POSTGRADUATE STUDENTS' USE OF EBOOKS AT THE UNIVERSITY OF IBADAN, NIGERIA

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ABSTRACT

The purpose of this study was to examine the diffusion of electronic books, commonly known as ebooks, among postgraduate students in the arts and technology faculties of the University of Ibadan, Nigeria. Ebooks have become increasingly popular in recent years, but factors influencing their adoption and use are not understood in many institutions. Guided by a sample survey design, data was collected from 346 postgraduate students, 129 from the arts and 202 from technology, using a questionnaire and an interview schedule. Students from both faculties used ebooks, identified through serendipitous browsing of the Internet, and mainly Google searches. Many of the ebooks they found are not recommended by their lecturers, while those that are recommended are not available free of charge. Students therefore use ebooks mainly to cross-validate and gain extra insights about what they have been taught. There are significant differences between arts and technology students' use of ebooks with respect to cost, ease of use and other aspects, with technology students having the advantage. There is no programme in the university aimed at harvesting and organising ebook resources for students to access. Institutionalising ebooks

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could be a useful strategy to address the dearth of current and relevant texts in universities, although ebooks may pose challenges to existing library management processes. An ebook revolution will cause great changes in information services in libraries – how would university libraries partner to benchmark this evolving practice with respect to questions about standards, technologies, licensing and pricing, particularly in the developing world?

Keywords: Nigeria, electronic books, diffusion of innovation, ebooks, University of Ibadan

1. INTRODUCTION

Electronic books, commonly known as ebooks, are becoming increasingly popular, and they have several advantages over hardcopy books. These advantages spread across different categories of users and/or providers – readers, publishers, authors and libraries (Jeong 2012). For readers, ebooks provide economy in mass; they are digital copies that do not take up physical space, and thousands of titles can fit onto lightweight memory cards. Also, their non-physical nature makes them easily portable. In addition, many ebooks use hyperlinks and provide multimedia services, full-text searching, reference linking, browsing, customisable fonts and backlighting, among others (Tholkappian and Chandran 2007). These are never-before-seen qualities that did not obtain with hardcopy books, no matter the innovation that was in existence. The linking quality of ebooks, for instance, permits the reader to move nonlinearly through the content of a book, and possibly even link with another book. Ebooks are a cheap source of content on most subjects for students because they employ the vast network of the web: the logic is that downloading a published book could be only a click away. The technology of ebooks came at a time when computing was undergoing rapid miniaturisation in the form of tablets, mobile phones and mini-laptops. These gadgets have diffused deep into human society, and they are strategic to content providers for both entertainment and education purposes. Yet, in many communities, adopting ebooks has been very slow (Armstrong 2008), and gaps exist in people's understanding of the technology and how it is spreading in different user communities.

Preliminary observations made at the University of Ibadan, Nigeria, prior to the present study showed that many Nigerian students have used ebooks. However, they encountered ebooks through serendipitous searching for information, and not necessarily through any contrived or systematic approach. While many of the students would prefer to keep hardcopy academic texts, those who had access to electronic versions of recommended academic texts downloaded them and saved them in their systems. A good proportion of the ebooks used by the students are in portable digital format. Furthermore, in big book stores that the researcher visited

prior to conducting the study, ereader technologies were unavailable. Generally, the nature of the uptake of ebooks in Nigeria is still uncertain, but it could be speculated that ebook users in Nigeria will face infrastructural challenges. For instance, despite the fast penetration of Internet services, there are still observations about low bandwidth leading to slow speed in retrieving books, particularly those that have graphic accompaniments (Posigha 2012).

Using ebooks involves some costs which students may not be capable of bearing. Even when the ebooks are affordable, the requirements to purchase them – from owning a credit card account to having actual credit in the account – may still be difficult conditions for students in Nigeria to meet. In a study of the pattern of electronic publishing innovation among Nigerian publishers, Ifeduba (2010) showed that many of the publishers and printers adopt various innovations. Ifeduba also showed that some publishers in Nigeria have begun distributing their titles through CD-ROMS, audio cassettes, audio CDs and print-on-demand titles. Further interaction with students showed that although students sometimes had access to some useful hardcopy books, they complained that a lot of their prescribed sources are not usually available on the web; those that are available are very costly; and the institutions do not make any provisions to enable students to have access to the electronic versions of the resources.

The characteristics of ebooks, communication channels, social systems and time have received attention in studies on ebook usage (Roland et al. 2007), and they may also explain the use of the technology among Nigerian students. Altogether, a synthesis of the observations so far supports some speculations that the students' demographic characteristics might influence the diffusion of ebooks. Furthermore, the reports of low awareness found in some countries (Abdullah and Gibb 2008) and lack of institutional action towards popularising ebooks in Nigeria might raise the question of the effects of communication channels and social systems on the diffusion of ebooks. Like most technologies, students will adopt ebooks at different times according to their individual circumstances.

The University of Ibadan is Nigeria's oldest university and is also the biggest in terms of academic staff size and student intake. It is popularly known as a major producer and supplier of academic manpower to other universities, particularly given its focus on postgraduate education (UI Publications Unit 2001). The university has a robust information and communications technology (ICT) programme for teaching and learning, and for administration as articulated in its ICT Policy (UI 2001). The university has huge electronic resources in its central library (Aramide and Bolarinwa 2010). However, like all the universities in Nigeria, the University of Ibadan faces challenges in providing infrastructure for teaching, learning and research. There are also the general challenges of funding, bandwidth, training, library facilities and poor learning and working conditions for staff and students, and these will undoubtedly impinge on the students' use of ebooks (Saint, Hartnett and Strassner 2003; World

Bank 2014). However, there has been no empirical study focusing on how ebooks have diffused among students at the university.

2. OBJECTIVES OF THE STUDY

The overall objective of the study was to investigate how ebooks have diffused among students of the University of Ibadan, Nigeria. The specific objectives were:

1. To examine the relationship between demographic factors on the diffusion of ebooks among arts and technology postgraduate students at the University of Ibadan, Nigeria.
2. To investigate the influence of innovation characteristics on the diffusion of ebooks among the students.
3. To determine the influence of communication channels on the diffusion of ebooks among the students.
4. To investigate the influence of social systems on the diffusion of ebooks among the students.
5. To examine the influence of time on the diffusion of ebook technology among the students.

2.1. Hypotheses

The following hypotheses were tested:

1. There is no significant relationship between the demographic characteristics of postgraduate students in arts and technology at the University of Ibadan and the diffusion of ebooks among them.
2. There is no significant relationship between the innovation characteristics of ebooks and the diffusion of ebook technology by postgraduate students in arts and technology at the university.
3. There is no significant relationship between social systems and the diffusion of ebook technology among arts and technology students at the university.

3. LITERATURE REVIEW

3.1. Ebooks

Ebooks are publications modelled on traditional publishing products but that can be read in the form of computer files, transferred as digital files or downloaded over the Internet onto desktop computers, laptops and other devices enabled to handle

such digital files. As products of electronic publishing, their production and sale are without recourse to print materials at any stage of production (Loebbecke 2010). They may be read as portable document format files or with the aid of electronic readers.

3.2. Ebook technologies

3.2.1. Dedicated ereaders

Electronic readers, or ereaders, are typically handheld devices capable of displaying ebooks using onboard software. The ebooks reader software operates on an ebooks reader providing copyright protection and display functions. In one report (AAP 2009) only 12 per cent of respondents used dedicated readers for reading ebooks. More than a dozen dedicated ereaders have been developed and are currently on the market. Products from Rocket reader, Cybook and GoReader lead the pack of ebooks reader technologies. There are also ereaders from Amazon Kindle, Android devices, Apple iPad, Azbooka WIS Ereader, among others. All these readers are not equally popular – some command larger market share than others. Their differences lie in their capabilities; some are not capable of displaying certain formats of ebooks. Some of the ereader technologies are developed by retailers of ebooks themselves to enable them market their own particular ebooks and safeguard their proprietary rights.

Most ereaders are customised for their own proprietary formats, that is ebooks bought on, say, Kindle, cannot be read on another ereader. This is a serious limitation for users, since they are tied to buying only ebooks of a particular format, even though titles that may be of more interest to them might are offered in formats different from that of their ereading devices. Because all formats do not have the same capability, manufacturers are experimenting with different formats and users and going through different formats to see which suits them most. Epub is emerging as a standard industry format for ebooks. However, not all ereaders can display epubs. Epub formats themselves come with some features, allowing wraparound and reflow, that is, a slight loss of format, which users accustomed to strict formatting in pdf files may find worrisome.

3.2.2. Ereader software

While ereading software displays electronic content for reading on dedicated devices, the same software can also be customised by its distributors to display ebooks to be read on personal computers, PDAs and mobile phones. The AAP (2008) report showed 87 per cent of respondents used laptop computers as their major reading device. Nearly all major ereader providers have a version of their software for reading ebooks on PCs. PCs have moved ahead of dedicated ereaders

in terms of screen resolution, avoiding flickering and providing much larger displays so as to avoid squinting and straining the eyes. However, the mode of operation and function remains the same in terms of security features, Digital Rights Management, and policies regarding borrowing and lending. Some ereading software is free for download. Manufacturers routinely offer free software to make their version of readers more popular than others and thus command higher market shares by offering the most titles they can using their reader format. The experiments of flipping pages to give the impression of real print books flipping have also been transferred to ereading software on PCs. In addition, some PC ereaders can format the displayed ebooks to approximate print book aspect ratio, giving the semblance of looking onto book pages. Combining two-page displays and flipping technology has taken ebooks steps closer to resembling print books. Essentially, it is an attempt to replicate a print culture within an eprint culture, minimising the cultural change that users have to undergo to embrace ebooks (Young 2008). However, Young observed that it will take more than a perfect electronic facsimile of print on paper to persuade readers to disengage with a print culture that incorporates bookshops, book clubs, writing in the margins, touching and smelling the pages and covers, admiring the typesetting, showing off their bookshelves, and visibly identifying with their collections.

Young (2008) contends that arguments about the conveniences of ebooks, such as flashing screens and scrolling, fail to address the broader apprehension about a cultural experience that many readers do not wish to leave behind – book lovers appear particularly resistant to any shift from print to a screen based format. This is one factor behind the study by Bunkell and Dyas-Correia (2009) that pointed to more students' still preferring print over ebooks. The study also showed evidence that ebooks are cost-effective, and that ebooks that hyperlink optimise usage of book titles, and optimise their access and discoverability. But earlier surveys, like Auman's (2002) in a United States (US) high school, showed that such additional features did not entice more subjects to read ebooks, noting instead that people read ebooks because of ease, convenience and quickness.

Ismail and Zainab (2005) conducted an awareness study among Malaysian students and found that gender had no significant relationship with use or non-use of ebooks, although their results showed that males tended to use ebooks more than females. Jung, Chan-Olmstead, Park and Kim (2012) attempted to predict the diffusion of ebooks in a national consumer survey conducted in South Korea, a leading country in the proliferation of ebook usage. Specifically, the study assessed the relative influence of demographics, media usage/ownership, and personal traits/perception variables in the technology adoption process. They found that awareness, interest and intention to adopt ebooks correlated positively with age, education, income, perceived need for print media, digital media ownership, personal innovativeness, and the perceived attributes of ebooks readers. The Jung et al. (2012) study also found that the most influential factors in predicting ebook reader awareness, interest,

and intention to use were demographic characteristics, personal innovativeness, and the perceived attributes of ebook readers.

Stahl and Maass (2006) in an empirical analysis of factors influencing adoption of paid content found that the existence of established, non-digital counterparts; experience and familiarity with paid content and micropayment services as well as economic advantage and perceived convenience are influential. A survey of 2 067 postgraduate and undergraduate students at the University of Denver, US, found that 72 per cent of the respondents had used ebooks more than once for three reasons: (i) no print versions of the books they needed were available in the school library; (ii) working from home made getting to the library difficult; and (iii), searching for text in ebooks was easier (Levine-Clark 2006).

People seldom read ebooks cover-to-cover in the traditional sense, but instead they approach ebooks as resources for finding immediate answers to questions. A study of ebook usage by Abdullah and Gibb (2008) at a Scottish higher education institute linked low level of use of ebooks to low awareness and also showed that non-ebook users expressed their desire to learn more about ebooks. According to Springer.com (2008), when individuals use ebooks, they are usually engaged in *horizontal information seeking* and *power browsing*, that is, they skim quickly through the reading material and bounce from source to source. But they do not necessarily have a feeling of owning a resource as they would if they had been reading a hard copy book. In addition, ebooks are particularly effective when doing research because they are *convenient, easily accessible* and offer *enhanced functions* when compared with traditional printed literature.

The 2008 Springer.com user survey also found that users most frequently locate ebooks through general search engines like Google as well as through online library catalogues. Gunter (2005) and Ismail and Zainab (2005) observed that higher education students used electronic academic texts acquired as free download from websites. Springer.com also found that print books are perceived to have an advantage in their ease and enjoyability of reading. In his study on information sources and seeking behaviour of arts and technology students in the University of Ibadan, Nwagwu (2012) did not find any significant difference in the use of electronic information sources between arts and technology disciplines.

4. THEORETICAL FRAMEWORK – DIFFUSION OF INNOVATIONS THEORY

Rogers' (1995) Diffusion of Innovations (DoI) theory is a standard scheme for describing the perceived attributes of innovations in universal terms. The DoI theory is seen as a way of understanding exposure to new ideas, objects or practice (Ifeduba 2010). The DoI theory postulates that the process of spreading new ideas may be

either fast or slow depending on the environment and circumstances of the change agents.

4.1. Key variables in diffusion of innovations

Four elements are found to be critical in the DoI theory, namely: innovation, communication channel, time and social system, each of which is briefly presented.

4.1.1. Innovation

According to Rogers (1995), an innovation is an idea, a practice, or an object perceived as new. Other than being new, a modification of an existing idea, practice or object is also considered an innovation. However, certain characteristics of innovations perceived by adopters determine their rate of adoption within a social system. They include:

i. Relative advantage of an innovation is the degree to which it is perceived as being better than the idea it supersedes. Relative advantage may be measured in terms of economic profitability, time saved, hazards removed, and social benefits.
ii. Compatibility of an innovation is the degree to which it is perceived as being consistent with the existing values, past experiences and needs of whoever receives the innovation.
iii. Complexity of an innovation is the degree to which it is perceived as relatively difficult to understand. It is assumed to be negatively related to innovation adoption and implementation.

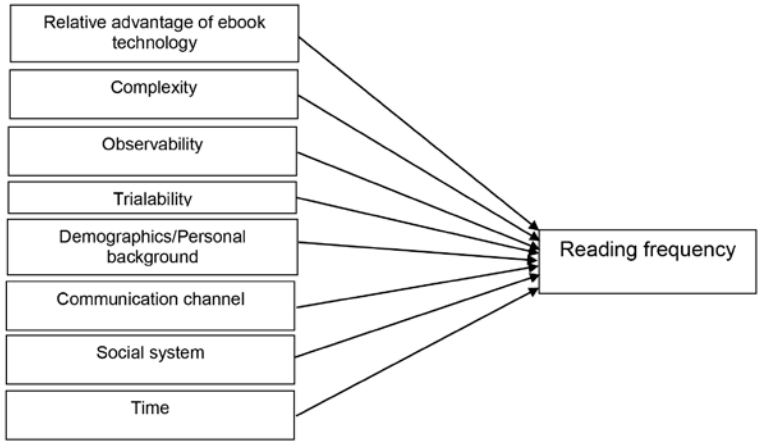


Figure 1: DoI model

iv. Trialability of an innovation is the degree to which it may be experimented with on a limited basis. In theory, innovations that can be tried in instalments are more adopted than those that cannot be trialled.
v. Observability of an innovation addresses the degree to which the results of an innovation are visible to others. Furthermore, the more visible the results of adoption, the more likely the technology will be adopted by others.

4.1.2. Communication channel

A communication channel is the means by which messages move from one individual to another. Rogers notes various types of communication channels, namely, personal communication and mass media. According to Rogers, the mass media channel is more effective at creating knowledge of an innovation, but interpersonal channels more effectively form and change attitudes toward an innovation. However, studies have argued that just those two channels are inadequate and intermediate communication channels, such as the local media, have been suggested.

4.1.3. Time

Time affects innovation adoption in three ways: first, the time involved in the process to decide about the innovation – the mental process through which an individual passes from first knowledge of an innovation to forming an attitude towards the innovation. The second is the relative speed with which individuals of a social system adopt an innovation, measured in the number of individuals adopting it over a given time. The third is the innovativeness of an individual or some other adopting unit, referring to the degree to which an individual is relatively early in adopting innovations than other members of the same social system. Time is the major distinction among early adopters, opinion leaders, opinion followers and laggards.

4.1.4. Social system

Social system denotes a set of integrated units that are engaged in joint problem solving to accomplish a goal (Ajayi 2010). The members or units of a social system may be individuals, informal groups and organisations. Essentially, it constitutes a boundary within which an innovation diffuses among individuals, organisations and informal groups. Social system also concerns the nature of the social system in which adopters find themselves, where they are influenced by social norms and structures, role of opinion leaders and change agents in the society; the type of innovation-decision; and the consequences of innovation – whether desirable, direct, anticipated or the opposite of all three.

4.2. Diffusion of ebooks – empirical studies

There are several reasons why content should be in electronic format. Electronic content benefits from hyperlinks, non-linearity, addition of multimedia (i.e. content presentation is enhanced by mixing multiple information types, such as images, sound and video), data density, and searching – the usefulness of the content is enhanced by the ability of the users to locate any piece of information, or to access any section instantly (Bonime and Pohlmanne 1998; Eiamkanchanalai and Assarut 2011). Stahl and Maass (2006), in an empirical analysis of factors influencing the adoption of paid content, found three major factors, namely: (i) the existence of established, non-digital counterparts; (ii) experience and familiarity with paid content and micropayment services; and (iii) economic advantage and perceived convenience.

A survey of 2 067 students at the University of Denver, US, found that 72 per cent of the respondents had used ebooks more than once for three reasons, namely: (i) no print versions of the books they needed were available in the school library; (ii) working from home made getting to the library difficult; and (iii) searching for text in e-books was easier (Levine-Clark 2006). However, most of the students read only part of the ebooks, and only 7.1 per cent of the respondents indicated reading the entire book. More than 60 per cent of them would still choose a print book given the options, compared with 25 per cent who would choose an ebook.

In a study of comprehension, eye fatigue and perception linked to ebooks among public school students, Jeong (2012) found that students reported greater eye fatigue when using ebooks compared with print books and that while they were satisfied with ebooks, they still preferred print books. Other studies have linked discipline to use of ebooks, with some disciplines lending themselves to ebook use more than others (Dillon 2001), or for certain purposes as reference materials or search (Healy 2002; McCarty 2001). It is evident that as ebooks in all their forms become core elements of library collections, the publishing world and library holders and users face new realities about ebooks that they are unable to deal with in the way ebook creators envision. In addition to technology and readability, the issues relate to access, borrowing, level of knowledge about special features will continue to be very strong issues (Soules 2010).

Jung et al. (2012) attempted to predict the diffusion of ebooks through the use of ebook readers in a national consumer survey conducted in South Korea, a leading country in the use of ebooks. Specifically, the study assessed the relative influence of demographics, media usage/ownership, and personal traits/perception variables on the technology-adoption process. The study found that awareness, interest and intention to adopt correlated positively with age, education, income, perceived need for print media, digital media ownership, personal innovativeness, and the perceived attributes of ebook readers. The Jung et al. study went on to note that the most influential factors in predicting ebook reader awareness, interest, and intention to use were demographics, personal innovativeness, and the perceived attributes of

ebook readers, respectively. Proprietary issues and format are also considerations for publishers venturing into the ebook domain who are afraid that their titles could easily be downloaded free of charge. This is despite the fact that Ifeduba (2010) has shown that some publishers in Nigeria have begun distributing their titles through CD-ROMS, audio cassettes, audio CDs and print-on-demand titles. This mode of publishing is distant from the mode of electronic publishing investigated in the study.

5. METHODOLOGY

5.1. Location, research design and population of the study

The study was carried out at the University of Ibadan in southwest Nigeria. The study population was 1 518 postgraduate students, consisting of 438 from the arts and 1 080 from technology (Nwagwu 2012). The Faculty of Technology comprises all the engineering disciplines in the university, including mechanical, civil, production, petroleum, electrical and electronic, agriculture and food technology. Similarly, the Faculty of Arts comprises several disciplines, such as English language, modern European studies (consisting of Russian, German and French), theatre arts, classics, history, linguistics (Hausa, Yoruba and Igbo), archaeology, communication and language arts, religious studies, Islamic studies and philosophy. A sample survey was adopted for the research because it would allow for observing and obtaining information about facts pertaining to individuals or other entities on specific problems from a very large and dispersed population. The accidental sampling technique was adopted to survey students who were seen in the faculties at the time of the study and who agreed to complete the survey instrument. A sample size of 200 students from each of the faculties was purposively chosen, and the relative largeness of the sample was expected to improve the quality of the survey results.

5.2. Instrument design and administration

The data was collected using a questionnaire and an interview schedule. Interviews were considered essential since the subject of interest concerned human experiences which might also need to be captured at that level. Moreover, the theory used in the investigation was not modified. It could therefore omit aspects of the experiences of the students in a community different from the community in which the theory was developed. Instead of pre-empting these variables, the researchers chose to engage in discussions with students to bring out any salient and peculiar experiences they might have had. The interviews were semi-structured, but contained key issues, such as: the need to know whether the students use ebooks; to gauge specific ebooks the students have used; and to gauge the students' knowledge about ereaders. The interviews also inquired whether the students have ever subscribed for access to, or

bought any ebooks, and preference of the students between ebooks and hardcopy books. Finally, the interviews gauged how the students identified the ebooks they have used. The interviews were conducted first in order to determine whether ebooks were actually being used, in order to support the use of innovation adoption theory.

The questionnaire was also considered essential since the study was quantitative and there were a large number of respondents. Moreover, most studies on innovation adoption utilise questionnaires. The questionnaire was divided into five parts, each addressing a specific variable in the study. The first part guided data collection on the respondents' demographic characteristics. The other four parts addressed the characteristics of ebooks, and the influence of time, social systems and communication channels of ebooks. Characteristics of ebooks, namely, relative advantage and complexity, trialability, communication channels and compatibility of ebooks, were measured on a 5-point Likert scale of strongly agree, agree, don't know, disagree and strongly disagree. Diffusion of ebooks was measured by frequency of ebook use. The innovation adoption variables used in the study were exactly those suggested by Rogers (1985).

During August 2012, the researchers visited students in their departments during lecture periods and distributed copies of the questionnaire to those who accepted to participate in the study. Questions arising from the students about the questionnaire were answered, and explanations were given where necessary. Students filled out the questionnaire at their convenience, and the researcher retrieved the questionnaires at an agreed time. Out of the 400 copies of the questionnaire distributed, only 346 respondents returned their instruments, a response rate of 82.75 per cent. A total of 15 copies of the questionnaire were invalidated because they were not properly completed, leaving 331 valid copies consisting of 129 from technology and 202 from the arts. Chi square analysis was used to establish significant differences between technology and arts students' use of ebooks. Spearman's rank correlation was used to test the hypotheses. From a 5-point Likert scale, the responses were re-coded to a 3-point scale type.

The face validity of the questionnaire and the interview guide was established by the research specialists at the Africa Regional Centre for Information Science, University of Ibadan. A reliability test on the variables in the questionnaire was carried out using Cronbach's alpha analysis (see Table 1).

Table 1: Cronbach's alpha correlation for major variables

Variable	Mean	SD	Cronbach's alpha	Constructs
Relative advantage of ebook technology	13.37	2.14	0.56	7
Complexity of ebook technology	8.35	2.65	0.76	6
Trialability of ebook technology	5.69	1.19	0.39	3
Observability of ebook technology	7.75	1.48	0.61	4
Compatibility of ebook technology	7.27	1.77	0.66	4
Communication channels	12.08	3.21	0.82	7
Social systems of ebook technology	4.79	0.99	0.59	3

Placing Cronbach's alpha threshold at 0.5, Table 1 shows that the value for trialability (0.396) was below the threshold, thus the variable was deleted from further analysis. The mean values of the responses to the variables showed that relative advantage of ebook technology, communication channels and observability of ebook technology had the highest means.

6. FINDINGS FROM THE QUESTIONNAIRE SURVEY

6.1. Background of respondents

Table 2 shows the similarity in the distribution of the respondents' sex in both faculties. Generally, arts (55%) and technology (45%) had more males than females involved in the study. The youngest respondent was in arts, but technology had more older students, ≥ 36, (10%) than arts (6.2%). Technology also had the highest number of students aged 26–30 years who accounted for a little more than 55 per cent of the respondents.

Table 2: Demographic characteristics of respondents

Demographic characteristic		Faculty				Total		χ^2	*p*
	Technology		Arts						
	N	%	N	%	N	%			
Sex	Male	71	54.7	110	54.7	181	54.7	0.000	0.993
	Female	58	45.3	92	45.3	150	45.3		
Age (years)	≤ 20	0	0.0	3	1.2	2	0.6	6.700	0.15
	21–25	19	14.7	45	22.4	61	18.4		
	26–30	71	55.3	100	49.7	174	52.6		
	31–35	26	20.0	41	20.5	67	20.2		
	≥ 36	13	10.0	13	6.2	27	8.2		
Level of study	PGD	14	11.2	23	15.5	44	13.3	2.541	0.281
	Master's	106	81.8	165	74.5	259	78.2		
	PhD	9	7.1	14	9.9	28	8.5		

Arts had more students enrolled for postgraduate diplomas (16%) and doctorates (10%) than technology, but technology had 82 per cent students who were in a master's programme compared with 74.5 per cent in arts.

6.2. Innovation characteristics of ebooks

The innovation characteristics of ebooks that were of interest in the study were relative advantage, trialability, observability, complexity and compatibility.

6.2.1. Relative advantage of ebooks

Table 3 shows that there was a statistically significant difference between arts and technology students regarding the cost of ebooks nology facultues ($\chi^2 = 7.622$; $p = 0.022$), access ($\chi^2 = 8.343$; $p = 0.015$), physical space ($\chi^2 = 11.887$; $p = 0.003$), user friendly features ($\chi^2 = 16.985$; $p = 0.000$) and availability ($\chi^2 = 8.805$; $p = 0.012$). Students in both faculties did not differ in their perceptions about the online availability and ease of search of ebooks.

Table 3: Relative advantage of ebooks

Variable	Measure	Faculty %		Total %	$\chi 2$	*p*
		Technology	Arts			
Ebooks are cheap	Disagree	37.1	49.4	43.1	7.622	0.022
	Agree	75.6	37.5	45.3		
	Don't know	10.2	13.1	11.6		
Ebooks are available online	Disagree	8.3	6.8	7.6	0.366	0.833
	Agree	88.2	88.8	88.5		
	Don't know	3.6	4.3	3.9		
Easy access to new ebooks	Disagree	28.4	41.9	35	8.343	0.015
	Agree	58.6	43.1	51.1		
	Don't know	13	15	14		
Easy to search	Disagree	16.1	21.9	18.9	1.971	0.373
	Agree	72.0	65.6	68.9		
	Don't know	11.9	12.5	12.2		
They take less physical space	Disagree	8.4	16.5	12.3	11.887	0.003
	Agree	75.4	57.6	66.8		
	Don't know	16.2	25.9	20.9		
Have user friendly features	Disagree	13.1	32.1	22.3	16.985	0.000
	Agree	67.9	53.5	60.9		
	Don't know	19.0	14.5	16.8		
Available round the clock	Disagree	22.5	17.5	20.1	8.805	0.012
	Agree	55.6	70.6	62.9		
	Don't know	21.9	11.9	17		

A large number of technology students (75.6%) and about half of this number from arts (37.5%) agreed that ebooks are cheap relative to hardcopy books. More technology students (58.6%) than arts students (43.1%) reported ebooks as being relatively easy to access. In respect of the physical space which ebooks occupy, 75.4 per cent of technology students favoured ebooks in comparison with 57.6 per cent of arts students. The result was the same for user-friendliness of ebooks, where 67.9 per cent of technology students and 53.5 per cent of arts students reported in the affirmative. The only aspect of the relative advantages of ebooks where arts students (70.6%) reported higher agreement figures than technology students (55.6%) was in respect of the continuous availability of ebooks.

6.2.2. Complexity of ebooks

Consistently more arts students had difficulty with understanding how ebooks work, that is, 20 per cent of arts students compared with only 12 per cent of technology students, and this difference was significant ($\chi^2 = 12.102$; $p = 0.002$) (see Table 4). More arts students also found ebooks too sophisticated – 15 per cent of arts students against 4 per cent of technology students – the difference is also significant ($\chi^2 = 15.552$; $p = 0.000$).

Table 4: Complexity of ebooks

Variable	Measure	Discipline		Total	$\chi 2$	p
		Technology	Arts			
… difficult to understand	Disagree	69.1	72.6	70.8	12.102	0.002
	Agree	12.1	20.4	16.1		
	Don't know	18.8	7.0	13		
… too sophisticated	Disagree	84.2	81.6	83	15.522	0.000
	Agree	4.2	14.6	9.3		
	Don't know	11.5	3.8	7.7		
… confusing	Disagree	76.8	70.9	73.9	9.214	0.010
	Agree	8.5	19.6	14.0		
	Don't know	14.6	9.5	12.2		
No Internet access	Disagree	74.1	69	71.6	5.999	0.050
	Agree	15.1	24.7	19.8		
	Don't know	10.8	6.3	8.6		
… don't have required software	Disagree	63.4	56	59.8	4.856	0.088
	Agree	22	32.7	27.2		
	Don't know	14.6	11.3	13		
… don't have ereader	Disagree	68.1	61.1	64.7	7.836	0.020
	Agree	22.3	34.4	28.2		
	Don't know	9.6	4.5	7.1		

Are ebooks confusing to use? A very small proportion of technology students (8.5%) and a relatively higher number of arts students (19.6%) answered this question affirmatively. However, there was a significant difference between the responses of arts and technology students on this subject matter ($\chi^2 = 9.214$; $p = 0.010$). Internet access appears not to be a serious problem to the students in respect of access to

ebooks as only 5.1 per cent of technology students and more arts students (24.7%) affirmed the bottlenecks posed by Internet access ($\chi^2 = 5.999$; $p = 0.050$). Also, ownership of ereaders posed a challenge to few students, namely, 22.3 per cent of technology students and 34.4 per cent of arts students ($\chi^2 = 7.836$; $p = 0.020$).

6.2.3. Observability of ebooks

Table 5 shows the pattern of distribution in students' responses as to whether they were influenced by observations about ebook technology. More arts students (63.9%) than those in technology (52.1%) were influenced by others who use ebooks ($\chi^2 = 6.054$; $p = 0.048$).

Table 5: Observability of ebooks

Variable	Measure	Discipline		Total	$\chi 2$	p
		Technology	Arts			
I was influenced by others who read an ebooks	Disagree	33.3	28.5	31	6.054	0.048
	Agree	52.1	63.9	57.9		
	Don't know	14.5	7.6	11.1		
I was influenced by advantages of ebooks	Disagree	15.2	17.9	16.6	4.477	0.107
	Agree	71.3	75.6	73.4		
	Don't know	13.4	6.4	10		
I was satisfied with the result of reading ebooks	Disagree	12.1	17.9	15	2.464	0.292
	Agree	73.3	70.5	72		
	Don't know	14.5	11.5	13.1		
Ebooks are worth their value	Disagree	9.7	14	11.8	1.445	0.486
	Agree	74.5	70.7	72.7		
	Don't know	15.8	15.3	15.5		

However, there was no significant difference between technology and arts students in respect of advantages of ebooks ($\chi^2 = 4.477$; $p = 0.107$); satisfaction with results of reading ebooks ($\chi^2 = 2.464$; $p = 0.292$); and ebooks being worth their value ($\chi^2 = 1.445$; $p = 0.486$).

6.2.4. Compatibility of ebooks

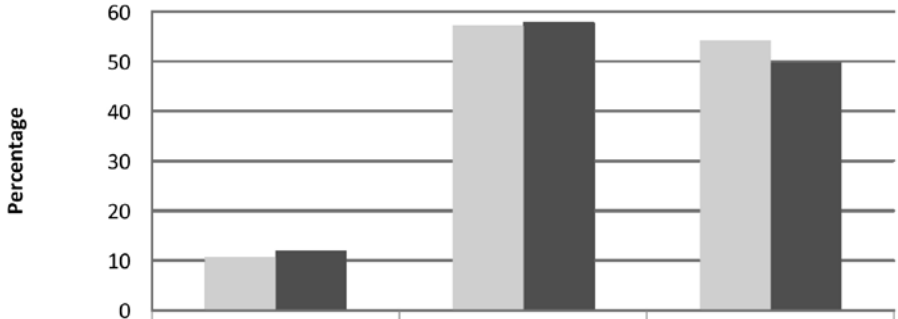
Table 6 represents the result about the perceived compatibility of ebooks with the students' lifestyle. More technology students (64%) found that ebooks fit their

schedule and helped them read more, compared with 58 per cent of arts students (χ^2 = 6.821; p = 0.033), and this was the only significant result for this variable.

Table 6: Compatibility of ebooks

Variable	Measure	Faculty		Total	$\chi 2$	p
		Technology	Arts			
Using ebooks fits my schedule	Disagree	20.1	32.1	25.9	6.821	0.033
	Agree	64	57.7	60.9		
	Don't know	15.9	10.3	13.1		
No library visit required	Disagree	44.8	39.7	42.4	5.040	0.080
	Agree	42.4	53.2	47.7		
	Don't know	12.7	7.1	10		
Ebooks helped me read more	Disagree	18.9	24.7	21.7	1.977	0.372
	Agree	65.2	63	64.2		
	Don't know	15.9	12.3	14.2		
Ebooks as good as print	Disagree	34.1	33.5	33.9	2.319	0.314
	Agree	49.4	55.5	52.4		
	Don't know	16.5	11	13.8		

Also, for 56 per cent of arts students, against 49 per cent of technology students, ebooks are not as good as print (χ^2 = 2.319; p = 0.314), but the difference was not statistically significant. Similarly, there was no statistically significant difference between the arts and technology students with regard to the necessity of library visits on account of having access to ebooks (χ^2 = 5.040; p = 0.080); 53 per cent of arts students agreed that library visits are not necessary, compared with 65 per cent of technology students who agreed.



	Belong to clubs with ebooks	Extra-community interaction	Intra-community interaction
Technology	10.6	57.1	54.1
Arts	11.9	57.8	49.7

Figure 2: The social system

6.2.5. Social system

Figure 2 shows that only 11 per cent of total students belong to clubs that offer ebooks: there were nearly equal proportions of technology and arts students in this group, and there was no significant difference between the groups ($\chi^2 = 0.137$; $p = 0.730$). Similarly, equal proportions of arts (57%) and technology (57%) students reported that the social system allowed them to interact outside their immediate communities, and there was no significant difference between the groups ($\chi^2 = 0.017$; $p = 0.912$). Further, 54 per cent of technology students interacted within their community, while 59 per cent of arts students did. There was no significant difference between the groups' responses in respect of the influence of social systems.

6.2.6. Time

Table 7 shows that there were differences between technology and arts students regarding when they started using ebooks ($\chi^2 = 35.153$; $p = 0.000$) and the overall duration of their use of ebooks ($\chi^2 = 28.007$; $p = 0.000$). About 42 per cent of technology students began using ebooks before 2008, compared with 17 per cent of arts students who started using at the same time. However, from 2009, more arts students than technology began using ebooks, with 27 per cent in 2009; 29 per cent in 2010; 15 per cent in 2011; and 11.2 per cent in 2012.

Table 7: Time

Variable	Measure	Faculty		Total	$\chi 2$	SD
		Technology	Arts			
When did you begin using ebooks?	Before 2008	42.4	17.4	30.2	35.153	0.000
	2009	25.9	27.3	26.6		
	2010	18.8	29.2	23.9		
	2011	11.8	14.9	13.3		
Frequency of reading ebooks	Every day	30.6	28.6	29.6	3.248	0.517
	Twice weekly	30.6	27.3	29		
	Once weekly	15.9	17.4	16.6		
	Once fortnightly	11.8	9.3	10.6		
	Once monthly	11.2	17.4	14.2		

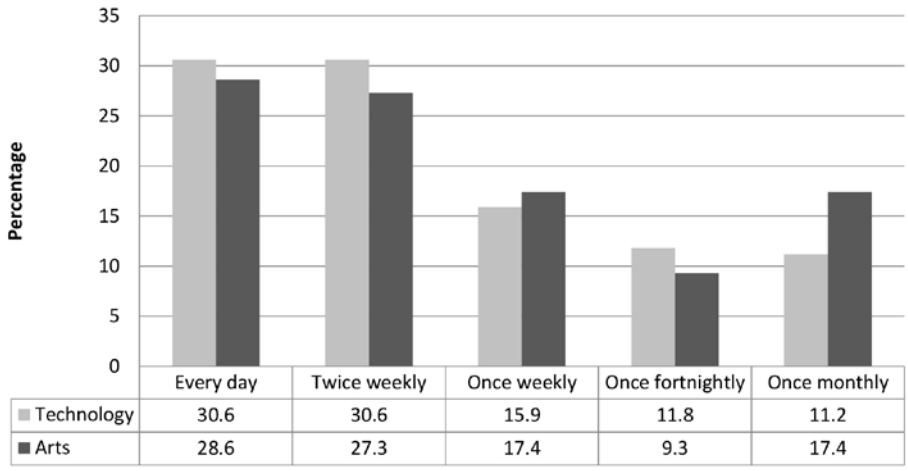


Figure 3: Frequency of use of ebooks

7. TEST OF THE HYPOTHESES

Spearman's rank correlation was used to test the relationship between demographic characteristics, innovation characteristics, communication channels, social systems and time, and frequency of reading ebooks.

Hypothesis 1

There is no significant relationship between the demographic characteristics of postgraduate students in arts and technology at the University of Ibadan and the frequency of reading ebooks.

There was a weak positive correlation of 0.060 between the students' age and reading frequency. The correlation was stronger among arts students ($r = 0.793$; N = 161; $p > 0.181$) where it was positive, than technology students ($r = 0.020$; N = 170; $p > 0.397$). In either case, p was not significant. Gender had a positive correlation with reading frequency among the students, but the correlation was weak regardless of discipline. Whether the students were male or female had little to do with their frequency of reading of ebooks, but correlation with gender was stronger among technology students ($r = 0.183$; N = 170; $p > 0.224$) than arts students ($r = 0.017$; N = 161; $p > 0.181$). The correlations were not significant at $p < 0.05$.

The correlation was positive between PGD level of study and reading frequency in all cases. It was stronger among arts students ($r = 0.421$; N = 161; $p > 0.118$) than technology students ($r = 0.062$; N = 170; $p > 0.011$), but not significant. Among PhD students, there was a correlation between using ebooks and their level of study; while it was positive among arts students, the reverse was the case among technology students, where it was stronger ($r = –0.132$; N = 170; $p > 0.001$) and significant. Considering the p-values in total, the null hypothesis is accepted for age, gender, PGD study level and PhD study level.

Table 8: Correlation analysis between demographic characteristics of students and reading frequency

		Technology N = 170		Arts N = 161		Total	
		p	***r***	***p***	***r***	***p***	***r***
Age		0.020	0.397	0.793	0.181	0.060	0.277
Gender (Female = 0) Male		0.183	0.224	0.017	0.872	0.097	0.079
Level of study	PGD	0.062	0.011	0.421	0.118	0.091	0.097
	PhD	–0.132	0.001	0.087	0.076	–0.130	0.018

Hypothesis 2

There is no significant relationship between the innovation characteristics of ebooks and the reading frequency of ebooks by postgraduate students in arts and technology at the university.

The correlation between reading frequency and relative advantage of ebooks was weak, negative and not significant (r = –0.052; N = 316; p = 0.353). Reading frequency did not improve among students regardless of whether they were enrolled in arts or technology programmes. There was also a stronger correlation between complexity and reading frequency among arts students, and the relationship was significant (p = 0.001).

Table 9: Correlation analysis between innovation characteristics of ebooks and reading frequency

	Technology			**Arts**			**Total**		
	r	**N**	***p***	***r***	**N**	***p***	***r***	**N**	***p***
Relative advantage	–0.040	163	0.612	–0.056	153	0.493	–0.052	316	0.353
Complexity	0.117	162	0.139	0.251	155	0.002	0.180	317	0.001
Observability	–0.043	165	0.587	0.074	155	0.354	0.070	323	0.852
Compatibility	–0.066	164	0.399	–0.132	156	0.099	–0.101	320	0.055
Communication channels	–0.021	169	0.783	–0.013	158	0.868	–0.023	327	0.674
Time	0.111	170	0.149	–0.042	161	0.599	0.069	331	0.214

The observability of ebooks had a positive correlation with reading frequency among arts students while it was negative among technology students. In addition, reading frequency showed a higher but negative correlation with compatibility of ebook technology among arts students (r = –0.132) than technology students (r = –0.066). Thus, the null hypothesis that there is no significant relationship between reading frequency of ebooks and their innovation characteristics is not rejected for relative advantage and observability, but it is rejected for complexity and compatibility. Communication channels had a weak, negative correlation with reading frequency among students without consideration for their discipline, but the correlation was not significant.

8. DISCUSSION OF FINDINGS

The interviews were conducted before the questionnaire survey. All the students in both faculties reported that they have seen an ebook resource on the Internet. To reinforce that they actually have and use ebooks, five technology students said that they have folders on their laptops where they store all the ebooks they download from the Internet. A student of linguistics reported that she resorts to the Internet to search for books of interest, and that she finds books which help her to understand

concepts in her discipline. Students from both faculties reported that many ebooks are never complete – aspects of the book are just deposited on the Internet to attract buyers.

None of the students reported awareness and use of ereaders, although students in technology knew that such a device exists. The students merely click on the book items and retrieve them in the format in which they are deposited, either in HTML or pdf format. The response to having subscribed to ebooks was negative: some have not thought about ever subscribing to ebooks; some said they do not have the money to do so; and others consider the process of payment very stressful. Most interesting was the response from a female student who mentioned the blacklisting of Nigerians by many ebooks sellers in the developed countries 'because of 419ers' – an electronic mail scam often attributed to cybercriminals from Nigeria. The response on preference between ebook and hardcopy shows that ebooks are a necessity arising due to lack of access to hardcopies of required books, curiosity and serendipity. Students would prefer to use hardcopy books. Although ebooks could be read on electronic devices anywhere and anytime, poor Internet access, lack of power supply and the difficulty of scrolling up and down constitute major constraints in enjoyable use of ebooks. One of the students asked "what happens when my system crashes, a hardcopy book will always stay with me. Besides, it is a property". Ebooks appear to be very important when the need to support what was taught or what is in the textbook arises. Ebooks appear to serve mainly the purpose of 'other sources', and are not necessarily the major sources students would rely upon. Ebooks expand students' opportunities of meeting cross referencing needs during research. Students' responses also suggested that many of the ebooks they have used are not hyperlinked, either internally or externally.

On how students identify the ebooks they read, the interviews established that students type in the keyword in Google or any other search engine and then browse through the results to make their choices. This points to the significant roles of ebook vendors in making ebooks available in terms of cost and ebook technologies – in terms of accessibility and availability. A more recent study by Vasileiou, Rowley and Hartley (2012) corroborated this finding.

The questionnaire provided further insights on the diffusion of ebooks among the students. Why do a large number of technology students consider ebooks as cheap compared to arts students? Addressing this question might require more than the results found in the current study. Technology is basically an international discipline, with methods and processes expected to fit internationally proven theories. In support of this, engineers work to develop economic and safe solutions to practical problems, by applying mathematics, scientific knowledge and ingenuity while considering technical constraints (Nwagwu 2012). On the other hand, arts as a discipline is mainly local in content, seeking to portray, preserve and promote culture. Arts involve imagination, creativity, and basically non-scientific activities.

Although some foreign languages are studied in the arts faculty, the number of students attracted by these disciplines is too small to influence the generally known local content nature of the arts. It could be inferred from this comparison that books on technology could be more available on the Internet than books on arts. Books written using standard and universal knowledge could emanate from anywhere in the world, whereas books written to inform and promote local realities and culture, for instance on Nigeria, might be limited in their environments of production and focus. With low production of educational books in Nigeria in comparison with the heavy traffic of international information in the World Wide Web, Nigerian students might find technology and engineering information on the Web more than they would local arts and culture information.

A follow up to this argument relates to whether sufficient Nigerian arts books are available electronically in comparison with technology and engineering resources. This result is different from the findings of Borchert et al. (2010) who found that in Australia, arts students (68%) surpassed engineering students (50%) in ebook use. This differential might be due to differences in technology development and adoption between the two countries. More developed countries might have their local information resources on the Internet more than low income and developing countries. This synthesis may suffice to explain why more technology students also reported ebooks as being cheap compared with arts students who did so. The similarity in the reporting about availability of ebooks between arts and technology students could be because of the common knowledge that information on the Internet is easy to access and use irrespective of the discipline. Nwagwu (2012) reported in his study on information sources and seeking behaviour of arts and technology students at the University of Ibadan that there was no significant difference in use of electronic information sources between arts and technology disciplines. However, electronic resources are more embracing than ebooks which are specific. Also, while this present study broke the use components by innovation diffusion variables, the former was not based on any theoretical model.

Reporting on actual access to ebooks differs among students in the two faculties, with more technology students than arts reporting that ebooks are accessible. Access is a complex phenomenon, encompassing social, cognitive, physical, and others. Computer use and Internet access are compulsory for technology students at the University of Ibadan; but this is not the case with arts students. The nature of technology and engineering education encompasses some activities that are associated with computer technology, such as programming; the computer itself is largely a product of engineering and technology. This observation might partly address the question of physical access. There are several studies that show that technology students embrace and are more adept at the computer technology more than arts students. In terms of ebooks taking up of physical space in comparison with physical book and user-friendliness of ebooks, technology students also reported

higher agreement than arts students. They are likely to download more books than arts students since they would have access to more resources than their arts counterparts.

Except on the question of having access to the required software where there is no difference between arts and technology students, the difference between arts and technology students in other variables about ebooks complexity is significant. As has been remarked earlier, the computer and the Internet and the resources they offer are all technology and engineering elements, whereas arts and humanities practitioners are mainly users. To the technology students, ebooks are not as sophisticated, difficult to use and confusing as reported by arts students. There is a likelihood that the Internet skills of the technology students are far higher than those of the arts students; technology students might be able to use different strategies to find the book they need without requiring an ereader and other help resources that arts students might require.

Although there is some difference between technology students' assessment of whether using ebooks fits their schedule in comparison with arts students, this gap appears not to be very wide. Significant is this observation is the result over time which shows that arts students are not only catching up with technology students in their use of ebooks, but they are actually in many cases higher users of the technology. This observation is reinforced by the similarity in the opinions of technology and arts students regarding whether ebooks enable them to read more as well as whether ebooks are as good as print books. These findings show that ebooks are becoming increasingly accepted by students in these faculties, although the findings of Springer.com (2008) indicate that individuals prefer reading print books to ebooks. Why do individuals prefer print books to ebooks despite the advantages of ebooks over print books? Although Springer.com suggests that ebooks have the advantage of ease and enjoyability of reading, a similar comparison in Nigeria might unveil further information. For instance, a book on the shelf can be consulted at will, whereas regular power outages and lack of power connectivity make ebooks a dull alternative. In respect of visiting a library, this result reinforces the findings in the literature that arts students make more library visits than technology students (Nwagwu 2012).

The result of the social system variable shows that the social system has nearly the same influence on both arts and technology students. Society at large has woken up to the need to embrace information technology for problem solving, irrespective of discipline. While use level of a technology by those who design the technology might be higher than use by others, the role and significance of technology in problem solving in society generally has been recognised.

Age and gender have very low correlations with reading frequency among both technology and arts students, and these correlations are not significant. Master's degree students are known to scavenge for information from any sources that are available while doctoral students are more focused in their reading habits. This

is exactly the situation among technology master's degree students, but not with arts master's degree students. This may explain the significance of the correlation between reading frequency and levels of study in which doctoral degree level has a negative slope for both technology and arts students. Although Jeong's (2012) study did not compare arts and technology faculties, this result differs somewhat from Jung et al.'s (2012) study which showed a strong significant relationship between use of ebooks and demographic variables. It would be better to compare the result of this study with that of Rosnita and Zainab (2005) in Malaysia which found that gender had no significant relationship with use or non-use of ebooks. None of the theory of planned behaviour variables significantly relates with reading frequency in arts and technology students. Readers of ebooks could be expected to be people with some proficiency in computer use, a variable that correlates highly with use of other technologies. Communication media might not play any significant roles in use of ebooks.

9. IMPLICATIONS FOR PRACTICE AND POLICY

A very practical implication of the current study is that adoption of ebooks could help to ameliorate the low access to appropriate texts in Nigerian universities; however, access to and use of these resources remain merely serendipitous. Since most technology use characteristics are not discriminated by discipline, a deliberate effort could be made to identify, harvest and store for usage, books and other information resources to which students at the university do not have access. The concept of an elibrary which encompasses harvesting and storing of electronic books has matured significantly globally, but what is the strategy of the university to initiate and develop e-book collections in the next coming years? For instance, would the students not benefit from the university subscribing to recommended and other texts which are presently mainly proprietary? To address these questions, the university needs to work with academics and students to establish exactly how ebooks could be deployed in the university to promote and support learning, with respect to specific disciplinary differences. The fast penetration of ebooks also shows that ebook vendors might be aggressive in selling their resources, and this could be an opportunity for building allies and collaborations with libraries and their institutions to negotiate how to improve access to these resources. Finally, the ebook revolution will bring about great changes in information services in the libraries – how would university libraries partner to benchmark this evolving practice in respect of questions about standards, technologies, and licensing and pricing, particularly in the developing world. The increasing adoption of ebooks will also pose collection development challenges in respect of acquisition policies and processes; pricing and licensing models and arrangements; cataloguing processes and promotional activities (Vasileiou et al. 2009)

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APPENDICES

Interview schedule

1. Could you please share with me your E-book use experiences?
2. Tell me about any E-books you have ever used.
3. What do you know about, and have you ever used, an e-reader?
4. Have you ever subscribed for access to, or bought, any E-books?
5. Between hardcopy books and E-books, which one would you prefer, and what are your reasons?
6. On any of the occasions you used E-books, how did you identify the book before searching for it?

Questionnaire

Section 1: Demographics

Please tick the box which best applies to you.

Sex: Male □ Female □

Age: 20 yrs or less □ 21–25years □ 26–30years □
31–35years □ 36 and above □

Level of study: PGD □ Master's □ PhD □

Faculty: Technology □ Arts □

Highest education attained by mother: None □ Primary □ Secondary □
Poly/College of Education □ University □

Highest education attained by father: None □ Primary □ Secondary □
Poly/College of Education □ University □

Section 2: Dealing with E-book technology

Please tick as appropriate. (Key: 1 = Strongly disagree; 2 = Disagree; 3 = Don't know; 4 = Agree; 5 = Strongly agree)

Relative advantages of E-book technology		**1**	**2**	**3**	**4**	**5**
	E-books are cheap					
	E-books are available online					
	Easy access to new E-books					
	Easy to search					
	They take less physical space					
	Have user-friendly features					
	Available around the clock					
Disadvantages of E-book technology						
	Little knowledge on how to use or access E-books					
	Inconvenient					
	Don't have an Internet connection					
	Difficult to browse and read					
	No interest					
	Need special software					
	Encryptions that prevent copying and printing of E-books					
Complexity of E-books						
	It is difficult to understand how E-books work					
	E-books are too sophisticated for me					
	Innovations in computing are often confusing to me					
	Internet access is a problem for me					
	I don't have the required software					
	I don't have an electronic reader device					

Trialability						
	E-books became easier to use after I tried them					
	It is better to sample E-books before buying					
	It took me long to try E-books before I accepted reading onscreen					
Observability						
	I was influenced by others who read E-books					
	I was influenced by the advantages of E-books					
	I was satisfied with the result of reading E-books					
	E-books are worth their value					
Compatibility of E-books						
	Using E-books fits into my reading schedule					
	No visit to library is necessary					
	E-books have helped me read more					
	Reading E-books is as good as print copies					

Section 3: Channels of communication and awareness

Please tick as appropriate. (Key: 1 = Strongly disagree; 2 = Disagree; 3 = Don't know; 4 = Agree; 5 = Strongly agree)

Influence of mass media		**1**	**2**	**3**	**4**	**5**
	Newspaper reports influenced me to use E-books					
	Radio broadcasts influenced my use of E-books					
	Television influenced my use of E-books					
	Internet browsing affected my use of E-books					
Influence of interpersonal communication		**1**	**2**	**3**	**4**	**5**
	Interaction with family members influenced me to use E-books					
	Interaction with friends aided my use of E-books					
	Interaction with people in general population made me use E-books					

Section 4: Social system.

Answer yes or no

Social system		Yes	No
	I belong to book clubs that offer E-books		
	Interactions on the basis of E-books keep me in touch with people outside my community		
	Interactions on the basis of E-books keep me in touch with people within my community		

Section 5: Time

Tick which answers best apply to you.

When did you begin using E-books?
Before 2008 □ 2009 □ 2010 □ 2011 □ 2012 □

After you first heard/learnt about E-books, how long before you started using them?
1 to 3 mths □ 4 to 6 mths □ 7 mths to 1 yr □
1½ to 2 yrs □ 2 yrs and above □

How often do you read E-books?
Every day □ Twice weekly □ Once weekly □
Once fortnightly □ Once monthly □

How long do you spend reading E-books?
Less than 1 hr □ More than 1 hr 1 to 2 hrs □ Over 2 hrs □

How long have you been using E-books?
Less than 1 yr □ 1 to 2 yrs □ 3 to 4 yrs □ 5yrs and above □

ABOUT THE AUTHOR

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