

EMERGING TECHNOLOGIES: E-TEXTBOOKS, ONE PIECE OF THE PUZZLE

Prof Melanie Wiese and Ms Giselle du Plessis

University of Pretoria, South Africa

Email address: melanie.wiese@up.ac.za

ABSTRACT

The Internet has not only brought about a new technological era, but also seen the introduction of a number of emerging technologies such as e-textbooks. However, the slow acceptance of e-textbooks is an issue of concern. The objective of this study is to investigate students' perceptions and use of e-textbooks. Data was collected by using a self-completion questionnaire and a focus group discussion. The results showed that the two major obstacles in adopting the use of e-textbooks, access to electronic devices and the lack of computer skills, were not an issue of concern. Unfortunately, the results of this study show that although students are positive about e-textbooks, this positive attitude does not necessarily result in high usage. This has real implications for academics, as the challenge will be to encourage students to try out e-textbooks by incorporating this as part of a pedagogical model, whilst providing safeguards against academic risks.

Keywords: Emerging technologies, e-textbooks, teaching and learning practises, students.

INTRODUCTION

The arrival of the Internet has started a new technological period and as a result the introduction of a variety of emerging technologies applicable to teaching and learning in a higher education context. Emerging technologies can be defined as 'tools, technologies, advancements and innovations utilised in varied educational settings to serve diverse education-related purposes' (Veletsianos 2010, 13-17). Examples of emerging technologies include RSS feeds, augmented reality (AR), web conferencing, blogging, e-books and Wikis, to name but a few. Although there is an growing use of emerging technologies in higher education globally, it is not yet used to transform teaching and learning. There is still a gap between the technologies supported and used by higher education establishments on the one side, and the technologies owned and used by students (Ng'ambi 2013, 652). E-books were identified by Johnson and Adams (2011, 1) as one of

the notable emerging technological topics, trends and challenges for tertiary education and Bozalek Ng'ambi and Gachago (2013, 428) identified e-books as one of the emerging technologies that the early majority of adapters are using.

An e-book can be defined as “an electronic version of a printed book, which can be read on a personal computer or a hand-held device designed specifically for the purpose” (Muir and Hawes 2013, 2). Although many publishers have recently started entering the e-book market, e-books are yet to achieve dissemination across the world (Wu and Chen 2011, 294; Shin, 2010)

The younger generation grew up in a technology-rich environment and has continuously been exposed to new technologies (Weisberg 2011, 189). As a result it was predicted that they would engage with e-books – not only in the same fashion as traditional printed books – but also in a manner that would cause printed books to become obsolete (Gregory 2008, 267). Academic e-books are experiencing a small, yet continuous growth and they are gaining acceptance by many readers (De Oliveira 2012, 537), possibly due to the supposed convenience of e-books (Elias, Phillips and Luechtefeld 2012, 262). Unfortunately, the uptake of academic e-books is minimal and has yet to gain the popularity they were predicted to have (De Oliveira 2012, 555).

Various reasons for the slow acceptance of academic e-books are provided in previous research such as the limited numbers of academic e-books being available, the lack of awareness about e-books, as well as other aspects (Muir and Hawes, 2013, 1). However there are still no conclusive results or reasoning as to the slow acceptance of e-textbooks.

Libraries are changing and expanding their budgets to include e-books, increasing the presence of academic e-books in university libraries (Wu and Chen 2011, 294). Although e-books have been around for more than a decade now (Cassidy, Martinez and Shen 2012, 327), they are still unsuccessful in fitting into the academic mainstream in the same way as electronic journals have already done (Muir and Hawes 2013, 1). E-books are believed to offer a wide range of teaching and learning possibilities, yet e-book technology is just beginning to be explored in an academic setting. There is still a lack of consensus regarding to the benefits of e-textbooks over traditional books.

In order to encourage the use of academic e-books, higher education institutions need to ensure that students have the needed resources required to enable students to use e-books (Sun, Flores and Tanguma 2012, 63). These resources include devices known as: eReaders or e-book devices. Examples of such devices include desktop computers, iPads, Amazon Kindle, the Sony eReader Touch, PDAs, as well as mobile phones (Wu and Chen 2011, 295; Weisberg, 2011, 191). Having access to the necessary resources are however only one component to ensure successful

adoption, as it is vital to have a clear plan of how to incorporate emerging technologies such as e-books, into the pedagogical models used by a faculty or university (Ng'ambi 2013).

Furthermore the DHET (2012) Green Paper on Post School Education and Training pleads for improved access to and use of suitable technologies for effective education. However, a precursor to using emerging technologies is for academics to be aware of the affordance of these technologies. Librarians, publishers and academics are challenged with decisions to publish, buy, prescribe or use academic e-books. As a result a growing need exists for more clarity on the real advantages offered by e-textbooks as well as the identification of impediments that are causing the slow-uptake. Investigating students' perceptions, attitudes and use of e-textbooks could provide these answers. Although some international studies have investigated academic e-book use and preferences, none of these could draw definite outcomes. The inadequate South African research available on this topic, as well as the apparent lack of engagement of students with e-textbooks, served as an impetus for this study.

LITERATURE REVIEW

Ng'ambi (2013, 660) proposes a model for using emerging technologies such as e-books to transform teaching practice. The author suggests a transformative pedagogical model for teaching with emerging technologies consisting of seven steps: Defining of educational goals, assumptions about learning, distributed know-how, learning activity shaped by awareness of capabilities of available technologies, selection of suitable mediating techniques, creation of artefacts and lastly the reflection on the learning experience. He suggests that the model be used as a guide to effective educational application of emerging technologies. The adoption of emerging technologies should be evaluated to determine how effectively it can be used to enhance pedagogy (Johnson and Adams 2011, 1). In order to effectively incorporate e-textbooks within such as pedagogical model it is imperative to understand the adoption process of a new technology. Fishbein and Ajzen (1975) Theory of Reasoned Action (TRA) is among one of the first and most prominent research models contributing toward technology adoption (Mohammed 2014, 476). The theory implies that an individual's performance of a specified behaviour depends on behavioural intention, where behavioural intention is determined by the attitude and subjective norms of the individual (Kim, Mirusmonov and Lee 2010, 311). TRA represents the base foundation of the Technology Acceptance Model (TAM) (Davis 1989) and posits how individuals adopt and use a particular new technology. TAM hypothesises that perceived usefulness and perceived ease of use are the leading determinants that affect consumers' behavioural intention to adopt new technology such as e-

textbooks (Davis 1989). Perceived usefulness refer to the extent to which an individual believes that using a particular new technology will enhance their performance (Khalifa and Shen 2008, 112). Perceived ease of use refers to an individual believes that using a particular new technology will require little effort (Davis 1989, 320). In others words, an individual's attitude is dependent on their perception of the degree to which they believe usage is simple and that the object in question is useful. The same conclusion can be drawn if students do not perceive any value in the use e-books, their perceptions will most likely create a negative attitude and they will therefore not make use of e-books (Nath, Bhal and Kapoor 2013, 84-85).

It is however important to note that the aim of the study is not to test TRA or TAM but to use it as a theoretical foundation to explore the use or non-use of e-textbooks among students.

OPINIONS AND BELIEFS ABOUT E-BOOKS

The use of e-books has brought about a number of advantages and disadvantages, which affect the use and the perceptions of e-books amongst students and faculty. From a user's point of view, the advantages that e-books bring include the fact that they are always accessible (24 hours a day and 7 days a week), there is no need to travel a great distance to obtain an e-book as well as the fact that there is no need to physically carry the books around (Muir and Hawes 2013, 2; Wu and Chen 2011, 95; De Oliveira 2012, 537). This renders e-books convenient, as they can easily be downloaded or copied and pasted by the user for further reading (Wu and Chen 2011, 296). Other advantages include the ease of searching for and locating words or sentences within an entire text, the adjustability of brightness and font size, to ensure comfortable reading and furthermore, e-books are considered to be environmentally friendly (Muir and Hawes 2013, 2; Wu and Chen 2011, 295; De Oliveira 2012, 537).

The fact that e-books can be read on various devices, such as computer monitors, e-book readers, PDAs and mobile phones, in addition to the ability for them to be printed (to a certain extent), is also seen as an advantage (Wu and Chen 2011, 295). This specific advantage results in the content of e-books being both more flexible and versatile than that of traditional print books (Wu and Chen 2011, 295).

It is thus evident that e-books could be viewed as 'easy to use' and 'useful' and it is therefore not in the scope of this study to re-affirm these two components of TAM. However despite the fact that there are an overwhelming number of advantages with regard to e-books, there are still certain disadvantages, which cannot be merely overlooked. These disadvantages include distractions experienced while reading, the inconvenience of having to scroll up and down, as well as the discomfort experienced when reading from a screen for long periods of time (Wu and Chen,

2011, 300). Other disadvantages include the difficulty to access the e-books (if certain requirements are not met), the search results providing insufficient content, the limited battery power of devices, and finally the lack of knowledge on how to effectively use an e-book (Muir and Hawes 2013, 13, Cassidy et al. 2012, 328).

De Oliveira (2012) report that students are indecisive about statements, such as 'I know where to access e-books' and 'e-book-reading devices are user-friendly', while they disagree with statements, such as 'I am satisfied with the use of e-books'. However, the respondents did not feel that 'it is a steep learning curve to use the various interfaces of e-books', but they still felt that e-books cannot replace print textbooks. It is interesting to note that the results of Simon (2001) indicate that all his respondents would endorse e-books, this at a time when e-books were just introduced to the market and riddled with numerous restrictions. However, the respondents also indicated that they were used to reading/using printed textbooks, and did not want to change this pattern. Nicholas and Lewis (2008) findings suggest that the millennial generation seems to prefer print textbooks to e-books, although they were very familiar with the many different forms of technology.

It is thus evident that there are many helpful features which are offered by e-books rendering them easy to use and useful and which may enhance learning outcomes, but these features could be wasted if students are not exposed and encouraged to make use of e-books (Sun et al. 2012, 74). The confusing and contrasting results from previous studies in developed countries about e-textbooks thus served as impetus to determine the perceptions and attitudes of South African students regarding e-books.

ATTITUDE TOWARDS E-BOOKS

Based on TAM, the use of e-textbooks is dependent upon the beliefs that it is useful and easy to use, leading to a positive attitude towards the technology (e-textbooks). An attitude can be defined as 'a person's lasting favourable or unfavourable assessment, emotional feeling, and action predispositions towards some object or idea' (Kotler 2012, 96). Attitudes are generally shaped by people's beliefs and have the potential to influence people's exposure, attention and reaction to objects or ideas (Kotler 2012, 96). The Fishbein theory states that an individual's attitude is a function of the individual's own beliefs about the object and the evaluative aspects of these beliefs (Kaplan and Fishbein 1969, 63). This is one of the main constructs of the TAM, as it has a large effect on whether or not an innovation is used. According to TRA, an individual's performance of a specified behaviour depends on behavioural intention, where behavioural intention is determined by the attitude. Attitude from the TRA perspective is defined as the individual's positive or negative

feelings (beliefs and evaluations) towards performing a target behaviour, whilst from the TAM perspective, attitude relate to both the user's perceptions in terms of usefulness and ease of use. According to TAM a positive attitude will lead to positive behavioural intent and actual use. It can therefore be hypothesised that:

H₁: There is positive correlation between students' attitudes towards e-textbooks and the use thereof.

THE USE OF E-BOOKS

Despite the fact that students have grown up with technology, they are still more inclined towards traditional printed books than e-books (Gregory 2008, 267; Strother et al. 2009, 1362). Since the e-book is still a fairly new concept, the preference for printed books may not necessarily reflect dissatisfaction with the e-book (Sun et al. 2012, 65), but rather the familiarity with printed books.

E-books are most commonly used by students and lecturers within an academic setting (Abdullah and Gibb 2008). Abdullah and Gibb (2008, 685-686) and De Oliveira (2012, 547) report that most of the time, these users merely skim through the content of an e-book, in order to ascertain the necessary facts and content – as well as for reference purposes. There are only a limited number of students who currently read an e-book from cover to cover (De Oliveira 2012, 547), as they feel that e-books are not designed for extended reading purposes (Abdullah and Gibb 2008, 685). This attitude is supported by Gregory (2008), who states that e-books correspond with where the e-book market currently is, which is referred to as the “use-not-read” trend. Students thus use e-books in a similar way to that in which they use electronic journals. Furthermore, Shelburne (2009) reports that students do not use e-books, since they do not know how to find e-books in a library collection.

Students preference for academic print books over e-textbooks may be influenced by several factors, amongst others: the fact that students may be distance students, the field of study, the availability of traditional textbooks and e-textbooks, the accessibility of e-books in class, and the cost of print books compared with that of e-textbooks (Wu and Chen 2011; Sun et al. 2012; Muir and Hawes 2013; Cassidy et al. 2012; Gregory, 2008; Elias et al. 2012; Abdullah and Gibb 2008).

There are an increasing number of students, in today's day and age, who are distance students. Distance students are those who fulfil all the requirements of a normal student, except for the fact that they do not necessarily attend all the classes. These students are not usually afforded the opportunity to attend classes daily due to the fact that they have work or other responsibilities. As a result, these students are more likely to utilise e-books (Cassidy et al. 2012, 329). This is not

necessarily based on their preferences for e-books, but because they have a need that cannot be fulfilled through the use of traditional print books (Cassidy et al. 2012, 329; Gregory 2008, 268). This need for e-books therefore specifically includes the fact that it saves both time and money (Cassidy et al. 2012).

Studies show that preferences for e-books and/or print books often differ across study disciplines (Wu and Chen 2011; Abdullah and Gibb 2008). There are many different types of e-books, of which monographs, textbooks and reference tools are those most used by students (Wu and Chen 2011, 299). Students, who study in the social sciences, and in the science and technology fields, tend to prefer using e-books over print books because they can download them and save them for further reading (Wu and Chen 2011, 303). On the other hand, students who study in the field of humanities have reported that they prefer using print books (Wu and Chen 2011, 302). This may be due to the fact that most books, which these students are required to read, are lengthy – and the use of print books tends to facilitate their reading efficiency (Wu and Chen 2011, 302).

The costs of textbooks are increasing with each new edition published and this increase in print book prices could be the reason that e-textbooks are becoming a more attractive option (Elias et al. 2012, 262). According to Elias et al. (2012, 262), “many e-books can be obtained by buying a lifetime download or by renting the e-book for a period of 180 to 360 days”.

The use of e-books necessitates access to the necessary electronic device (Sun et al. 2012, 68; Elias et al. 2012, 265) and the need for such devices as well as in-class accessibility, is often a decisive issue (Sun et al. 2012).

Some libraries are reducing their print collections in favour of increasing electronic collections, leaving students with no choice but to make use the e-collections (Gregory 2008, 269; Wu and Chen 2011, 303). Therefore, e-books are not necessarily preferred, but could be the only available option for students.

The results of De Oliveira (2012) indicate that the majority of students did not necessarily choose the electronic version of a textbook, because they actually preferred the print version, but rather because they were not familiar with how to use e-books, and also felt that e-books were too expensive. Gregory (2008) reports that although 75% of the respondents in the study were aware of e-books, only 39% had actually used an e-book.

The main reasons why students had not used an e-book were: awareness (“never heard of them” or “just found out about them”); preference for print (“traditional books are more reliable” and “books are more convenient”); eyestrain (“staring at the computer is uncomfortable”, or “I don’t like reading off the computer screen”); lack of need (“I have never had a reason or needed to

use an e-book”); “if it is not required I probably wouldn’t use it”; and ease of use (“hard to access” and “easier to get a book, instead of sitting in front of a computer printing a lot”). Research, homework assignments and reference purposes were some of the reasons for e-book usage.

Cassidy, Martinez and Shen (2012) note that the majority of e-book studies have concentrated on e-book users, thereby overlooking those who do not use e-books – either due to personal preference, lack of awareness, or lack of accessibility. In their study they found that the majority of non-users indicated that they would be “more likely to use library e-books if they had access to an electronic device on which to read e-books”. There is thus a need for more research and conclusive information about users as well as non-users of e-books.

According to Sun et al. (2012, 66) the adoption of e-textbooks, are more interrelated to the educational institution (university) than the individual users (students). For example, the extent of e-book reading by students will vary depending on the assessment and pedagogy of each course (Smith 2008, 21). Furthermore McGowan, Stephen and Bradley (2009, 464) report that students with different levels of engagement may have dissimilar views on the advantages of e-textbooks

Sun et al (2012, 64) propose that the adoption of e-books requires educational institutions to supply the needed resources (e.g., computer labs) and academics to actively involve students in using e-textbooks. It is also of importance to show students how the use of e-books may impact and improve their learning experience (Weisburg 2011, 194; Sun et al. 2012, 64).

In a study conducted by Sun et al. (2012, 63) student perceptions of how e-books enhance learning was measured according to e-book helpfulness (resourcefulness and usability) and student involvement. If students view e-textbooks as helpful, this could lead to greater student involvement (Sun et al. 2012, 67). Finally, it could be said that students’ perceptions of e-books greatly depend on the university culture in which they are embedded. In contexts where the adoption of e-books does not mean a move from traditional textbooks to e-books, students and academics may need to develop a more demanding range of conditions in order for e-textbooks to become a real alternative to all the fee academic resources on the Internet (De Oliveira et al. 2014, 94).

Another consideration in the adoption of e-textbooks is the prior use of e-books. Marek, Griggs and Christopher (1999) report that e-textbook use is related to previous use. The authors argue that previous use or experience with e-books could lead to greater efficiency and comfort as well as preference for an electronic interface. However, prior use of e-books could also encourage the forming of negative habits or perceptions towards e-textbooks (Gurung and Daniel, 2005). We hypothesize that students who had previously used e-books outside an academic context would be

more comfortable with using an electronic interface and due to their experience would be more positive towards using e-textbooks.

H₂: There is a positive correlation between students' use of e-books in general and their use of e-textbooks.

RESEARCH OBJECTIVE

Although research has been done on the use of e-books among students the majority of studies are based on samples from developed countries (Woody, Daniel and Baker 2010; Jin 2014). Considering that the behaviour of consumers differs between developed and developing countries, understanding the beliefs, attitude and use of e-textbooks in a developing country such as South African context, is imperative. Therefore to gain a more complete understanding of this phenomena and as suggested by Cassidy et al. (2012), the study will focus on both e-textbook users as well as non-users. Therefore the main objective of the study is to investigate users as well as non-users' perceptions and attitudes towards e-textbooks. For the purpose of this study, the following secondary objectives and hypotheses were formulated:

- To determine students' perceptions and beliefs of e-textbooks
- To determine students' attitudes towards e-textbooks
- To determine if a significant difference exist between users and non-users and their perceptions, beliefs as well as attitudes towards e-textbooks
- To determine students use of e-textbooks

H₁: There is positive correlation between students' attitudes towards e-textbooks and the use thereof.

H₂: There is positive correlation between students' use of e-books in general and their use of e-textbooks.

RESEARCH METHODOLOGY

SAMPLING

The target population for this study was second-year students registered for the module BEM 224 (Integrated Brand Communication) at the University of Pretoria. The students purchased a printed

version of the textbooks and also had free access to the electronic version. Thus, ensuring that this group of students were exposed to and they also had the opportunity of using an e-textbook at no additional cost.

Six hundred and twenty students were registered for BEM 224. A census was taken of the class and 254 usable questionnaires were received back, which is a response rate of 41%.

DATA COLLECTION

A two-step approach was followed, consisting of a quantitative phase (self-completion questionnaire) followed by a focus group discussion (qualitative phase). In step one the data was collected in a classroom situation, using a self-completion questionnaire. The questionnaire consisted of demographic questions, such as gender, age, faculty/study discipline and race, as well as questions to determine students' access to various electronic devices as well as their perceptions, attitudes, and use of e-books and e-textbooks. Respondents were not incentivised and participation was voluntary.

De Oliveira five-point Likert scale (De Oliveira, 2012) with scale point labels ranging from 1 (Strongly disagree) to 5 (Strongly agree), was used to measure students' perceptions of e-books.

While a ten-point Likert scale was used to measure attitudes towards e-textbooks in general. E-textbook usage was measured with a similar approach to that of Muir and Hawes (2013).

The questionnaire was pre-tested and slight adjustments were made to the wording of some questions, to reflect the South African context.

To gain insights into the quantitative results obtained from the self-administered questionnaire a follow-up focus group was conducted in phase two. The focus group consisted of twelve respondents, three males and nine females that were exposed to the e-textbook in BEM 224. Six of the respondents could be classified as non-users as they indicated that they did not use the e-textbook while the remainder of the group were classified as users, indicating that they used the e-textbook. The qualitative comments from the focus group will be reported with the quantitative results to add depth and to provide context to some of the interesting results.

FINDINGS

SAMPLE PROFILE

The majority (77%) of the respondents were between the ages of 19 and 21 years, while the remainder was between the ages of 22 and 26 years (23%). This corresponds with a typical undergraduate student profile. Five faculties were reflected in the sample, with Economic and

Management Sciences contributing 58%, Humanities 24%, and Natural and Agricultural Sciences comprising a mere 15%. This is not surprising because even though BEM 224 is a Marketing course presented in the Economic and Management Sciences Faculty, students from other faculties may also be enrolled for this subject.

The gender distribution of 31% (N=78) males and 69% (N=176) females corresponds with the general trend in Economic Management Sciences, such as the fact that Marketing Management is skewed towards females. The majority of the respondents was Whites (71%), followed by Africans (25%), while the 'other' group represented 4% of the sample, and consisted of Asians, Coloureds and Indians.

PERCEPTIONS, ATTITUDES AND THE USE OF E-TEXTBOOKS

Students' perceptions and beliefs regarding e-textbooks.

Students' were asked to indicate the extent of their agreement or disagreement with the following statements, regarding their perceptions and opinions on a five-point Likert scale.

From the results in Table I, it is evident that all the students interviewed agree that they find it easier to study from a printed book (M=4.04), and they disagree that an e-textbook could replace printed textbooks (M=2.89). It seems as if students are familiar with the technology to use e-books, to some extent only (M=3.73), but they are indecisive about the statement that they are 'aware of the e-books', and not sure whether they would recommend them to their friends. These results are similar to those of De Oliveira (2012), who also reported that students were indecisive about statements, such as 'I know where to access e-books', for example. On a more positive note, it seems as if students are optimistic about their future use (M=3.40) of e-books. It is however important to note that the fact that students consider e-textbooks as helpful ("E-books are very useful for my assignments") does not directly improve student learning outcomes unless students make effort in the learning process. Students still need to spend time reading chapters and doing exercises from e-books (Sun et al. 2012, 65).

It was evident from the focus group discussion that there are still a lot of uncertainty surrounding e-textbooks. Respondents commented: "Printed books are safer", "E-textbooks are temporary", "I am not too familiar with e-textbooks" and "I am hesitant to study from an e-textbook – what if my notes were erased or lost just before a test".

Table I: Perceptions and beliefs towards e-books

				Non-users		Users		Test statistic	Degrees of freedom	Sig	Effect size
Statements	N	Mean (M)	Standard deviation (SD)	Mean (M)	Standard deviation (SD)	Mean (M)	Standard Deviation (SD)	T	Df	P-value	Cohen'd
I am very familiar with the technology to use e-books	249	3.73	1.07	3.58	1.112	4.00	0.901	3.22	242	0.001	0.41
I am aware of the availability of e-books in the library	247	3.22	1.16	3.05	1.177	3.46	1.087	2.77	240	0.006	0.36
I would use e-books for classes in future	248	3.40	1.05	3.11	1.030	3.81	0.940	5.43	241	0.000	0.71
E-book reading devices are user friendly	247	3.46	0.93	3.28	0.854	3.73	0.973	3.79	240	0.000	0.49
E-books are very useful for my assignments	247	3.30	0.93	3.15	0.822	3.51	1.022	3.03	240	0.003	0.38
I am satisfied with my current e-books	249	3.00	0.88	2.86	0.816	3.20	0.953	3.04	242	0.003	0.38
I will only use e-textbooks when print is not available	248	3.27	1.13	3.38	1.125	3.14	1.126	1.63	241	0.104	0.21
E-books can replace the print version	244	2.89	1.21	2.74	1.179	3.10	1.216	2.33	237	0.021	0.30
It is a steep learning curve to use the various interfaces of e-books	248	3.02	0.92	2.90	0.931	3.19	0.864	2.51	241	0.013	0.32
I am used to reading printed books and do not want to change the habit	245	3.15	1.22	3.35	1.191	2.89	1.232	2.92	238	0.004	0.37
I would recommend to my friends to use e-books	246	3.22	0.94	3.04	0.872	3.50	0.976	3.78	239	0.000	0.49
I find it easier to study from a printed book	247	4.04	1.03	4.24	0.920	3.75	0.112	3.58	240	0.000	0.75

Cassidy, Martinez and Shen (2012) noted that most e-book studies focus on e-book users and overlook people who are not using e-books. Therefore two groups were formed, non-users – those respondents that indicated that they never or rarely used their e-textbooks; and users – those

respondents that indicated that they used e-textbooks frequently. On closer inspection between the two groups, users vs. non-users, the independent samples t-tests revealed some interesting results. In all instances, except for 'I will only use e-books when print textbooks are not available', significant differences were evident. Furthermore, Cohen's (1988) effect size value suggests moderate to high practical significance in all cases. In all instances, e-book users were more positive in their agreement with the statements. This leads one to conclude that non-users are more negative towards e-books and only once they have started to use e-books do they become more positive. This was echoed in the focus group where e-book users indicated that they were initially skeptical about e-books but as they used them and became more familiar with them, they started to see the real benefits; "Initially I felt overwhelmed but it become easier over time – now I love it!" This has real implications for publishers, academics and librarians alike. There was however a concern amongst the users in that: 'It is a steep learning curve to use the various interfaces of e-books', whereas the non-users saw this as being less of a concern than did the users. Non-users may not perceive the use of various interfaces as a steep learning curve due to their lack of using e-books, whereas the users may have real experiences with different interfaces, and therefore may be able to provide more realistic/accurate concerns about e-book interfaces. When probed during the focus group discussion e-book users admitted that there were more technical aspects involved to download and use the electronic interface effectively, than they expected. Comments included: "Scrolling makes going back very difficult" and "It took some time and I had to play around to get to know how to use it".

Attitudes towards e-textbooks

The overall attitude of students towards e-books was very positive – with a high mean value of 6.82, and a standard deviation of 2.031. As a high standard deviation suggests heterogeneous responses from the sample, various statistical tests were conducted to try and determine whether any statistically significant differences were evident. The results did not reveal any demographical differences, or faculty/study disciplines, as reported by Wu and Chen (2011). Although being positive about e-textbooks respondents in the focus groups felt that "the next generation will be used to using e-textbooks", "Our generation missed e-books" and "Some high school pupils already use e-textbooks – they would be more positive to use it at university as well". It is evident that although they felt positive about e-textbooks they do not really see themselves using e-books in an academic setting.

The relationship between students' attitudes towards e-textbooks ($M=6.82$; $SD=2.036$) and the use of e-textbooks ($M=1.88$; $SD=1.205$) was investigated using Pearson's product-moment

correlation coefficient. A small or weak (Cohen 1988, 79-81) positive correlation was found between students' attitudes towards e-textbooks and the use thereof, $r = 0.197$, $p < 0.001$. Therefore H_1 is accepted. However, it is important to note the weak correlation, as well as the fact that only 3.88% of the variance in the use of e-textbooks is explained by attitudes towards e-textbooks. Even although statistical significance is evident, the practical significance is small.

E-textbooks usage

In order to use e-textbooks students need to have access to the required electronic device. From Table II, it is evident that the majority of students have access to smartphones (85%), laptops (83%), UP IT labs (76%), desktops (55%) and 41% have access to an I-pad or another type of tablet. This is very positive, since it would seem that access to electronic devices, in order to access and use e-books, is thus not a major problem or concern for most students.

Table II: Access to Electronic Devices

Electronic Devices	Number (N)	Percentage (%)
E-Book reader e.g. Kindle	44	17%
Smartphone (i-phone, Blackberry)	216	85%
I-pad or any other type of tablet	105	41%
Own laptop	210	83%
Someone else's laptop	81	32%
Desktop computer	140	55%
UP Lab	194	76%

*Please note that the students could choose more than one option.

Having access to electronic devices is one of the main obstacles presented by literature and often prohibits the use of e-books. However another obstacle or concern is if students are indeed as computer literate as expected, in order to enable the ease of use of the devices, software packages and electronic interfaces of e-textbooks.

The majority (97%) of students are computer literate, as was evident from the fact that (61%) of the students indicated their computer literacy as being average, or that of an expert (36%); while only 3% classified themselves as 'novices', when faced with technology. This is consistent with Generation Y, or the Millennial Generation, of which this age cohort forms a part. Again, these results, as in the case with access, show that the two major obstacles to the use of e-books, which

are access to electronic devices and the lack of computer skills Sun et al. (2012), do not constitute a concern or problem for the students sampled.

The majority of students (89%) indicated that they have used a non-academic e-book or e-magazine to some extent. This is in line with the findings of Muir and Hawes (2012), who also reported that almost 89% of the students in their sample had used some form of e-book. It is evident that students have access to the devices and know-how to use e-books. They also indicated that they are positive about e-textbooks and the majority have used some form of non-academic e-book experience. With this in mind it seems as if the building blocks are in place to ensure the up-take and use of e-textbooks. However, when students were specifically asked to indicate how often they used their Marketing e-textbook, the results were somewhat different. Almost 70% of the students rarely or never used their Marketing e-books; while of the 30% that use their e-books, only 14% used it regularly. The results are not surprising, as they are similar to those found in other international studies, such as those of Rowlands, Nicholas, Jamali and Huntington (2007).

The relationship between e-book use in general ($M=2.69$; $SD=.051$) and e-textbooks usage ($M=1.88$; $SD=1.205$) was investigated using Pearson's product-moment correlation coefficient. The results indicated a medium strength positive correlation between the two variables, $r=0.341$, $n=249$, $p<.000$, with high levels of general e-book usage associated with high levels of e-textbooks usage (Cohen 1988, 79-81). H_2 is thus accepted. Furthermore, 11.62% of the variance in the use of e-textbooks is explained by the use of e-books in general. The students indicated various reasons for the non-use of their Marketing e-books.

Table III: Reasons for the non-use of e-textbooks

	Reasons for non-use	Frequency (N)	Percentage (%)
1	Prefer printed books and magazines	151	60
2	Prefer the tangibility of printed books	112	44
3	Cost of going on-line	60	24
4	Availability of e-books	58	23
5	Difficulty in reading and browsing e-books	44	17
6	Too expensive	42	17
7	Cannot resell e-books	41	16
8	Do not have access to any e-reader devices	38	15
9	The need for special software to use e-books	36	14
10	Lack of knowledge on how to use e-books	34	13
11	Password requirements to use e-books	26	9
12	Not aware of e-books	23	9
13	Do not see a need for e-books	18	7
14	Dislike e-books	16	6
15	Cannot access e-books off-campus	14	6
16	Dislike technology	7	3

*Please note that the students could choose more than one option.

As is evident from Table III, the top two reasons indicated by students for not using e-textbooks related to the preference for and the tangibility of the printed textbook. This is supported by the findings from international studies, such as those of Elias et al. (2012), and those of Gregory (2008). These authors found the number-one reason for non-use of e-books is the preference for printed textbooks. Preference and tangibility were followed by the cost of going online (third) and the availability of e-books (fourth). This is especially true in South Africa; where the cost of going-online is still very high and where only a limited number of e-textbooks are currently available, and actually prescribed by academics.

The latter is often due to the high cost associated with imported textbooks, due to the weak South African currency, and because only a very limited number of South African on-line marketing textbooks is currently available. The importance of cost is further emphasised by the fact that e-books cannot be resold, and that students perceive them as being expensive. The findings are consistent with those of De Oliveira (2012), who reported that 10% of students viewed e-books as being expensive. Only 9% of the students indicated that they were not aware of e-books while Folb, Wessles and Czechwski (2011) reported that almost 35% of students in their study were not even aware of e-book collections. The focus group results revealed uncertainty or academic risks involved when using an e-textbook as a major contributing factor to non-use. Respondents remarked that “If it breaks you lose everything”, “I don’t trust a device, it can crash”, “I like to write when I study – not type”, “Not practical – cannot draw diagrams and personalise my notes”, “I do not want to change my study method that have proven to work well in the past” and “To risky – what if my notes are erased or I access is denied when I need to study”.

It becomes clear that students do not really dislike technology or e-books; and they are also not that concerned about the special software or passwords needed to use e-books. It is evident that the overarching reason for not using e-textbooks is not necessarily due to inherent problems or disadvantages associated with e-books, but rather to their preference for printed books: be it their tangibility, or the habitual use thereof.

DISCUSSION AND INSTITUTIONAL IMPLICATIONS

Despite the optimism surrounding e-books, the results of our study continue to expose a concern for the future of e-books in an academic setting. It is confirmed by this research that not every student has the knowledge, need or desire to make use of e-textbooks. A large number of the students are still learning about the existence of e-books and e-textbook collections, and are yet to use these

books. To date, e-books have not gained momentum in the way some people had expected – both internationally – and definitely not in South Africa.

It is evident that several of the possible explanations provided by previous research for the slow-uptake of e-textbooks could not be substantiated in this study. The majority of students had access to the needed devices as well as the computer skills needed to make use of e-textbooks. The e-textbook was not students only option and they were well aware of the added electronic version and as the e-textbook was provided free of charge - price did not play a role.

It seems that it is not a problem that students dislike e-books, or that there is anything inherently wrong with e-books, but it is more a situation of students still preferring print textbooks or not seeing the real benefits of e-textbooks. It was interesting to discover that students are hesitant to use e-textbooks as they are perceived as a risky option for studying purposes. This means publishers, librarians and academics alike have a steep hill to climb to improve the tangibility of e-books and also in changing the habits of students. Shin (2011) reported that consumers like e-books that feel like paper books, but still have the functional advantages of digital devices. But even more daunting is providing instruction on how to use e-textbooks as a ‘safe’ option for studying, and to provide an enabling environment where students could use e-textbooks in class and dispel the risks and uncertainties associated with e-textbook usage.

The results have shown that non-users are more negative towards e-books than users. One could thus make the assumption that once students start using e-books, they will, in all probability, become more positive. Bozalek et al. (2013) suggest that if higher education institutions want to encourage a greater uptake of emerging technologies, of which e-textbooks forms part of, institutional opinion leaders need to purposefully create an enabling environment that would encourage the engagement with these technologies. Bozalek et al. (2013, 434) found that emerging technologies “do indeed have an enhancing effect on pedagogical practice, particularly with regard to prompt feedback, collaboration and interaction between educators and students”.

Universities need to ask themselves how they can position themselves for future e-textbook use and what competencies it will require of the institution’s information technology (IT) department, library, bookstore and lecturers. Furthermore it is important for universities to determine how e-textbooks are currently used on their campus and what other forms of digital content are being used, particularly by academics in the classroom. This has real implications for academics as the challenge will be to encourage students to try out e-textbooks and then hopefully, as suggested by the results, the positive experience would serve as a reinforcement of positive future behaviour.

An e-textbook may have helpful features that could improve learning outcomes but if students are not exposed to these features and encouraged to use them, these features will be wasted. As Ng'ambi (2013) suggests that a pedagogical model should be the point of departure for the implementation and use of emerging technologies. This means that merely prescribing an e-textbook will not be sufficient to encourage student to use it. Academics must involve students in the use of e-textbooks in class discussions and homework assignments, as well as reflect the on-line environment in other written documents such as study guides. The more students use e-textbooks the more they can benefit from the helpful features. Of course such a new teaching approach requires universities to provide access to the necessary instruction resources such as computer labs or other kinds of e-book readers. It is also important to let students use the e-textbook platform to work together with each another. E-textbooks contain the same material as traditional print textbook, but they also pose additional pedagogical advantages. Not only does e-textbooks provide a platform for collaborating learning but the use of e-textbooks may improve the engagement of students and improve their learning experiences. As suggested by Sun et al. (2012) it is furthermore important to consider that emerging technology such as an e-textbook needs to be appropriate depending on the education goal, curricula and the type of student and thus universities should steer away from a 'one size fits all' approach. It is very easy for academics to get caught up in the hype around e-textbooks but Ng'ambi (2103) warns that it is important to always start with an educational goal in mind and not with technology. This view is supported by Ivala (2011, 84) that argues that the introduction of educational technologies, such as an e-textbook, does not necessarily transform learning, and may simply replicate pre-existing learning practices in a new medium. Ramorola (2013) propose that for new technologies to be integrated effectively into existing learning practises requires planning, sufficient time, dedication and enough resources from academic institutions.

Effectively incorporating e-textbooks into a traditional face-to-face class room environment could lead to many benefits for students. Grovenor (2010, 244) found that students involved in mixed mode learning (elements of on-line learning and traditional face-to-face learning) felt that they benefit more from the course and were more motivated to work. The author also reported that most students felt that the efficiency and quality of education had improved.

However, all is not lost, as students are positive in general about e-books and familiarity with the new technology may lead to acceptance over time, in much the same way as cellularphones have become an essential item in students' lives. If academics and universities succeed in capitalising on the availability of new technologies, such as e-textbooks it could enhance the

competitive advantage as well as the image of that institution (Hough and Neuland 2013) and improve student learning.

CONCLUSION

Printed textbooks and electronic textbooks present students with options, allowing them to meet different information needs, and to implement different learning styles. So, perhaps the question is not: Which of the two should be the focus of librarians and academics but rather a situation requiring the co-existence of the two.

As partners in the educational process, we should be offering students a wide variety of opportunities and ways to learn. The electronic versions of textbooks could provide extra value to students if incorporated correctly into a teaching model. It is also important to note that merely incorporating e-books into a teaching model may not be enough and should be driven by the lecturer, as Bozalek et al. (2013) found that personal interest and the passion for technology of the lecturer are one of the main motivators for students to engage with emerging technologies. It is also important to note that the use of emerging technologies such as an e-textbook does not automatically translate into more effective teaching and learning practices.

E-books are an accepted format for education but whether or not they will replace printed textbooks in a country like South Africa is not yet clear.

The limitations of this study relate to the relative small sample of undergraduate student population from only one South African university. Future research is necessary, in order to determine the profiles of both users and non-users of e-textbooks. More students across different faculties and universities could highlight other insights into e-textbook usage, and the non-usage thereof. It should also be noted that a wide variety of emerging technologies exist of which e-textbooks are merely one of such technology.

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