Art | History | 91 | 27 | 8 | 3 | | | |
| Social Sciences | Economics | 122 | 37 | 72 | 22 | | | |
| Social Sciences | Psychology | 79 | 24 | 50 | 15 | | | |
| Colonia | Geology | 82 | 25 | 25 | 8 | | | |
| Sciences | Physics | 140 | 42 | 37 | 11 | | | |
| Total | | | 185 | | 64 | | | |

n = 249

writing, seminar preparation, assignments, professional growth, and workshops/symposiums (See Table 3).

9.3 Frequency Of Using Open Access Journals By Master's Degree Students

The scales used for frequency of use of OAJs for academic purposes by master's degree students in both universities were: daily, weekly, monthly, quarterly, yearly, occasionally, and never. But for the purpose of presenting the results, daily, weekly, and monthly were regarded as regular, while occasionally and never were regarded as not used. In both universities, *Sociology Journal of Pan African Studies* 63 (26.5%),

Real-World Economics Review 61 (25.6%), American Journal of Economics 59 (24.8%), Theoretical Economics 58 (24.3%), and Journal of World-Systems Research 58 (24.4%) were used regularly for academic activities by the respondents. Meanwhile, based on the mean scores, none of the items scored the minimum criterion mean score of 3.00 and above which indicates that the OAJs were underutilized by the master's degree students in both universities studied. From the findings, it could be ascertained that OAJs were underutilized by the respondents in both universities for their academic activities (See Table 4).

Table 2. Demographic Characteristics of Respondents

| Variables | University | of Ibadan | O | AU | To | tal |
|----------------------------|------------|-----------|----|------|-----|------|
| variables | N | % | N | % | N | % |
| University | 176 | 73.9 | 62 | 26.1 | 238 | 100 |
| University of Ibadan | | | | | | |
| Obafemi Awolowo University | | | | | | |
| Faculty | | | | | | |
| Arts | 57 | 38.8 | 8 | 12.5 | 63 | 26.1 |
| Social Sciences | 61 | 33.0 | 37 | 57.8 | 99 | 39.4 |
| Sciences | 67 | 36.2 | 19 | 29.7 | 76 | 34.5 |
| Department | | | | | | |
| History | 30 | 14.2 | 3 | 4.8 | 33 | 13.9 |
| Religious Studies | 25 | 17.0 | 5 | 8.1 | 30 | 12.6 |
| Economics | 37 | 21.0 | 22 | 35.5 | 59 | 24.8 |
| Psychology | 24 | 13.6 | 15 | 24.2 | 39 | 16.4 |
| Geology | 23 | 13.1 | 8 | 12.9 | 31 | 13.0 |
| Physics | 37 | 21.0 | 9 | 14.5 | 46 | 19.3 |
| Year of study | | | | | | |
| First year | 93 | 52.8 | 24 | 37.8 | 117 | 49.2 |
| Second year | 83 | 47.2 | 38 | 61.3 | 121 | 50.8 |
| Age Group | | | | | | |
| < 25 | 46 | 26.1 | 10 | 16.1 | 51 | 21.4 |
| 26-30 | 76 | 43.2 | 34 | 54.8 | 110 | 46.2 |
| 30-35 | 35 | 19.9 | 13 | 21.0 | 48 | 20.2 |
| 36-49 | 17 | 9.7 | 4 | 6.5 | 21 | 8.8 |
| > 50 | 2 | 1.1 | 1 | 1.6 | 3 | 1.3 |
| Gender | | | | | | |
| Male | 116 | 65.9 | 47 | 75.8 | 163 | 68.5 |
| Female | 60 | 34.1 | 15 | 24.2 | 75 | 31.5 |

n=238

9.4 Barriers Hindering The Use Of OAJs By Master's Degree Students

From the findings, it was reported that the major barriers which hindered master's students in both universities in effectively using OAJs were: download delays (X=2.92), unavailability of Internet facilities (X=2.88), too many login instructions required (X=2.75), limited access to computer terminals (X=2.72), and poor website design (X=2.68). It could be inferred that the barriers hindering the use of OAJs by master's degree students in both universities were download delay, unavailability of Internet facilities, too many login instructions required, limited access to computer terminals, and poor website design (See Table 5).

9.5 Positive Perception Of OAJs By Master's Degree Students In Nigeria

Findings from Table 6 revealed that in both universities, a majority of the respondents perceived that

Open Access enables them to access research output (X=3.39), Open Access journals increase research activities' impact by such works being highly used and cited (X=3.37), Open Access publications avail them the privilege of freely accessing scholarly literature for their seminar preparation because it is free (X=3.35), Open Access journals reduce the cost incurred in gathering materials for their thesis/dissertation projects (X=3.33), Open Access journals avail them the opportunity of using current scholarly research in their term paper and thesis projects (X=3.32), and publishing in Open Access outlets exposes their scholarly work and research to a large potential readership (X=3.30). From these findings, it could be further affirmed that in both universities the respondents have a very high positive perception of OAJs.

9.6 Negative Perception Of OAJs By Master's Degree Students In Nigeria

The findings from Table 7 revealed that in both uni-

| Table 3. Purpose of | of using Open Access | Journals by Master | 's Degree Students |
|---------------------|----------------------|--------------------|--------------------|
|---------------------|----------------------|--------------------|--------------------|

| | | S | SA | | A | | D | SD | | | 0. 5 |
|----|-----------------------------|-----|------|-----|------|----|------|----|------|------|----------|
| | Scale | F | % | F | % | F | % | F | % | Mean | St. Dev. |
| 1 | Learning | 140 | 58.8 | 83 | 34.9 | 10 | 4.2 | 5 | 2.1 | 3.5 | 0.680 |
| 2 | Personal research | 142 | 59.7 | 83 | 34.9 | 12 | 5.0 | 1 | 0.4 | 3.54 | 0.613 |
| 3 | Assignment | 92 | 38.7 | 119 | 50.0 | 21 | 8.8 | 6 | 62.5 | 3.25 | 0.719 |
| 4 | Exam Preparation | 60 | 25.2 | 108 | 45.4 | 56 | 23.5 | 14 | 5.9 | 2.9 | 0.846 |
| 5 | Course Materials Generation | 67 | 28.2 | 116 | 46.7 | 40 | 16.8 | 15 | 6.3 | 2.99 | 0.839 |
| 6 | Group discussion | 63 | 26.5 | 108 | 45.4 | 48 | 20.2 | 19 | 8.0 | 2.9 | 0.883 |
| 7 | Seminar Preparation | 108 | 45.4 | 112 | 47.1 | 14 | 5.9 | 4 | 1.7 | 3.36 | 0.672 |
| 8 | Workshop / symposium | 71 | 29.8 | 124 | 52.1 | 37 | 15.5 | 6 | 2.5 | 3.09 | 0.741 |
| 9 | Class Notes | 61 | 25.6 | 99 | 41.6 | 58 | 24.4 | 20 | 8.4 | 2.84 | 0.903 |
| 10 | Project / Thesis Writing | 146 | 61.3 | 73 | 30.7 | 12 | 5.0 | 7 | 2.9 | 3.5 | 0.728 |
| 11 | Professional Growth | 93 | 39.1 | 107 | 45.0 | 22 | 9.2 | 16 | 6.7 | 3.16 | 0.853 |
| 12 | Continuous Assessment | 40 | 16.8 | 117 | 49.2 | 50 | 21.0 | 31 | 13.0 | 2.7 | 0.901 |

Table 4. Frequency of using Open Access Journals by Master's Degree Students

| Response | D | aily | We | ekly | Moı | nthly | Occa | sionally | Ne | ver | W | St. Dev. | |
|---|----|------|----|------|-----|-------|------|----------|-----|------|------|----------|--|
| Frequency | F | % | F | % | F | % | F | % | F | % | Mean | St. Dev. | |
| The Asia-Pacific Journal | 4 | 1.7 | 18 | 7.6 | 11 | 4.6 | 61 | 25.6 | 144 | 60.5 | 1.64 | 0.991 | |
| First Monday | 3 | 1.3 | 12 | 5.0 | 10 | 4.2 | 51 | 21.4 | 162 | 68.1 | 1.5 | 0.889 | |
| Digital Humanities Quarterly | 7 | 2.9 | 13 | 5.5 | 17 | 7.1 | 53 | 22.3 | 147 | 61.8 | 1.65 | 1.029 | |
| Culture Machine | 5 | 2.1 | 13 | 5.5 | 15 | 6.3 | 53 | 22.3 | 150 | 63.0 | 1.6 | 0.978 | |
| Philosophers' Imprint | 7 | 2.9 | 16 | 6.7 | 15 | 6.3 | 52 | 21.8 | 146 | 61.3 | 1.67 | 1.056 | |
| Journal of Ethics & Social Philosophy | 6 | 2.5 | 18 | 7.6 | 24 | 10.1 | 70 | 29.4 | 119 | 50.0 | 1.83 | 1.053 | |
| Contact Quarterly | 5 | 2.1 | 16 | 6.7 | 19 | 8.0 | 58 | 24.4 | 140 | 58.8 | 1.69 | 1.017 | |
| Journal of World-Systems Research | 9 | 3.8 | 23 | 9.7 | 26 | 10.9 | 65 | 27.3 | 113 | 47.5 | 1.94 | 1.151 | |
| Frontiers in Psychology | 5 | 2.1 | 20 | 8.4 | 34 | 14.3 | 63 | 26.5 | 115 | 48.3 | 1.89 | 1.072 | |
| Journal of Pan African Studies | 4 | 1.7 | 25 | 10.5 | 34 | 14.3 | 67 | 28.2 | 107 | 45.0 | 1.95 | 1.082 | |
| Real-World Economics Review | 11 | 4.6 | 27 | 11.3 | 23 | 9.7 | 60 | 25.2 | 116 | 48.7 | 1.97 | 1.211 | |
| The American Journal of Economics and Sociology | 12 | 5.0 | 23 | 9.7 | 24 | 10.1 | 63 | 26.5 | 115 | 48.3 | 1.96 | 1.198 | |
| Theoretical Economics | 15 | 6.3 | 26 | 10.9 | 17 | 7.1 | 58 | 24.4 | 121 | 50.8 | 1.97 | 1.264 | |
| Journal of International Economics | 12 | 5.0 | 22 | 9.2 | 18 | 7.6 | 56 | 23.5 | 129 | 54.2 | 1.87 | 1.198 | |
| New Journal of Physics | 7 | 2.9 | 19 | 8.0 | 24 | 10.1 | 33 | 13.9 | 154 | 64.7 | 1.7 | 1.119 | |
| Physical Review X | 5 | 2.1 | 20 | 8.4 | 17 | 7.1 | 40 | 16.8 | 155 | 65.1 | 1.65 | 1.066 | |
| Molecules | 5 | 2.1 | 17 | 7.1 | 13 | 5.5 | 45 | 18.9 | 156 | 65.5 | 1.6 | 1.02 | |
| Advances in Geosciences | 11 | 4.6 | 26 | 10.9 | 24 | 10.1 | 38 | 16.0 | 137 | 57.6 | 1.88 | 1.239 | |
| Astrophysics and Space Sciences Transactions (ASTRA) | 4 | 1.7 | 21 | 8.8 | 17 | 7.1 | 41 | 17.2 | 153 | 64.3 | 1.65 | 1.055 | |
| Journal of Thermodynamics | 5 | 2.1 | 17 | 7.1 | 12 | 5.0 | 46 | 19.3 | 156 | 65.5 | 1.6 | 1.016 | |

versities, a majority of the respondents posited that Open Access publications are not relevant to their academic purposes (X=3.13), Open Access publications are generally quite mediocre or of little scientific merit to be used for their theses/dissertation projects (X=3.12), and that Open Access journals have made research too cheap and hence should not be used for theses and term papers (X=3.10), while some averred that Open Access journals should not be trusted in

writing theses and projects (X=3.07). Findings further affirmed that in spite of the very high positive perception of OAJs by master's degree students, a majority of the respondents indicated high negative perceptions of OAJs in both universities.

9.7 Perception Of Relative Advantage Of Open Access Journals

Findings from Table 8 revealed that in both uni-

Table 5. Barriers Hindering Use of OAJs by Master's Degree Students

| | Scale | S | SA | | A | | D | S | SD | Mean | St. |
|----|--|----|------|----|------|----|------|----|------|------|-------|
| | Scare | F | % | F | % | F | % | F | % | Mean | Dev. |
| 1 | Poor website design | 59 | 24.8 | 75 | 31.5 | 72 | 30.3 | 32 | 13.4 | 2.68 | 0.994 |
| 2 | Too many login instructions required | 53 | 22.3 | 96 | 40.3 | 63 | 26.5 | 24 | 10.1 | 2.75 | 0.917 |
| 3 | Access instructions not always clear | 43 | 18.1 | 94 | 39.5 | 76 | 31.9 | 25 | 10.5 | 2.65 | 0.895 |
| 4 | Lack of print provision | 34 | 14.3 | 84 | 35.3 | 84 | 35.3 | 36 | 15.1 | 2.49 | 0.917 |
| 5 | Lack of training to use Open Access journal for research | 54 | 22.7 | 73 | 30.7 | 75 | 31.5 | 36 | 15.1 | 2.61 | 0.999 |
| 6 | Unavailability of Internet facilities | 75 | 31.5 | 85 | 35.7 | 53 | 22.3 | 25 | 10.5 | 2.88 | 0.974 |
| 7 | Download delays | 79 | 33.2 | 79 | 33.2 | 61 | 25.6 | 19 | 8.0 | 2.92 | 0.951 |
| 8 | Limited access to computers terminals | 54 | 22.7 | 88 | 37.0 | 71 | 29.8 | 25 | 10.5 | 2.72 | 0.933 |
| 9 | Lack of knowledge of the existence of OAJ | 51 | 21.4 | 81 | 34.0 | 73 | 30.7 | 33 | 13.9 | 2.63 | 0.971 |
| 10 | Lack of Internet search skills | 23 | 9.7 | 72 | 30.3 | 87 | 36.6 | 56 | 23.5 | 2.26 | 0.927 |

Table 6. Positive Perception of OAJs by Master's Degree Students in Nigeria

| | Scale | S | A | | A | | D | SD | | Mean | St. |
|---|--|-----|------|-----|------|----|-----|----|-----|------|-------|
| | Scare | F | % | F | % | F | % | F | % | Mean | Dev. |
| 1 | Open Access publications are original and useful for writing assignments. | 101 | 42.4 | 112 | 47.1 | 17 | 7.1 | 8 | 3.4 | 3.29 | 0.742 |
| 2 | The publications represent adequate standards of quality and can be used for thesis and project writing. | 91 | 38.2 | 121 | 50.8 | 19 | 8.0 | 6 | 2.5 | 3.25 | 0.710 |
| 3 | Open Access journals avail me the opportunity of using current scholarly research in my term paper and thesis. | 103 | 43.3 | 111 | 46.6 | 20 | 8.4 | 4 | 1.7 | 3.32 | 0.698 |
| 4 | Open Access journals increase research activities impact by such works being highly used and cited. | 105 | 44.1 | 119 | 50.0 | 10 | 4.2 | 4 | 1.7 | 3.37 | 0.647 |
| 5 | Open Access publications avail me the privilege of freely accessing scholarly literature for my seminar preparation because it is free | 100 | 42.0 | 125 | 52.5 | 6 | 2.5 | 6 | 2.5 | 3.35 | 0.656 |
| 6 | Open Access enables me to access research output from | 117 | 49.2 | 104 | 43.7 | 10 | 4.2 | 7 | 2.9 | 3.39 | 0.708 |
| 7 | Publishing in Open Access outlets exposes my scholarly work and research to a large potential readership. | 98 | 41.2 | 115 | 48.3 | 20 | 8.4 | 4 | 1.7 | 3.30 | 0.693 |
| 8 | Open Access journals reduces the cost incurred in gathering materials for my thesis/dissertation | 111 | 46.6 | 103 | 43.3 | 15 | 6.3 | 9 | 3.8 | 3.33 | 0.759 |

Table 7. Negative Perception of OAJs by Master's Degree Students in Nigeria

| | 0.1 | S | SA | | A | | D | SD | | 3.6 | St. |
|---|---|----|------|-----|------|-----|------|----|------|------|-------|
| | Scale | F | % | F | % | F | % | F | % | Mean | Dev. |
| 1 | Long-term availability of Open Access publications is not guaranteed, hence they should not be used for personal research and development | 9 | 3.8 | 46 | 19.3 | 135 | 56.7 | 48 | 20.2 | 2.93 | 0.738 |
| 2 | Open Access publications are not relevant for my academic purposes | 15 | 6.3 | 24 | 10.1 | 114 | 47.9 | 85 | 35.7 | 3.13 | 0.834 |
| 3 | Open Access journals articles are not of good quality and should not be used in preparing for examination | 14 | 5.9 | 26 | 10.9 | 131 | 55.0 | 67 | 28.2 | 3.06 | 0.781 |
| 4 | Open Access journals should not be trusted in writing thesis and projects. | 10 | 4.2 | 34 | 14.3 | 124 | 52.1 | 70 | 29.4 | 3.07 | 0.777 |
| 5 | Open Access journals have made research too cheap; hence they should not be used for thesis and term papers. | 14 | 5.9 | 24 | 10.1 | 124 | 52.1 | 76 | 31.9 | 3.10 | 0.805 |
| 6 | It is difficult to access information on OAJs for learning, seminar preparation, and exam preparation. | 18 | 7.5 | 35 | 14.7 | 118 | 49.6 | 67 | 28.2 | 2.99 | . 849 |
| 7 | Articles in journals did not meet my academic information needs. | 11 | 4.6 | 36 | 15.1 | 121 | 50.8 | 70 | 29.4 | 3.06 | 0.784 |
| 8 | Open Access publications are generally quite mediocre or of little scientific merit to be used for my thesis / dissertation. | 8 | 3.4 | 25 | 10.5 | 135 | 56.7 | 70 | 29.4 | 3.12 | 0.722 |
| 9 | Open Access publications are considered of low quality and should not be used for thesis and course material generation. | 65 | 27.3 | 122 | 51.3 | 31 | 13.0 | 20 | 8.4 | 2.97 | 0.861 |

Table 8. Perception of Relative Advantage of Open Access Journals

| | Scale | S | SA | | A | | D | SD | | Mean | St. |
|---|---|-----|------|-----|------|----|------|----|-----|------|-------|
| | Scarc | F | % | F | % | F | % | F | % | Mean | Dev. |
| 1 | Open Access journals are beneficial for my academic purposes. | 105 | 44.1 | 122 | 51.3 | 6 | 2.5 | 5 | 2.1 | 3.37 | 0.642 |
| 2 | Open Access journals are more advantageous than toll access journals. | 61 | 25.6 | 126 | 52.9 | 48 | 20.2 | 3 | 1.3 | 3.03 | 0.714 |
| 3 | It allows free access to scholarly articles all over the world. | 94 | 39.5 | 123 | 51.7 | 17 | 7.1 | 4 | 1.7 | 3.30 | 0.657 |

versities, a majority of the respondents indicated that Open Access journals are beneficial to their academic purpose (X=3.37), that they allow free access to scholarly articles from all over the world (X=3.30), and that Open Access journals are more advantageous than toll access journals (X=3.03). These findings further affirmed that in both universities, a majority of the

respondents indicated they have a relative academic advantage using OAJs.

9.8 Perception Of Complexities Of Open Access Journals

Table 9 revealed that in both universities, a majority of the respondents indicated that Open Access journals

make their research easier to carry out (X=3.21), that instructions on Open Access journals interfaces are easy to understand and follow when searching for articles (X=3.12), and that Open Access journals are not too complex to use for academic purposes (X=3.05). These findings further affirmed that in both universities, a majority of the respondents indicated OAJs were not too complex to use for academic purposes.

9.9 Perception Of Compatibility Of Open Access Journals

Findings in Table 10 revealed that in both universities, a majority of the respondents posited that Open Access journals are relevant for their academic activities (X=3.24), the articles in Open Access journals could be used for their dissertations (X=3.24), and scholarly contents of Open Access journals are compatible with existing values in scientific research (X=3.21). These findings further affirmed that in both universities, a majority of the respondents indicated they were compatible with the use of OAJs for academic purposes.

10. HYPOTHESIS TESTING

Some hypotheses were formulated for testing in this study. They are null hypotheses tested at 0.05 level of significance.

Ho1: There is no significant relationship between positive perception and use of OAJs.

Table 11 revealed that in both universities, there was a positive significant correlation between perception and use of OAJs by the respondents (r= 0.121^{**} ; df = 236; p < 0.05). Thus, as use of OAJs by master's degree students increases, their positive perception also increases. The null hypothesis one is hereby rejected; therefore, there is a significant relationship between positive perception and use of OAJs.

Ho2: There is no significant relationship between negative perception and use of OAJs.

Table 12 revealed that in both universities, there was a negative significant correlation between negative perception and use of OAJs by the respondents (r=-0.207**; df = 236; p < 0.05). Thus, as use of OAJs by

Table 9. Perception of Complexities of Open Access Journals

| | Scale | S | SA | | A | | D | SD | | Mean | St. |
|---|--|----|------|-----|------|----|------|----|-----|------|-------|
| | | F | % | F | % | F | % | F | % | Mean | Dev. |
| 1 | Open Access journals are not too complex to use for academic purposes | 65 | 27.3 | 126 | 52.9 | 42 | 17.6 | 5 | 2.1 | 3.05 | 0.73 |
| 2 | Open Access journals make my research easy to carry out. | 80 | 33.6 | 130 | 54.6 | 27 | 11.3 | 1 | 0.4 | 3.21 | 0.65 |
| 3 | Instructions on Open Access journals' interfaces are easy to understand and follow when searching for articles | 66 | 27.7 | 137 | 57.6 | 32 | 13.4 | 3 | 1.3 | 3.12 | 0.671 |

Table 10. Perception of Compatibility of Open Access Journals

| | Scale | | SA | | A | | D | | SD | | St. |
|---|---|----|------|-----|------|----|-----|---|-----|------|-------|
| | State | F | % | F | % | F | % | F | % | Mean | Dev. |
| 1 | Scholarly contents in Open Access journals are compatible with existing values in scientific research | 67 | 28.2 | 156 | 65.5 | 13 | 5.5 | 2 | 0.8 | 3.21 | 0.572 |
| 2 | Open Access journals are relevant for my academic activities | 77 | 32.4 | 145 | 60.9 | 13 | 5.5 | 3 | 1.3 | 3.24 | 0.609 |
| 3 | The articles in Open Access journals could be used for my dissertation | 83 | 34.9 | 132 | 55.5 | 20 | 8.4 | 3 | 1.3 | 3.24 | 0.654 |

master's degree students increases, their negative perception decreases. The null hypothesis two is hereby rejected; therefore, there is a significant relationship between negative perception and use of OAJs.

Ho3: There is no significant relationship between perception of relative advantage and use of OAIs.

Table 13 revealed that in both universities, there was a positive significant correlation between perception of relative advantage and use of OAJs by the respondents (r= 0.128^{**} ; df = 236; p < 0.05). Thus, as use of OAJs by master's degree students increases, their perception of relative advantage also increases. The null hypothesis three is hereby rejected; therefore, there is a significant relationship between perception of relative advantage and use of OAJs.

Ho4: There is no significant relationship between perception of complexities and use of OAJs.

Table 14 revealed that in both universities, there was a very weak positive but not significant correlation between perception of complexities and use of OAJs by the respondents ($r=0.057^{**}$; df = 236; p>0.05). Thus, the null hypothesis four is hereby accepted; therefore, there is no significant relationship between perception of the complexities and use of OAJs.

Ho5: There is no significant relationship between perception of compatibility and use of OAJs.

Table 15 revealed that in both universities, there was a positive significant correlation between perception of compatibility and use of OAJs by the respondents (r= 0.118^{**} ; df = 236; p < 0.05). Thus, as use of OAJs by master's degree students increases, their perception of compatibility also increases. Thus, the null hypothesis five is hereby rejected; therefore, there is a significant relationship between perception of complexities and use of OAJs.

Ho6: There is no composite relationship between positive perception, negative perception, perception of relative advantage, perception of complexities, perception of compatibility, and use of Open Access Journals by master's degree students in Nigeria.

Table 16 shows that in both universities, the R=.312 obtained was found to be significant (F [5, 233] = 4.885; p<0.05). This means that the R was not due to chance. With an adjusted R square of .078, it connotes that 7.8% of the variance was accounted for by the independent

variables. The remaining 92.1% is accounted for by other factors not captured in this study.

Table 17 showed that there was a positive influence of positive perception on use of OAJs with $\beta=0.447$ and t value = 1.673 at P > 0.05 (sig. 0.096), although not significant. Also, there was a negative influence of negative perception on use of OAJs with $\beta=-0.707$ and t value = -4.139 at P < 0.05 (sig. 0.000). Also, there was a positive influence of relative advantage perception on use of OAJs with B= 1.011 and t value = 1.297 at P > 0.05 (sig. 0.196), although not significant. Also, there was a negative influence of perception of complexities on use of OAJs with $\beta=-.526$ t value = -.681 at P < 0.05 (sig. 0.496), although not significant.

Similarly, there was a positive influence of perception of compatibility for use of OAJs with $\beta = 1.146$ and t value = 1.512 at P > 0.05 (sig. 0.132), although not significant. It could however be inferred from the table that the five perception factors (positive perception, negative perception, relative advantage of perception, perception of complexities, and perception of compatibility) had multiple influences on use of OAJs for academic activities by master's degree students in the University of Ibadan and Obafemi Awolowo University. Out of the five perceptions, only negative perception had significant multiple influence on use of OAJs by the master's degree students. Therefore, the multiple influences of perceptions on use of Open Access journals by master's degree students in both universities showed that positive perception had the greatest influence on use of Open Access journals for academic activities, while negative perception had the least influence on use of Open Access journals for academic activities.

11. DISCUSSION OF FINDINGS

The major academic purposes master's degree students in both universities used Open Access journals (OAJs) for were for personal research, learning, project/theses writing, seminar preparation, assignments, professional growth, and workshops/symposiums. This corresponds with the findings of Deng (2010) in his study in Australia, that there were various purposes for postgraduates to use OAJs including: gathering information on a specific topic (research), gaining general

Table 11. Relationship between Positive Perception and Use of OAJs

| Variable | Mean | Std. Deviation | N | r | df | Sig. (P) | Remarks |
|---------------------|-------|----------------|-----|-------|-----|----------|---------|
| Positive Perception | 26.55 | 4.269 | | | | | |
| | | | 238 | 0.121 | 236 | 0.033 | Sig |
| Use of OAJs | 35.22 | 14.896 | | | | | |

Table 12. Relationship between Negative Perception and Use of OAJs

| Variable | Mean | Std. Deviation | N | r | df | Sig. (P) | Remarks |
|---------------------|-------|----------------|-----|--------|-----|----------|---------|
| Negative Perception | 27.44 | 5.827 | | | | | |
| | | | 238 | -0.207 | 236 | 0.001 | Sig |
| Use of OAJs | 35.22 | 14.896 | | | | | |

Table 13. Relationship between Perception of Relative Advantage and Use of OAJs

| Variable | Mean | Std. Deviation | N | r | df | Sig. (P) | Remarks |
|--------------------|-------|----------------|-----|-------|-----|----------|---------|
| Relative advantage | 9.71 | 1.606 | | | | | |
| | | | 238 | 0.128 | 236 | 0.025 | Sig |
| Use of OAJs | 35.22 | 14.896 | | | | | |

Table 14. Relationship between Perception of Complexities and Use of OAJs

| Variable | Mean | Std. Deviation | N | r | df | Sig. (P) | Remarks |
|----------------------------|-------|----------------|-----|-------|-----|----------|---------|
| Perception of Complexities | 9.37 | 14.897 | | | | | |
| | | | 238 | 0.057 | 236 | 0.195 | Ïnsig |
| Use of OAJs | 35.22 | 14.896 | | | | | |

Table 15. Relationship between Perception of Compatibility and Use of OAJs

| Variable | Mean | Std. Deviation | N | r | df | Sig. (P) | Remarks |
|----------------------------------|-------|----------------|-----|-------|-----|----------|---------|
| Perception of Compatibility 9.69 | | 1.584 | | | | | |
| | | | 238 | 0.118 | 236 | 0.037 | Sig |
| Use of OAJs | 35.22 | 14.896 | | | | | |

Table 16. Summary of Joint Relationship between Perceptions and Use of Open Access Journals by Master's Degree Students

| R | R Square | Adjusted R Square | Std. Error of the Estimate |
|------------------|----------|-------------------|----------------------------|
| 312 ^a | 0.098 | 0.078 | 14.33820 |

a. Predictors: (Constant), Compatibility, Negative Perception, Positive Perception, Relative advantage, Complexities

Table 17. ANOVA Table for the Regression

| Model | Sum of Squares | df | Mean Square | F | Sig. (P) |
|------------|----------------|-----|-------------|-------|----------|
| Regression | 5021.827 | 5 | 1004.365 | 4.885 | 0.000* |
| Residual | 46461.962 | 233 | 205.584 | | |
| Total | 51483.789 | 238 | | | |

^{*}Significant at p < 0.05

Table 18. Relative Contribution of Perceptions and Use of Open Access Journals by Master's Degree Students

| Factors | | dardized icients | Standardized Coefficients | Rank | Т | Sig. |
|---------------------|--------|---------------------|------------------------------|-----------------|--------|--------|
| | В | Std. Error | Beta | | | |
| (Constant) | 26.782 | 7.824 | | | 3.423 | 0.001* |
| Positive Perception | 0.447 | 0.267 | 0.128 | 1^{st} | 1.673 | 0.096 |
| Negative Perception | -0.707 | 0.171 | -0.276 | 5 th | -4.139 | 0.000* |
| Relative Advantage | 1.011 | 0.780 | 0.109 | $3^{\rm rd}$ | 1.297 | 0.196 |
| Complexities | -0.526 | 0.773 | -0.060 | $4^{\rm th}$ | -0.681 | 0.496 |
| Compatibility | 1.146 | 0.758 | 0.122 | 2 nd | 1.512 | 0.132 |

Significant at p < 0.05

information (personal research), and completing assignments. Supporting this assertion were Pandurangaswamy and Kishore (2013) from their study finding that most of the postgraduate students use OAJs for the preparation of class notes, and most postgraduate students used electronic information resources for preparation of projects. These findings were also supported by Mohammed and Garba (2013) who found that postgraduate students use OA to support their thesis and dissertation projects, read for exams, write assignments, and to publish their journal articles.

Furthermore, on the frequency of use of OAJs for academic purposes by master's degree students in both universities, it was established in the study that a majority of the respondents do not use Open Access journals as frequently as possible. From the findings, it could be ascertained that OAJs were underutilized by the respondents in both universities for their academic activities. This finding is supported by Geib (2013) who submitted that some researchers argue that Open Access journals lack quality control. This has hampered the effective use of OAJs by them. The implication is that master's degree students with negative perceptions of OAJs might not use them for academic purposes. Only those who perceived OAJs to be useful and to be of relative advantage might use them more for academic purposes. Similarly, Habiba and Chowdbury (2012) also averred that postgraduate students who are the most enthusiastic users of OAJs preferred resources offered online free of charge.

The major barriers hindering the use of OAJs by master's degree students in both universities were download delays, unavailability of Internet facilities, too many login instructions required, limited access to computer terminals, and poor website design. These finding is in tandem with Dulle (2010) and Christian (2008) who identified slow Internet connectivity as a major constraint indicated by respondents as contributing to their ineffective usage of this media in scholarly communication. It also supports Muthayan (2003) who pointed out that only a few institutions with reliable and fast Internet connections would benefit from Open Access initiatives in South Africa. Similarly, Hirwade and Rajyalakshmi (2005) considered lack of infrastructural facilities and connectivity of high bandwidth as among the inhibitors of Open Access uptake in India.. Also, in support of this finding is the submission of Dulle (2011), who posited lack of Open Access awareness as one of the barriers hindering the use of Open Access journals. However, this finding is at variance with Ivwighreghweta and Onoriode (2012), who viewed inadequate online scholarly communication skills and lack of awareness of Open Access as the most prevalent constraints.

From these findings, it could be further affirmed that in both universities, the respondents had a very high positive perception of OAJs. The majority of respondents posited that Open Access enables them to access research output from highly rated journals, increases research activity impact by such works being highly used and cited, allows free access of scholarly literature for seminar preparation because it is free, reduces the cost incurred in gathering materials for thesis/dissertation projects, allows use current scholarly research in term papers and theses, and that publishing in Open Access outlets exposes their scholarly work and research to a large potential readership. This was supported by Mohammed and Garba (2013) who found that postgraduate students use OA to support their theses and dissertation, read for exams, write assignments, and to publish their journal articles.

In addition, findings further affirmed that in spite of the very high positive perception of OAJs by master's degree students, a majority of the respondents indicated a high negative perception of OAJs in both universities. A majority of the respondents posited that Open Access publications are not relevant for their

academic purposes, that Open Access publications are generally quite mediocre or of little scientific merit to be used for their theses/dissertations, and that Open Access journals have made research too cheap, hence they should not be used for theses and term papers. This finding supports Geib (2013) who submitted that some researchers argued that Open Access journals lack quality control which hampered effective use of OAJs by them. The implication is that master's degree students with negative perceptions of OAJs might not use them for academic purposes. Another reason may be attributed to the barriers encountered when using the Open Access journals and publications.

More so, it could be inferred from the findings that in both universities, a majority of the respondents indicated they have a relative academic advantage using OAJs. This is because the majority of the respondents posited that Open Access journals are beneficial to their academic purpose since it allows free access to scholarly articles all over the world with the journals being of more advantage than toll access journals. The findings were supported by Habiba and Chowdbury (2012), who also opined that postgraduate students who solely depend on the heavy use of OAJs preferred resources offered online free of charge.

From the results of findings in both universities, a majority of the respondents indicated OAJs were not too complex to use for academic purposes. This can be seen in the fact that the majority of the respondents posited that Open Access journals make their research easier to carry out with instructional interfaces on the Open Access journals that are easy to understand and follow when searching for articles. This is supported by Chen, Yen, Hung, and Huang (2008) who established that an individual's tendency to interact spontaneously, intensively, openly, creatively, and imaginatively with computers and their available electronic information resources depends on their ability to derive high pleasure and comfort in using them.

From the results of the findings, it could be inferred that in both universities a majority of the respondents indicated they were compatible with the use of OAJs for academic purposes, as most of them posited Open Access journals to be relevant for their academic activities; with the articles in Open Access journals being useful for their dissertations and scholarly contents which are compatible with existing values in scientific

research. This is supported by Rogers (2003) who posited that compatibility depends on the degree to which an innovation is perceived as consistent with existing values, past experiences, and needs of potential adopters.

Moreover, the test of a significant relationship between perception and use of OAJs by the respondents by postgraduate students revealed that in both universities there was a positive significant correlation between positive perception and use of OAJs. Thus, as users' positive perceptions increase, use of OAJs by master's degree students also increases. The null hypothesis one is hereby rejected; therefore, there is a significant relationship between positive perception and use of OAJs. This agrees with Rogers (2003) who submits that positive perception about an innovation is one of the key determinants of its eventual adoption and use. This implies that the way open journals are perceived by researchers will to a large extent determine how they use them.

The test of a significant relationship between negative perception and use of OAJs by the respondents in both universities revealed that there was a significant negative correlation between negative perception and use of OAJs. Thus, as use of OAJs by master's degree students increases, their negative perception decreases. The null hypothesis two is hereby rejected; therefore, there is a significant negative relationship between negative perception and use of OAJs. This finding indicates that the less negative the master's degree students perceive using Open Access journals and publications, the more they will be prone to use them.

The test of a significant relationship between perception of relative advantage and use of OAJs in both universities revealed that there was a positive significant correlation between perception of relative advantage and use of OAJs by the respondents. Thus, as use of OAJs by master's degree students increases, their perception of relative advantage also increases. The null hypothesis three is hereby rejected; therefore, there is a positive significant relationship between perception of relative advantage and use of OAJs. This is in line with Agarwal and Prasad (2000) who found that relative advantage has a positive relationship with attitude; and also with Lin, Chan, and Wei (2006) who found out that relative advantage has a positive relationship with relative usage intention. The more benefit derived

from the use of an innovation or technology, the more the use of such technology there is by the user.

The test of a significant relationship between perception of the complexities and use of OAJs by the respondents in both universities revealed that there was a very weak positive, but not significant correlation between perception of the complexities and use of OAJs by the respondents. Thus, since the relationship was not significant, the null hypothesis four is hereby accepted; therefore, there is no significant relationship between perception of the complexities and use of OAJs. This was at variance with the finding of Son and Benbasat (2007) that complexity was found to have a negative relationship with technology adoption intention.

The test of a significant relationship between perception of compatibility and use of OAJs by the respondents in both universities revealed that there was a positive significant correlation between perception of compatibility and use of OAJs by the respondents. Thus, as use of OAJs by master's degree students increases, their perception of compatibility also increases. Thus, the null hypothesis five is hereby rejected; therefore, there is a significant relationship between perception of the complexities and use of OAJs. This is corroborated by Bhattacherjee and Hikmet (2007), who found that compatibility influences perceived usefulness; and by McKenzie (2001), who stressed that a lack of compatibility in IT with individual needs may negatively affect the individual's IT use. This is further supported by Agarwal and Prasad (2000) and Lee, Kozar, and Larsen (2003), who found that compatibility influences attitude. The more compatible the Open Access journals are, the more the chances of being used by postgraduate students.

From the findings on multiple influences, it could however be inferred that out of the five perception factors (positive perception, negative perception, relative advantage of perception, perception of the complexities, and perception of compatibility) positive perception had the greatest influence on use of Open Access journals for academic activities, while negative perception had the least influence on use of Open Access journals for academic activities by master's degree students in the University of Ibadan and Obafemi Awolowo University. Out of the five perceptions only negative perception had significant but negative influ-

ence on use of OAJs by the master's degree students.

12. CONCLUSION

Open Access journals have brought a tremendous impact on the academic activities of master's degree students in Nigeria. It has brought about a paradigm shift in the access and use of scholarly journals by master's degree students, as they can freely access and use them without the barrier of payments and subscriptions. Open Access journals serve as access equalizers and have made it possible for those who are not financially buoyant to have access to peer reviewed journals freely. It is evident in the study that master's degree students used OAJs for learning, personal research, term papers, and dissertations. It is noteworthy that due to slow Internet connectivity, download delays, limited access to computer terminals, lack of knowledge of the existence of OAJs, and too many login instructions, master's degree students did not frequently use Open Access journals for academic purposes. More so, it was clear that perceptions of the users towards Open Access journals have significant impact on the use of OAJs. Positive perception, perception of relative advantage, and perception of compatibility will affect the actual usage of Open Access journals. However, a decrease in the negative perception towards OAJs will lead to an increase in usage of OAJs. Consequently, it behooves Open Access publishers, governments, and tertiary education policy planners to ensure quality assurance in OAJ publications, and also to help prevent postgraduate students from using predatory Open Access journals for their academic tasks. This will ensure quality research and good education building that will transcend to societal and nation building.

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