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An Evaluation of Undergraduates Use of E-Books: A Case of Federal University of Technology, Minna, Nigeria

Sadiat Adetoro Salau
University Library Services,
Federal University of Technology,
Minna, Nigeria
adetoro@futminna.edu.ng

Abstract

The study evaluated the use of E-books by the undergraduates of Federal University of Technology, Minna. The study used survey research design and was guided by five research questions. A total of 500 undergraduates from the different schools were sampled. The data collected was analysed using descriptive statistics. Findings from the study revealed that most of the undergraduates of Federal University of Technology, Minna are aware of E-books and preferred it to print books mainly because of ebooks portability and durability. They also used E-books gotten through GOOGLE than the University Library E-books.

Keywords: E-books, Academic Libraries

Introduction

Books have been the main information resource of libraries including academic libraries for a long time and the era of information technology has not been different with the emergence of electronic books. Libraries now have both printed and electronic books in their collections. E-books were invented in 1971 by Michael Hart, a student at the University of Illinois who also set up Project Gutenberg, the first and largest collection of free e-books available online. The first commercial e-book was launched by Random House in 1981; by the mid-1990s e-books were beginning to be seen as a legitimate alternative and also as a potential threat to traditional print publishing (DeSouza, 2004). E-books has the same characteristics and outlook of the traditional print books (Thomas, 2011) but the main difference lies in the fact that the e-book can be accessed digitally using a personal computer, a Personal Digital Assistant (PDA) or on a specially designed electronic device called eBook reader. According to Thomas, (2011), with the PDA, a user can read an e-book anywhere and anytime. A Sony advertisement in 2007 described the amazing nature of these hand held devices in the following way "*Imagine carrying an entire library in the pocket, find a question, look up a term, anywhere, anytime*"

Over the years, the e-book revolution has been perhaps the most profound development in the publishing world ever since the Gutenberg era (Rao, 2005). In the

opinion of Thomas (2011), this revolution is destined to not only change the reading habits of many but has also been widely acknowledged as a solution to the paucity of textbooks which is most pronounced at the tertiary level of education in Nigeria. This is evident in the accreditation criteria of the Universities Commission for University libraries. They now demand increased collections of electronic books and more workstations for e-libraries. Academic libraries tend to also gain from this revolution, for many reasons, which include but not limited to the following: linkage to and from indexing and abstracting databases; usage statistics that are not available for print collections; space reduction and easy maintenance in addition to simultaneous access for users. Hyperlinks in e-books helps users connect what they read in one subject area to what they read in some others. Several studies have found numerous errors discovered in the print books (Littman and Connaway, 2004) and with e-books, the errors in printed books can be discovered and changed easily (Olusina & Mutula, 2014).

The observation of Paulsen (2012) was that many people have transitioned to e-books to fulfill their reading pleasures. Littman & Connaway (2004) study found out that numerous errors discovered in print books would be discovered and corrected with e-books(Olusina & Mutula, 2014) Ebooks also assist college students with limited resources and a long list of required course textbooks to save some money as these textbooks are cheaper to buy or download. Armstrong and Lonsdale (2002) think that the rapid acquisition of e-books in the developed countries changed information resources delivery and altered the mode of user's interaction with materials in the developed world. In Nigeria however, Olusina & Mutula (2014) were of the opinion that despite the gradual growth in the use of Web 2.0 by professionals in Nigeria there remains a lack of understanding of the patterns of acceptance and the use of Internet applications. Thus, this study evaluated the use of e-books whose emergence is on the increase in Nigeria.

Literature Review

The knowledge of factors that influence e-books' adoption and use have been well documented world over but hardly in Nigeria (Gbaje, 2007). Das & Maharana's (2013) study found that 15(65%) of the research scholars of Berhampur University, India used e-books. The Springer e-Book (2011) pilot project surveyed users of University of California libraries. 58% of survey respondents reported using e-books in their academic work; 38% reported not using e-books; and 4% were not sure of their e-book usage. Postgraduate researchers were the

highest users of eBooks (68% %), followed closely by graduate students (67%), undergraduate students (55%), and faculty and lecturers (57%). Respondents in the physical sciences and engineering reported the highest rate of academic e-book usage (68%), followed by those in the arts and humanities (57%), life and health sciences (57%), social sciences (54%), and business and law (47%).

Gregory's (2008) survey investigated undergraduates' attitudes towards e-books also found that although students liked the convenience, cost, and print-ability of e-books; they expressed concern with perceived eyestrain and reported confusion about certain navigation and search functions. In addition to the general uncertainty about using e-books, research also indicates that students tend to be unaware as to whether or not e-books are even available at their institution. The results of a Joint Information Systems Committee (JISC) survey indicated that many students do not know if their libraries offered e-books, nor do they know how or where to access them. Although e-book awareness and usage is generally lower than anticipated, many non-e-book users expressed the desire to learn more about e-books. Hernon et. al. (2008) investigated how undergraduate students used e-books in the disciplines of economics, nursing, and literature. The study stated that respondents liked the ability to access an electronic version of a print book that may be checked out by another user. Respondents also liked the ability to copy and paste text into a word processing document, and the cost savings involved in not having to purchase the books for classes. Respondents however, did not want to read e-books in their entirety, but rather preferred to browse or scan content.

In Nigeria, Olusina & Mutula (2014) investigated the acceptance and use of e-Books by faculty members in University of Ilorin, their study was based on the Unified Theory of Acceptance and Use of Technology. Using constructs from UTAUT, they found out that factors such as faculty member's position, e-book availability, attitude, behavioural intention, relative advantages and peer pressure, influenced the acceptance and use of e-books by the members of faculty in Nigeria. Another study in Nigeria by Thomas (2011) investigated the awareness, availability, usage, source of e-books, frequently of use and problems encountered in the usage of electronic books in five tertiary institutions in Nigeria. Although 92% of the respondents in his study were aware of e-books, he concluded that e-books use was still in the early stages of development in Nigerian academic libraries.

Statement of Problem

Academic Libraries in Nigeria have embraced e-Books and have gradually started to incorporate them into their collections. Research studies from the developed countries in the literature focused on e-book management issues, trends, and best practices that provided guides for proper selection, budgeting, licensing, cataloging and assessment of e-books (Johnson, S. et.al. 2012, Hartley, Rowley & Vasileiou 2012, Lopatovska, I. et. al., 2013) and also usage patterns and adoption (Springer e-Book study (2011), Bergstrom & Hoglund, 2014). Few studies in Nigeria investigated how students used e-books compared to their use of the print books or even their attitudes towards e-books. Therefore, this study evaluated the use of e-Books by undergraduates in Federal University of Technology, Minna in order to understand undergraduates information seeking behaviour and use in a digital environment and also to assist academic libraries to appreciate the importance of e-books to facilitate increased budgetary allocations for e-books acquisitions against the backdrop of high license and subscription charges for e-books as corroborated by Williams & Best (2006) that in the electronic era libraries have continually sought to justify expenditures on electronic resources. The following research questions were thus answered.

Research Questions

1. What is the level of awareness of E-books amongst the undergraduates in FUT Minna?
2. What factors facilitates FUT Minna undergraduate's preference for E-Books?
3. Which academic activities do the undergraduates in FUT Minna use E-Books for?
4. To what extent do the undergraduates in FUT Minna use E-Books from the different sources of access?
5. What are the challenges associated with the use of e-Books by undergraduates in FUT Minna.

Methodology

Quantitative methodology was adopted for this study using cross sectional survey research design. The target population consisted of 10,000 available undergraduate students across all the faculties in Federal University of Technology, Minna Nigeria. The questionnaire used for collecting the data for the study was designed based on different e-book studies in the literature particularly the Springer e-Book user study. The sample size for the population was determined using values from Louis, Lawrence & Keith (2007) table.

From the table, for a population of 10,000 a confidence level of 95% and confidence interval of $\pm 5\%$, a sample size of 385 is sufficient. However, to make up for non-response error or attrition or the likes, the sample size was rounded up to 500. The questionnaires were distributed for three days in the different sections of the library using simple random technique. 457 of the questionnaires were filled, returned and usable representing 91.4%.

Analysis and Presentation of Results

The data collected from the questionnaire administered were coded and analyzed using statistical package for social sciences (SPSS). Descriptive statistics using frequencies, percentages and a measure of central tendency (mean) was used to analyse the variables in the research questions.

Respondents Demographics

Table 1

S/N	Faculty N=457	Frequency(n)	Percentage (%)
1.	SEET	78	17.1
2.	SAAT	38	8.3
3.	SET	76	16.6
4.	SICT	102	22.3
5.	SNAS	64	14.0
6.	SEMT	49	10.7
7.	STE	50	10.9
S/N	Gender	Frequency	Percentage
1.	Male	293	64.1
2.	Female	164	35.9
S/N	Level	Frequency	Percentage
1.	100	84	18.4
2.	200	108	23.6
3.	300	181	39.6
4.	400	24	5.3
5.	500	60	13.1

Key

SICT-School of Information and Communication Technology

SET- School of Environmental Technology

SAAT-School of Agriculture and Agricultural Technology

SNAS-School of Natural and Applied Science

STE- School of Technology Education

SEMT- School of Entrepreneurship and Management Technology

SICT had the highest number of respondents, followed by respondents from SEET. This is not surprising as SICT is the hub of information technology in the University. Male gender had more respondents than the female which is to be expected as the University is a University of Technology and has more male students than female students while respondents in the third year were more than the other levels. Respondents in their fourth year had the least number because most of the students in that level were on industrial attachment.

Research Question 1:

What is the level of awareness of E-books in the University Library amongst the undergraduates in FUT Minna?

Table 2:

Level of Awareness

S/N	AWARENESS	FREQUENCY	PERCENTAGE
1.	YES	309	67.6
2.	NO	148	32.4
	TOTAL	457	100

From the table above, 67.6% of the respondents were aware of E-books while 32.4% were unaware of e-books which is still on the high side.

Research Question 2:

What factors facilitates FUT Minna undergraduate's preference for E-Books?

S/N	FACTORS	MEAN	SD
1.	PORTABILITY	1.36	0.558
2.	DURABILITY	1.24	0.527
3.	ACCESSIBILITY	1.77	0.577
4.	NAVIGABILITY	1.59	0.847
5.	SEARCHABLE	1.92	0.963
6.	FORMAT	1.96	0.677

The mid mean mark is 2 for a 4-point likert scale. Durability and portability are the factors with means far below mid mark 2.0. This means they are the most important factors that facilities preference for e-books over print books. They are closely followed by navigability and accessibility. Format and searchable were the least important factors that facilitates preference of e-books to print books

Research Question 3

Which academic activities do the undergraduates in FUT Minna use E-Books for?

S/N	FACTORS	FREQUENY	PERCENTAGE	MEAN	SD
1.	LEISURE READING	132	28.9	1.71	0.454
2.	TESTS& ASSIGNMENTS	300	65.6	1.34	0.475
3.	RESEARCH	144	31.5	1.68	0.465
4.	BROADEN MY KNOWLEDGE	253	55.4	1.45	0.498
5.	CHECK FOR CONTENTS OF A BOOK BEFORE I GET THE PRINT COPY	84	18.4	1.82	0.388
6.	SEARCH FOR FACTUAL INFORMATION	204	44.6	1.55	0.498
7.	TOTAL				

Undergraduates in FUT Minna mainly used e-books when they have tests & assignments and rarely used e-books for leisure reading and to check contents of a book before getting the print copy.

Research Question 4

To what extent do the undergraduates in FUT Minna use E-Books from the different sources of access?

S/N	FACTORS	MEAN	SD
1.	GOOGLE BOOK SEARCH	1.76	0.818
2.	AMAZON	2.36	1.112
3.	FREE E-BOOK WEBSITE	2.50	0.708
4.	UNIVERSITY LIBRARY	2.75	0.831

5.	MY LECTURERS	2.79	0.867
6.	PURCHASE	3.16	1.091
7.	FRIENDS/COURSEMATES	2.37	1.095

Undergraduates in FUT MINNA used e-books gotten through GOOGLE more than the other sources of accessing e-books.

Research Question 5

What are the challenges associated with the use of E-Books by undergraduates in FUT Minna.

S/N	FACTORS	MEAN	SD
1.	READING FROM THE COMPUTER AFFECTS MY VISION	2.16	0.948
2.	WITHOUT MOBILE DEVICE, READING AN E-BOOK IS IMPOSSIBLE	2.05	1.047
3.	WITHOUT APPROPRIATE E-BOOK READER, READING E-BOOKS IS IMPOSSIBLE	2.50	1.072
4.	COMPUTER PHOBIA	3.27	0.878
5.	READING FROM THE COMPUTER MAKES IT HARDER FOR ME TO CONCENTRATE	3.37	0.722

The most challenging factor of e-books for undergraduates in FUT MINNA that use e-books is that without mobile devices or 'medium of access', e-books cannot be used.

Discussion of Results

Most (67.6%) undergraduates in Federal University of Technology, Minna were aware of the existence of electronic books in the University library. This is not surprising as popular expectations according to Berg, Hoffman and Dawson (2010) is that the current generation of undergraduates are highly tech-savvy. Computing devices are the platform for accessing electronic books and thus undergraduates that are familiar with computing devices would by default be aware of electronic books. Olusina & Mutula (2014) findings are similar to the findings in this study, although the academic staff in University of Ilorin were their respondents. They reported that 75.6% of the academics were aware of the availability of e-

books at the University's e-learning centre and 24.2% were unaware of this. Thomas (2011) also reported that 92% of students across selected tertiary institutions in Nigeria were aware of e-books. Similar findings were reported by Rowland and Nicholas (2008) in a study at the University of Illinois where fifty-five percent of respondents stated that they were aware that e-books were offered by the library for their use, while 45% was not aware.

The Undergraduates also preferred e-books to print books mainly because of its durability and portability. Portability is one of the main advantages e-books have over print books as they are specially designed to be portable. Hundreds of e-books can be comfortably carried in a smart phone and viewed on the spot. Wear and tear has been associated with print textbooks over the years. This is not a challenge with e-books although the '*medium of access*' (computers, smart phones) must be taken care of. The undergraduates mainly use e-books for their tests and assignments. This finding corroborates Annika &Lars (2014) findings when they stated that E-books are not used exclusively by adopters of e-books in Sweden. Thomas (2011) also found out that research and educational purposes formed the main reasons for using e-books by respondents in selected tertiary institutions in Nigeria while leisure & entertainment reading were the least reasons for using e-books.

Undergraduates in FUT MINNA use e-books sourced from GOOGLE more than the other sources of access of e-books. It is important to note that GOOGLE search engine is used more than the University libraries to find any information resource. This finding further buttress what Aina (2013) opined that Google has attempted to bypass the library by its 'GOOGLE SEARCH' as any user can perform a simple key word search and it would return the content that best matches the query which include e-books. Olusina & Mutula (2014) study of academic staff in University of Ilorin revealed also that GOOGLE BOOK SEARCH was the most used source of accessing E-books, which means if the lecturers were using e-books they would automatically refer their students to GOOGLE. The major challenge for undergraduates in Federal University of Technology as regards the use of e-books is the device or medium of access of ebooks which could be either laptops or smartphones. In addition to these devices, softwares like Adobe Reader must be installed to access ebooks in PDF format. This is true as it has been observed that many students still do not own laptops or tablets to access e-books. However, owning the access device is as much a challenge as knowing how to use these devices. Annika &Lars (2014) corroborates this fact when they stated that E-book reading is impossible without the necessary devices, an attractive content, and the knowledge of how to access and use them.

Conclusion

The findings of this study indicates that the awareness and use of e-books for their academic activities by undergraduates is on the high side and thus the need for aggressive policies and programs by academic libraries on how to effectively utilize e-books to the fullest. This would greatly fill the paucity of print books for the teeming number of undergraduates in the University.

Recommendations

1. The University library should create more awareness on the electronic format of textbooks and the availability of e-books in the library for both staff and students through the library website/link. This would be easily accessible through GOOGLE and thus increase awareness, access & use.
2. They should also provide more e-books as the awareness of e-books is on the rise and thus there would be an increase in demand
3. Academic libraries should incorporate more user friendly, Google like interface discovery tools as pointers to their e-resources like VuFind and Calibre among others.
4. The University library should provide computer protective shields on the computers in the library to aid reading e-books from the screen. Printers should also be provided for users that would prefer to print out selected pages.
5. The University library should manage their e-book collections with e-book management software that can utilize servers hosted in the cloud. This would increase access and use.
6. Information literacy training on searching and use of e-books should be introduced to enhance the undergraduates use of e-books

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