



THE ACCEPTANCE AND USE OF E-BOOKS: A GROUP STUDY IN NIGERIA

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Abstract

The academic institutions in Africa have begun to offer e-books. The study described a survey conducted on the members of faculty at the University of Ilorin, Nigeria, to investigate the factors affecting user preferences and patterns of the use of e-books. The study examined the ways in which users are interacting with e-books, compared e-book and print book usage and investigated the constraints of the acceptance and the use of e-books. A survey questionnaire was used to collect data on the e-book adopters, to provide general contextual e-book data on use and behaviour of researchers, lecturers and librarians using a theoretical framework based on a modification of the Unified Theory of Acceptance and Use of Technology (UTAUT). All the members of a project group that comprised of faculty members of the university were invited to participate in the survey. The findings suggested new factors influencing user preferences of e-books and revealed the reasons why e-books may not replace print books any time soon in Nigeria. The study found that the 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. The study recommended policy interventions, innovative practices of e-book adoption and use and extension of theory on e-books' adoption.

Keywords: E-books, acceptance and use of technology, academics, Nigeria, models of technology adoption.

Introduction

If and when the concerns with durability, easy access and clarity are met, one market promises to be the gateway through which electronic texts will gain respect. Apparently this market is university education. When the members of faculty become comfortable with the e-book, its future will no doubt be assured. There have been increasing interests in recent years over two issues concerning existing textbooks, their weight and their accuracy (Rechtsteiner, 2012; Shelburne, 2009). The e-book usage may be a way in which both of these issues may be addressed. The e-book readers as they are often called are symbolic of the challenge that e-books are facing. The e-book readers and other devices are designed to replicate and, if possible, improve upon the reading experience afforded by a paper edition of a book. As preference for e-books grows in the culture at large, academic environments have been ahead of general population trends regarding e-books and reference materials in countries in Europe and America. However, researchers in developing countries are skeptical that the e-book format and the fact that e-book usage has a limited audience. Most academic libraries in Nigeria have small collections of electronic books either from on-going digitization projects, e-library and subscription to e-book databases but the libraries hardly have analyses of the usage of their e-book collections which in most cases are often very limited (Ekenna, Ukpebor, 2012; Igbeka and Okpala, 2004).



Snowhill (2001) identified e-books to include, text books, referencing materials and encyclopedia. E-books are not new as they have been around since the 1970s (Askey, 2010) and have become available to a wider audience, through schools and libraries in Europe and America but largely through personal subscription to fee paying and free sources in developing countries such as Nigeria due to the hardware and media costs that the members of faculty and others may not afford in Nigeria (Jagboro, 2003; Ani and Ahiauzu, 2008). It has taken the instrumentality of the Internet and the Web to globally make e-books available and attractive data delivery platform to bring e-books. E-books would enable the members of faculty to carry all of their books in a single package, lightweight (Okello-Obura and Magara, 2008; Woodward and Edwards, 2001; Maltz and Chiapetta, 2002; Armstrong, Edwards and Lonsdale, 2002). The kind of indexing available in e-books help users connect what they read in one subject area to things that they read in another since e-books have hyperlinks. Another way in which e-books can affect the educational system is in their ability to be updated (De Diana and White, 1994). Several studies have found numerous errors discovered in the print books (Littman and Connaway, 2004). With e-books and electronic texts, the errors in printed books can be discovered and changed easily. Electronic texts would allow new texts to be downloaded and installed almost immediately. Despite the numerous relative advantages of the e-book in e-book research, perhaps its biggest problems are the issues of the ownership of electronic text, its temporary nature, incompatibility, DRM limitations, low adoption rates and problems of access in developing countries (Uttley, 2003; Littmann, 2004). There is little doubt that the e-book has superior features such as its formatting attributes and updating capabilities. Indeed several studies (Levy, 2000; Littman and Connaway, 2004) have found that e-books' usage will continue to escalate over the coming years and that by 2020, ninety percent of all books sold will be e-book titles and newspapers will have gone entirely electronic. Despite the optimism, e-book adoption and use rates in Nigeria are still low. The cutting edge may be by investigating the factors that influence user preferences and an analysis of e-books' use patterns to have a better understanding of the phenomenon in Nigeria. These may unravel factors that may enable the e-book finds its cutting edge.

Leaf (2003) reported that e-books and peripheral devices have made them user un-friendly, and what it means in practical terms is that content available for one device may well be unavailable for the next and this is a problem. Askey (2010) suggested that many users did not accept and use e-books because of the ownership related issues and concluded that perhaps in the future the rights holders make owning and managing digital reading content palatable and painless by fixing those issues than developing flashy hardware, e-book readers.

E-books are accessible via e-readers like Apple iPad, iBookstore and in more recent time, Kindle Killer (by Amazon) and the more familiar tools such as desktop PCs, laptops, palm tops, mobile phones, iphones, ipods and other digital devices. There are compatibility problems with these and the issues of access to technologies in Nigeria and the developing countries that are often reported in literature (Heeks, 2008). There are several non-technical issues that confront e-books' acceptance and use such as adoption behaviours, habit, interest/disinterest and other elements that may affect the acceptance and use of e-books that are not often reported in literature in the context of Nigeria. This study identified the perceptions of the members of faculty to the use of e-books, their purpose of use, mode of access, comparison to print books and lastly the constraints of their use in Nigeria. The University of Ilorin, Nigeria where the survey was conducted is a foremost federal institution which has been a leader and pioneer in the use of e-learning tools in the last five years. The institution has twelve faculties across the



various disciplines and is representative of the diverse nature of Nigeria. The rapid acquisition of e-books in the developed countries has changed the character of information resources delivery, providing academics and information seekers with access to much more information than has been previously available and altering the manner in which patrons interact with materials in the developed world (Armstrong and Lonsdale, 2002). This is not the case in Nigeria. Despite the growth in the use of Web 2.0 by professionals in Nigeria (Olasina, 2011) there remains a lack of understanding of the patterns of acceptance and the use of Internet applications. The knowledge of the factors that influence e-books' adoption and use have been well documented world over but hardly in Nigeria (Gbaje, 2007). The survey of the members of faculty and their acceptance and the use of e-books attempted to reveal the user preferences of the features of e-books and how these may differ from the use of print books, an area not well understood (Christianson and Aucoin, 2005). The purpose of the present study was to understand how the members of faculty accept e-books, their usage behavior, interactions with e-books, and their perception of e-books. The study summarized the findings of the user survey and described the implications for stakeholders.

Theoretical Framework

The survey was based on the theoretical framework, the Unified Theory of Acceptance and Use of Technology (UTAUT) model by Ventakesh, Morris and Davies (2003) which is a synthesis of eight existing models of technology acceptance. The model has been used in several previous related studies (Alawadhi and Morris, 2008; Marchewka and Liu, 2007) and the research questions and the survey questionnaire items for the study have been drawn from the constructs of the UTAUT model (performance expectancy – perceived ease of use and perceived usefulness, effort expectancy, social influence and facilitating conditions) and related literature. The UTAUT model is widely used and has been reported to explain technology acceptance and use outside the context of the origins of the model in the Western world and has shown empirical evidence of the relevance of the constructs and assumptions of the model in studies in Asia and Africa (Kijisanayotin, Pannarunothai and Speedie, 2009). The UTAUT model attempts to explain how individual differences influence technology use. More specifically, the relationship between perceived usefulness, ease of use, and intention to use can be moderated by age and gender to determine the use of e-books by the members of faculty which is the focus of this study. The convergence of the variables of the study helped to make sense of the adoption issues in e-book technology and user understanding. It also helped to focus attention on the problems of e-book acceptance and use based on the UTAUT construct, facilitating conditions. The other constructs of the UTAUT such as performance expectancy, effort expectancy and social factors are directly linked with the critical questions of the study and the items and themes of the adopted data collection instruments. The significance of the study was to improve the theory and knowledge of e-books' adoption and use, enhance policy and the overall practice of e-book use by the members of faculty in Nigeria.

Statement of the Problem

Quite a number of reasons may affect the acceptance and use of e-books by the members of faculty. There is little known about e-books' use in Nigeria. The survey of the members of faculty was conducted to determine their degree of awareness of e-books, the pattern and purpose of the use and their perceived level of satisfaction with the format. It is clear from vendor-supplied usage statistics that e- books are



used (Sprague, 2008) but it is not clear how or why they are used, particularly in the context of the members of faculty in Nigeria. This study answers the questions such as: How do the members of faculty store and use e-books? What are the patterns of the use and usage levels? Do cost considerations play a role? Are members of faculty not using e-books as a result social and environmental factors such as costs of access, lack of access, purchase and subscription rates in Nigeria? What is holding members of the faculty back from embracing e-books? Last in this regard, is how the members of faculty access e-books? (Askey, 2010).

Research Questions

The study explored the ways in which e-books are adopted and used by members of faculty in the University of Ilorin. The critical questions were:

1. How aware of e-books are the members of faculty?
2. What is the analysis of their adoption and pattern of use of e-books?
3. What are the factors affecting the user preferences of e-books?
4. What is their perceived value of e-books?
5. How do members of faculty compare e-books to print books?
6. What are the constraints to the use of e-books?

Literature Review

Anuradha and Usha (2006) indicated that the rates of adoption and the use of ICT tools by the members of faculty were lower than those of students. Those who did use e-books mostly used reference and technical material. The majority of the respondents to the survey by Anuradha and Usha (2006) have used computers for over five years for a variety of purposes including e-mail communication, Internet browsing and text processing. Their use of e-books appeared to be very low, indicating a requirement for creating awareness and user education about both software and hardware related to e-books. Anuradha and Usha (2006) reported that no studies have investigated users' perspectives of e-books in an academic and research environment in India using a questionnaire method. Brown (2001) suggested that learners using digital text are not reading sequentially but are searching, scanning, selecting, cutting, and pasting in segments. Researchers (Kämäräinen, Attwell and Brown, 2002; Womack, Jones and Roos, 1990) have suggested that Internet applications are transforming learning and teaching. The present study provided an analysis of the use of e-books and the reasons for the low rates of adoption and the use of e-books in the context of the members of faculty in Nigeria.

Littman and Connaway (2004) studied e-book and print book usage at Duke University between February 2001 and August 2002. The study suggested that the online equivalent is meeting the needs of many users. The subjects of the books circulated and accessed were relatively in proportion to the overall collection. The study concluded that e-books received 11% more use than the print books and that despite their recent introduction to the library, e-books already added value for Duke University users. Croft and Bedi (2004) investigated the use of e-books among students and members of faculty through a survey. They learned that approximately 30% of faculty and students had used e-books. They reported that there were mixed feelings about the adequacy of the e-book collections and that subject-specific disciplines did



not use e-book collections to the degree that had been expected (p. 131). The present study explored the perceptions of the value of e-books of members of faculty in Nigeria with a view to improving the understanding of e-books' acceptance and use.

Levine-Clark (2006) reported that the majority of the respondents to a survey were aware of e-books and had used them occasionally to read specific information in a few pages. Levine-Clark (2007) in another study indicated that the members of faculty and students in the humanities disciplines tended to use e-books only if there was no print available, and they preferred print books. Gibbons (2001, p. 2) called for more detailed usage reports from vendors that will help "determine e-books' use patterns, length of time ... [and] who is using the e-books." Additionally, Bailey (2006, p. 59) highlighted the need for more user surveys "to determine user preference" and also to indicate how an e-book is being used." The present study investigated e-books' use patterns and determined user preferences in the context of members of faculty in an institution in Nigeria.

Methodology

A positivist paradigm was adopted for the study. Quantitative method was applied using a survey design. The target population consisted of 80 members of faculty, librarians, and researchers belonging to the online distance learning (ODL) group made up of academic staff of the institution. The study was carried out at the University of Ilorin, Nigeria during the 2011/2012 academic session. The questionnaire was designed using the Likert-type questions (3 strongly agree, 2 undecided and 1 disagree) in the questionnaire. To ensure reliability and validity, tests re-test reliability of two weeks interval was conducted on five academic staff of a privately owned university. The results obtained were subjected to a Cronbach alpha and the overall reliability of the questionnaire returned ($r = 0.86$) which was sufficient to go ahead with the survey.

Sample Selection Procedure

The University of Ilorin is on a project of online distance learning (ODL) programme and has selected an ODL Group comprising of faculty members who are undergoing training in use of e-learning, ODL, courseware system and other ICT skills. The ODL Group is drawn from faculty members from each of the twelve faculties of the institution and the library. The ODL Group is made up of eighty members of faculty in number. The study selected the eighty faculty members as sample for the study. The survey invited the entire eighty members of the group to participate in the survey. To further ensure a high rate of response from the ODL group members, personal contacts were made by the researcher (and assistants) to each member of the ODL Group. The survey took only 5 minutes to complete. A total of seventy-five members of the ODL Group eventually completed the online survey. The survey questions focused on the respondents' attitude to the use of e-books, usage level, patterns of use, modes of access, opinions and comparison to print books and problems of acceptance and use. The questions were guided by the review of literature and the constructs of the UTAUT model by Venkatesh, Morris and Davies (2003) that were relevant to each of the critical questions of the study. The questionnaire was broken into seven sections, the first on demography, the others, on factors that influence adoption, performance expectancy indicators (perceptions such as perceived ease of use) and attitude, the use levels, access, comparison to print books and constraints of use (facilitating conditions).



Data Analysis

The data collected from the questionnaire administration were coded and analyzed using statistical package for social sciences (SPSS). Descriptive statistics including mean, simple percentage, frequency count and multiple regression correlation analysis were performed.

Findings and Discussions

Demography

Total Started Survey: 75

Table 1: Demography of Respondents

	Response Percent	Response Count
Male	74.0%	54
Female	26.0%	21

Tables 1 to 3 are discussed together. Table 1 above shows that 74% male and 26% female of respondents participated in the survey. No differences along the line of gender were evident in the study. Table 2 below shows that the distribution of the respondents according to their disciplines. The respondents have come about evenly from all disciplines in the university but for veterinary medicine and pharmaceutical sciences with no respondents. All of the respondents indicated having used computers for over five years for a variety of purposes including e-mail communication, Internet browsing and text processing as well as for other advanced use such as for numerical computing, and SPSS data analysis. Table 3 shows that the age group with the highest number of respondents (35.8%) was those within ages 38-48.

Table 2: Break down of Respondents' Disciplines by Faculty

Faculty	No of respondents
Agriculture	7
Arts	7
Basic & medical sciences	9
Business & Social Sciences	7
Communication & Info. Sciences	10
Clinical Sciences	7
Education	7
Engineering & Technology	7
Law	7
Science	7



Veterinary Medicine	0
Pharmaceutical Sc.	0
Total	75

Table 3: Age Distribution of Respondents

	Response Percent	Response Count
Less than 27 years	28.4%	19
27 to 37 years	14.9%	10
38 to 48 years	35.8%	24
49 to 59 years	13.4%	9
60 years & above	7.5%	5

Answered question 67 skipped question 8

Table 4 shows that mostly the respondents are junior faculty – lecturer 1 and below (49.3%) and in the higher faculty cadres (18.2%), (1.5%), (21.2%), for professors, reader and senior lecturers, in that order, respectively.

Table 4: Faculty Positions

	Response Percent	Response Count
Professor	18.2%	14
Reader	1.5%	1
Senior Lecturer	21.2%	16
Lecturer I and below	49.3%	37
Librarian	3.0%	2



Researcher	6.1%	5
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Table 5 shows that (53.3%) of respondents learn about and find e-books from profession related journals and publications and (40%) hear about e-books from librarians, from their colleagues (37.8%) and trial by error/by accident (17.8%). See table 5 for details.

Table 5: Finding e-books

	Response Percent	Response Count
Trial by error/accidental	17.8%	8
From colleagues	37.8%	17
Librarians/subject specialists	40.0%	18
Professional level journals, publications	53.3%	24
Consumer media	8.9%	4
Blogs	13.3%	6
Inclusion in content packages/bundles	11.1%	5
Webcasts/webinars	8.9%	4
Vendor websites	24.4%	11
Publishers' marketing materials (e.g., catalog, ad, etc.)	26.7%	12
Conferences/Tradeshows	22.2%	10

Answered question 75

Table 6a shows that the respondents are aware of e-books' availability at the university library's e-learning centre with (75.8%). The 24.2% who are not aware seems on the high side.

Table 6a: Awareness of E-books



	Response Percent	Response Count
Yes	75.8%	50
No	24.2%	16

Answered question 66

Skipped question 9

Table 6b: Analysis of E-books' Acceptance Using Multiple Regression Analysis

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig
	B	Std Error	Beta		
E-books' acceptance and use	1.819	0.317		5.745	0.000
Academic qualification	-0.020	0.058	-0.021	0.346	0.729
Gender	-0.054	0.127	-0.026	0.426	0.670
Relative advantages	-0.061	0.033	0.104	2.612	0.110
Faculty position	-0.068	0.032	0.124	2.181	0.036
Cost of access	-0.11	0.033	0.019	0.339	0.735
Perceived value	0.018	0.043	0.027	0.421	0.674
Perceived usefulness	-0.007	0.048	-0.010	0.150	0.881
Attitude to E-books	0.088	0.056	0.124	2.711	0.120
Perceived ease of use	0.022	0.043	0.034	0.511	0.610
Peer pressure	-0.070	0.041	0.101	2.011	0.921
Awareness	-0.009	0.048	-0.013	0.193	0.847
Field of study	-0.038	0.041	-0.064	0.933	0.352
Behavioural intention	0.009	0.064	0.109	0.701	0.750
ICT skills	-0.008	0.044	0.001	0.021	0.983
Suitability	0.042	0.054	0.073	0.786	0.433
Age	-0.025	0.051	-0.046	0.497	0.620
Technical support	-0.010	0.037	-0.018	0.276	0.783
E-book availability	-0.096	0.052	0.123	2.860	0.064

Table 6b reveals that e-book availability ($B = 0.123$, $t = 2.860$), the faculty member's position ($B = 0.124$, $t = 2.181$), attitude towards e-books ($B = 0.124$, $t = 2.771$), behavioural intention ($B = -0.221$, $t = 0.555$), relative advantages of e-books ($B = 0.104$, $t = 0.111$) and peer pressure ($B = 0.101$, $t = 2.011$) are the factors that influence the acceptance of e-books by members of faculty in Nigeria. The prediction relationships were positive but for behavioural intention that was negative. The results reveal that e-book availability, the position of the faculty member, attitude towards e-books, behavioural intention, relative



advantages of e-books and peer pressure are the key factors that correlate with e-book acceptance and use by members of faculty in Nigeria. The findings suggest that when e-books are available to the users the rates of adoption are likely to be high. The results reveal that the position of the faculty member when between the cadres, lecturer I and below seem to suggest a higher rate of e-books' adoption. The correlation between behavioural intention and e-book acceptance is negative and this suggests that when the members of faculty have negative behavioural intentions towards the acceptance and the use of e-books, these often lead to increase in their e-books' adoption and use. This may be as a result of other factors such as lack of print books in their disciplines that make it imperative for the users to adopt the e-book option. The relative advantages of e-books have been reported in several studies (see section on literature review). The result on the positive correlation between peer pressure and the acceptance and the use of e-books by the members of faculty suggests that more of them are likely to accept e-books by encouragement of word of mouth from a colleague. The implication of this is that for the rates of acceptance and the use of e-books to increase there may be the need for the transition to e-books to be driven from among the faculty members themselves. The result is similar to those of Keengwe, Kidd and Kyei-Blankson (2009) and Usluel, Askar and Bas (2008) that reported the need to encourage the members of faculty from within to increase adoption rates and that stressed the importance of enhancing perceived attributes of ICT of the faculty members to improve on ICT usage in higher education, respectively.

The discussion on Tables 7 to 9 are presented together. Table 7 shows that Google Book Search (72.6%) is the most popular place to begin a search followed by free access books online (54.8%). Seventeen point seven percent of the respondents begin their e-book search from the university library's e-learning centre desktops. Table 8 shows that e-book use levels are highest at 'once in a month' (37.5%) and 2-3 times in a week is (30.4%). Table 9 shows that the purpose of use is mostly for research (83.6%) and study (57.4%) and hardly for teaching, entertainment or leisure. Some respondents specify that they search for e-books from their friends' access.

Table 7: E-book Search

	Response Percent	Response Count
Google Book search	72.6%	45
General search engines e.g. google, yahoo, lycos, etc	53.2%	33
UNILORIN e-learning centre desktop	17.7%	11
EBSCOHOST	19.4%	12
JSTOR	16.1%	10



Amazon	12.9%	8
OverDrive	1.6%	1
Aggregators/Subscription Agents	1.6%	1
Nigerian virtual library	17.7%	11
Online Database personally subscribed to	16.1%	10
Free Access E-books online	54.8%	34
Publisher's website – Emerald, Springer, etc	19.4%	12
E-book vendor	14.5%	9
Other (please specify)	6.5%	4

Table 8: Frequency of Use of E-books

	Response Percent	Response Count
Daily	17.9%	10
2-3 times a week	30.4%	17
2-3 times a month	14.3%	8
Once in a month	37.5%	21
Never	0.0%	0.0%

Answered question 56
Skipped question 19

Table 9: Purpose of Use



	Response Percent	Response Count
Study	57.4%	35
Research	83.6%	51
Training – preparation of course & teaching materials	54.1%	33
Other (please specify) Show Responses	11.5%	7

Answered question 61 Skipped question 14

Tables 7-9 have been discussed earlier. The discussion on Tables 10 and 11 are presented together. Table 10 shows the range of the use of e-textbooks (67.8%), e-reference books (55.9%) and other types of e-books by the members of faculty in Nigeria. The e-book types such as research monographs (37.3%) and conference proceedings (35.6%) are much less compared to the former. Table 11 shows the respondents' reasons for using a particular e-book. For reasons of particular topic search (53.3%) conducted keyword searches and (43.3%) the use a particular e-book by browsing through e-book collection or database by discipline, with (20%) searching to use e-books when print books equivalents are not available.

Table 10: Types of e-books used

	Response Percent	Response Count
Textbooks/Course books	67.8%	40
Reference works/Encyclopedias/Dictionaries	55.9%	33
Research monographs	37.3%	22
Conference proceedings	35.6%	21
Handbooks	23.7%	14
Reviews	39.0%	23
Other (please specify)	10.2%	6

Answered 75



Table 11: Reasons for e-book choice

	Response Percent	Response Count
I search e-books about a certain topic using a keyword search	53.3%	32
I look for specific book which was on my reading list	30.0%	18
I look for a specific book that had long caught my interest	18.3%	11
I just come across e-books by use of search engines or by trial and error	30.0%	18
I browse available e-books according to discipline through an e-book database or e-book collection	43.3%	26
I search e-books when print books are not available	20.0%	12
I cannot remember	6.7%	4
Other (please specify)	1.7%	1

Answered 75

Table 12 shows the highest number of respondents (86.4%) download books to read later, (34.1%), forty-five point five percent copied and pasted on their HDD (hard disk drives), with (34.1%) reading online and bookmarking for future reference. See full details in Table 12.

Table 12: Reading of E-books

	Response Percent	Response Count
I read it online and do not bookmark it	20.5%	9



I read it online and bookmark it for future reference, usually	34.1%	15
I download it to read it later	86.4%	38
I printed some/all of it	36.4%	16
I copied and pasted some of it on my hard drive	45.5%	20
I downloaded it into my blackberry/ipad/iphone/smart phone/other devices	11.4%	5
Other (please specify)	4.5%	2

Answered 74
skipped 1

The discussion on Tables 13 and 14 are presented together. Table 13 shows that the preferable e-book formats are PDF (86%) and full-text HTML (34.9%) in that order respectively. E-book readers do not appear to be used at all by respondents (0%) with (11.6%) using smartphones, androids and iphones, mobile telephony, a major player in Africa and Nigeria. Table 14 shows respondents perceive e-books as useful because of the ease of making copies/file sharing (87.5%), up-to-dateness (83.7%), 24/7 accessibility (83.3%), storage (82.9%) and esthetics (12.5%).

Table 13: E-book Formats

	Response Percent	Response Count
PDF	86.0%	37
Full-text HTML	34.9%	15
ePub	4.7%	2
Optimized for dedicated ebook device (e.g., Kindle, Sony Reader)	0.0%	0



Optimized for other mobile device (e.g., iPhone, Smartphone Androids)	11.6%	5
Other (please specify)	4.7%	2

Table 14: Perceived Usefulness

	Agree	Undecided	Disagree	Response Count
24/7 accessibility	83.3% (35)	4.8% (2)	11.9% (5)	42
Space/storage	82.9% (34)	12.2% (5)	4.9% (2)	41
Up-to-dateness	83.7% (36)	11.6% (5)	4.7% (2)	43
Esthetics	12.5% (4)	50.0% (16)	37.5% (12)	32
Ease of making copies/file sharing	87.5% (35)	10.0% (4)	2.5% (1)	40
Ease of use	81.0% (34)	11.9% (5)	7.1% (3)	42
Ease of reading	75.6% (31)	12.2% (5)	12.2% (5)	41
Pleasure of reading	59.0% (23)	23.1% (9)	17.9% (7)	3

Answered 75

Table 15 shows that e-books compare better to print books because of portability/lightweight (97.6%), ease of use (97.6%), file sharing/attachments to email (97.5%), multiple use/virtual use (87.5%), storage/retrieval (87.5%) down to (53.8%) who agree that e-books are inexpensive compared to the print books, (12.8%) disagree with this.

Table 15: Perceived Value of E-books

	Agree	undecided	Disagree	Response Count



Online access of e-books is much better and easier	97.6% (40)	2.4% (1)	0.0% (0)	41
E-books are easier to search compared to printed books	80.5% (33)	12.2% (5)	7.3% (3)	41
E-books are inexpensive	53.8% (21)	33.3% (13)	12.8% (5)	39
E-books are portable and lightweights compared to loads of printed	97.6% (41)	2.4% (1)	0.0% (0)	42
E-books are easier to navigate	80.5% (33)	14.6% (6)	4.9% (2)	41
Multiple and use from remote locations are possible with e-books	87.5% (35)	10.0% (4)	2.5% (1)	40
Copy and paste are possible with e-books	85.4% (35)	14.6% (6)	0.0% (0)	41
E-books are easy to read on-screen	78.0% (32)	9.8% (4)	12.2% (5)	41
E-books are easy to share by email attachments, etc	97.5% (39)	2.5% (1)	0.0% (0)	40
E-books are more up-to-date	83.3% (35)	14.3% (6)	2.4% (1)	42
Bookmarking and other features are available with e-books	79.5% (31)	20.5% (8)	0.0% (0)	39
Display flexibilities and quality graphics and colour in e-books	85.4% (35)	12.2% (5)	2.4% (1)	41
Storage of e-books is easy to find/retrieve	87.5% (35)	7.5% (3)	5.0% (2)	40

The discussion on Tables 16 to 18 is presented together. Table 16 shows the user responses to a number of statements. Users agree there is need for promotion and instruction on use of e-books (82.5%), there are problems of access to print books (68.3%), request for provision of e-books in the university library's e-learning centre (60%) and (37.5%) agree to having preference for print books, (37.5%) undecided and (25%) disagree with having preference for print books. A percentage of 32.5 agree there are not enough e-books in their disciplines and (32.5%) agree that screen reading is a problem with e-books. However,



(64.1%) agree with the statement that e-books are supplements and not substitutes for printed books, only (12.8%) does not share this view. Table 17 shows that (82.1%) agree that digital rights management issues such as password, access limitations inhibit their use of e-books. Other inhibitors are lack of training on e-book (47.4%), limited access to e-reading devices (45%), on-demand titles are not available from either the university or personal subscriptions (42.5%), (33.3%) just prefer print books, (31.6) find annotation difficult, e-books are not available concurrent with print books releases (30%). See table 17 for details. Lastly, table 18 shows that (65.1%) says the university (and its requisite departments) has not offered it any training on e-books usage.

Table 16: Perceptions of E-books

	Agree	Undecided	Disagree	Response Count
I request for provision of e-books in the library (&e-library)	60.0% (24)	17.5% (7)	22.5% (9)	40
Screen reading of e-books is a problem	32.5% (13)	22.5% (9)	45.0% (18)	40
I have a preference for printed books	37.5% (15)	37.5% (15)	25.0% (10)	40
There are problems of access to printed books	68.3% (28)	19.5% (8)	12.2% (5)	41
Need for more promotion and instruction on use of e-books	82.5% (33)	15.0% (6)	2.5% (1)	40
There are not enough e-books around in my discipline	32.5% (13)	25.0% (10)	42.5% (17)	40
I do not have access to e-books	10.3% (4)	23.1% (9)	66.7% (26)	39
E-books as supplement and not substitute for printed books	64.1% (25)	23.1% (9)	12.8% (5)	39
E-books are subject- dependent. Not many e-books in my field	30.0% (12)	30.0% (12)	40.0% (16)	40

Table 17: Constraints to the Use of E-books



	Agree	Undecided	Disagree	Response Count
Difficult to find/discover	22.0% (9)	29.3% (12)	48.8% (20)	41
Difficult to read onscreen/online	28.2% (11)	10.3% (4)	61.5% (24)	39
Difficult to annotate	31.6% (12)	31.6% (12)	36.8% (14)	38
Digital rights management issues – passwords, subscription, limitations in use, etc	82.1% (32)	7.7% (3)	10.3% (4)	39
Not available for preferred e-reading devices	30.0% (12)	40.0% (16)	30.0% (12)	40
Lack of ICT competencies	45.0% (18)	35.0% (14)	20.0% (8)	40
I prefer print books	33.3% (13)	28.2% (11)	38.5% (15)	39
On demand titles not available for library, e-library and my personal subscription	42.5% (17)	30.0% (12)	27.5% (11)	40
Lack of training on use of e-books	47.4% (18)	18.4% (7)	34.2% (13)	38
E-books are not available in my discipline	10.3% (4)	12.8% (5)	76.9% (30)	39
Faculty resistance	15.0% (6)	25.0% (10)	60.0% (24)	40
Complex downloading process	25.6% (10)	20.5% (8)	53.8% (21)	39
Unaware of e-book availability	12.5% (5)	17.5% (7)	70.0% (28)	40
E-book titles not available concurrent with print release	30.0% (12)	22.5% (9)	47.5% (19)	40

Table 18: E-book Training



	Response Percent	Response Count
Yes	9.3%	4
No	65.1%	28
I don't Know.	25.6%	11

Discussion of Findings

With respect to the individual faculty member, these findings echo several previous studies such as those of Nardi, Schiano and Gumbrecht (2004) and Trevino (2005) on Web 2.0 tools, social media and blogging. However, what sets this study apart from the previous studies is the focus on the influence of several factors (field of study, peer pressure, suitability, awareness, position of member of faculty, perceived ease of use and technical support) on the acceptance and the use of e-books' by the members of faculty in Nigeria. Thus, the perceived academic values are singled out and highlighted. The use of e-books is not just a trendy engagement but manifests academic rigour, research and studying. As such, the perceived academic affordances of e-books such as up-to-dateness, storage and file sharing act as predictors for the members of faculty to use e-books as well. The factors (peer influence, e-book availability, faculty member's position, attitude towards e-books, behavioural intention and relative advantages of e-books), influence the adoption and use of e-books by the members of faculty. The results indicate that there is the need for an organized and institutionalized framework that will incorporate these factors in the policies and strategies of e-books' implementation to increase the rate of adoption and use by the members of faculty. The findings in the study highlighted the problems of access to the print books (68.3% of respondents agree that there are problems of access with print books), that the use of e-books is filling, (64.1% of respondents see e-books as a supplement). Even though this study found that more respondents had preference for print books, the high preference corroborates the findings of Christianson and Aucoin (2005) that print books are mostly used than e-books. Littman and Connaway (2004) report a slightly different result though, with preference for e-books in a study at the University of Duke. In the present study in Nigeria, (53.3%, the highest percentage) was aware and found e-books from professional level journals and publications, with 75.6% aware of the availability of e-books at the university's e-learning centre and 24.2% unaware of this. Shelburne (2009), Rowland and Nicholas (2008) report similar findings 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. These are similar to Levine-Clark (2006) in a study at the University of Denver that reported fifty-six percent of graduate students and 52.9 percent of the faculty was aware that the university library offered e-book services. The e-book survey in Nigeria found that (53.3%) of the members of faculty learn about and find e-books from professional level journals and publications as well as (40%) hear about e-books from librarians, from colleagues (37.8%) and trial by error/by accident (17.8%). These findings are similar to Levine-Clark (2006) that found that the majority of the faculty (54 percent) learned about e-books through the catalogue and relied on librarians as the second most important means of awareness (28.3%).



The awareness of e-book availability does not necessarily translate into use (Massaro, 2010). As a result, questions were asked in the survey in Nigeria if respondents had ever used e-book and, if so, how often. Majority of the respondents (37.5%) used e-books only once a month. Similar finding is reported by many previous studies on e-books usage. Levine-Clark (2006) reported on frequency of use, that out of the 1,116 respondents to a survey at University of Denver, (27.7%) used e-books one time only, (62%) percent thought that they used them occasionally, and (10.3%) believed that they used them frequently. Sprague and Hunter (2008) reported approximately 19% of the University of Idaho library's e-book titles had been accessed at least once. Carlock and Perry (2008); Gregory (2008) have reported similar findings. At the University of Ilorin, research and study are the leading purposes for the use of e-books by the members of faculty and this is similar to the findings from the Springer (2008) survey at the University of Illinois at Urbana-Champaign where most users said they used e-books primarily for research and study, with teaching and leisure trailing far behind. E-textbooks and e-reference books, in that order, were the most used types of e-books by faculty in Nigeria. This is similar to evidence from a study of academics at the Indian institute of science where they mostly used reference and technical material (Anuradha and Usha, 2006).

Findings from the present study shows that (53.3%) of respondents conducted keyword searches and (43.3%) used a particular e-book by browsing through e-book collection or database by discipline, with (20%) searching to use e-books when the print books equivalents were not available. Levine-Clark (2006) reported that the respondents in a similar study at University of Denver, valued convenience (the convenience of not having to go to the library and the convenience of not having to wait for a print volume, 40.4%). Lynch (2006) reported that reading patterns are comparable for print and electronic resources. Google Book Search (72.6%) is the most popular place to begin a search by faculty in Nigeria while the 2008 Springer user survey found that users began their search for e-books at different places depending on the institution. Similar to findings from Nigeria, at the University of Muenster and CWI Amsterdam, users said they find e-books mostly through general search engines like Google. But at the University of Turku and the University of Illinois, online library catalogues served as the starting point for most users' e-book searches (Springer 2008 Survey)

The survey of the members of faculty at the University of Ilorin reported that (86.4%) of respondents downloaded e-books to read later, (34.1%), some (45.5%) copied and pasted onto their HDD (hard disk drives), with (34.1%) reading online and bookmarking for future reference. This is different to the report by Levine-Clark (2006) that a slight majority of respondents at University of Denver read e-books online. Majority of respondents (86%) in the present study preferred reading e-books in the portable document format (PDF). Anuradha and Usha (2006) reported that 90% of academics at the Indian institute of science preferred the PDF. The survey at the University of Ilorin shows that perceived usefulness is hinged majorly on e-books' ease of making copies/file sharing (87.5%) and up-to-dateness (83.7%). Anuradha and Usha (2006) reported similar findings in India. On the perceived value of e-books, findings from the present study found the e-books compared better to the print books in terms of the perceived value of portability/lightweight (97.6%), ease of use (97.6%), file sharing/attachments to email (97.5%), multiple use/virtual use (87.5%), storage/retrieval (87.5%). This finding is corroborated by a similar survey of six universities (from the US, Australia and Europe) by Springer 2008 survey that reported between 79 percent and 92 percent of users at each institution stated that they would like to use more e-books as a result of the perceived values of e-books.



The members of faculty of the University of Ilorin agree that there is need for promotion and instruction on the use of e-books (82.5%), there are problems of access to print books (68.3%), request for provision of e-books in the university library's e-learning centre (60%) and (37.5%) agree having preference for print books. Levine-Clark (2006) also reported respondents' comments in the survey at University of Denver suggesting a strong need for better marketing of electronic books as it was clear that one easy way to improve awareness was by educating the members of faculty as this had implications for students, too. A wider study by Springer e-Book Pilot Project (2011) reported similar findings.

At the University of Ilorin, 37.5% (the highest) of respondents indicated a preference for print books with 25% in disagreement but (64.1%) agree with the statement that e-books are supplements and not substitutes for the print books. Christianson and Aucoin (2005) found that 29.27% of print books in a large set of matched-pair print/e-books were used during one year compared to the matched e-books' 19.60%. Levine-Clark (2006) found that most respondents (over 60 percent) indicated a preference for print books over electronic, but an even larger number (over 80 percent) indicated a degree of flexibility between the two formats as the respondents were generally pleased with the e-book format. From the present survey, e-books are not likely to take over print books because screen reading of e-books is a problem (37.5%), lack of promotion and instruction on e-books (82.5%) making the majority to have a preference (37.5%) for print books. Connaway and Wicht (2007) explored the potential explanations for e-book use in academic libraries and reported that this had not grown as dramatically as some expected in recent years, the barriers identified included, lack of awareness, lack of training, lack of e-book standards, and limited discovery options. The constraints to the use of e-books found in the present study include, digital rights management issues such as password, access limitations, (82.1%) are issues that inhibit the use of e-books. Other constraints are the lack of training on e-book (47.4%), limited access to e-reading devices (45%) and on-demand e-titles' non-availability. ICT competencies is also a constraint that is unique to this study as several other studies (Vidana, 2003 and Rao, 2003) did not report this finding.

Conclusion

The findings do not show any major differences to the use of e-books along the lines of gender as other studies (Ismail and Zainab, 2005; McKnight and Dearnley, 2003) have indicated. E-books have become the toast of all due to their formatting features, file sharing, copying and pasting but for screen reading that is a major turn off. E-books are overwhelmingly useful as the perceived usefulness percentages show in the survey. Noteworthy are a few additional comments from the members of faculty on the need to have more e-books in their disciplines (mathematics and biology) made available in the e-learning centre of the university. There may be the need to drum up the complementary role of e-books to meet the shortfall in the number of print books and journals' availability instead of the much hype of an e-book take-over which this study did not find likely in years to come. Overall, the use of e-books is still low. The analysis of the results of the study based on each of the critical questions of the study indicate that the factors that influence the acceptance and the use of e-books by the members of faculty in Nigeria are the field of study, peer pressure, suitability, awareness, position of member of faculty, perceived ease of use and technical support. Understanding these factors will guide policies, devises, action plans and strategies of e-books' implementation and calls for interventions to the policy on the phenomenon. It is concluded that the perceived ease of use, relative advantages, peer pressure, the position of the member of faculty,



technical support and awareness and other factors seem to play crucial roles in the acceptance and the use of e-books in Nigeria. The findings suggest the need for awareness on e-books to grow from within the members of faculty themselves for the rates of adoption to increase.

Recommendations

The study recommends a policy intervention that will make e-books to augment the scarcity of print books in the libraries at the University of Ilorin and then embarkment on an aggressive marketing and promotion of e-books among the member of faculty to encourage them to adopt university wide - the library and other stakeholders to meet the non-availability of print book needs. The institution should drive the practice of e-books by making available more e-books across disciplines and make available hardware (printers and storage devices capabilities). The study also recommends the regular training on the use of e-books and how to access them. The technical aspects that should be of interest to e-book creators and providers should make e-books more user friendly with reader-friendly capabilities are suitable to the preferences of the members of faculty in Nigeria. The results and conclusions from the study suggest the use of factors like e-books availability, peer pressure, perceived ease of use and the position of the member of faculty and attitude to be used to extend the theoretical models of new technologies to better explain the acceptance and the use of e-books by the members of faculty in Nigeria. Lastly, the study suggests further research into e-books' usage amongst academics (including students), make comparisons in their usage, using more complex data analysis procedures, e-book models and more details of user habits and behaviour in more complex contexts.



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