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# Digital or Printed Textbooks: Which do Students Prefer and Why?

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## INTRODUCTION

With the growth in popularity of tablet computers and more advanced mobile devices, publishers are increasingly making digital versions of books that have traditionally been available in paper format, available. The sales of these digital books, also known as e-books, increased by 117% in 2011 generating just under \$970 million, according to the American Association of Publishers (AAP Estimates, 2012). The retailing giant Amazon now sells more e-books than printed books. In addition to this, an increasing number of publishing companies are making school textbooks available in digital formats. In 2011, electronic textbook (e-textbook) sales in higher education totaled \$267.3 million – a 44.3% growth over the prior year (Yu, 2012). With this surge in interest for digital formats of books, e-textbook sales are expected to reach 18.8% of the textbook market by 2014 (Where to get eTextbooks, 2010).

The people who are most likely to use electronic textbooks are primarily current students within the age group typically referred to as Generation Y. The perception of Generation Y (Gen Y) is that they are individuals who “want it all” and “want it now” (Ng, Schweitzer, & Lyons, 2010, p. 282), and are constantly connected through technology. Even though Gen Y is comfortable with the use of technology, in fact they are very well known for their technological savviness, they have not grown up with using it in school (Shih & Allen, 2007). Perhaps as a result of this lack of technology usage for education, college students today have been hesitant to adopt e-textbooks (Knutson & Fowler, 2009; Sadon, 2010; Yu, 2012), despite the fact that the e-textbooks have a number of advantages over traditional printed textbooks. Based upon Gen Y’s professed familiarity with technology, one may assume that this generation would embrace e-textbook technology but previous research has shown this not to be true (Knutson & Fowler, 2009; Sadon, 2010; Yu, 2012).

Several researchers have tried to determine student's acceptance of e-textbooks with most of the studies focusing on the use of e-textbooks in libraries as opposed to actual classroom usage (Nicholas, Rowlands, & Jamali, 2010; Rowlands, Nicholas, Jamali, & Huntington, 2007). The National Association of College Stores (NACS) (2010, 2011) has determined in recent years that students have had a preference toward using printed textbooks as opposed to electronic textbooks for classes. However, they did not investigate *why* students prefer print to digital. Thus, the primary purpose of this paper is to examine college students' perceptions of e-textbooks, and why they may or may not be willing to adopt them for their coursework. The specific research for this study are:

1. What type of media format do college students prefer for textbooks in the classroom?
2. Why do college students prefer one media format of textbooks to another?

The results of this study will not only help educators to determine the appropriate type of materials to utilize for classroom purposes but it will also assist the textbook industry by aiding publishers in the development of such materials. From an educator's perspective, understanding students' perceptions of printed and digital books is important because educators are constantly challenged to provide innovative, fun, and interactive experiences for varying types of students. E-textbooks may be a tool with which educators can engage students on multiple levels. However, if students are not willing to be engaged, the only way to change that behavior is to try to learn *why* the students are not engaged. From a publisher's perspective, this is also one of the keys to e-textbook adoption. The goal of every company that serves customers is to understand whom the customers are, what they want, and why they want it – and then provide the right products at the right time to them. The “right” products in this case are e-textbooks that the publishers already provide, however the right time is when students are willing to adopt them.

The results of this study also fill a gap in the literature in terms of understanding students' perceptions about e-textbook usage as a classroom tool, as opposed to usage just in a library. They may also provide some insight into why the NACS continues to find that students prefer print to digital textbooks, and why sales of e-textbooks remain lackluster.

## LITERATURE REVIEW

### **E-book Research**

E-textbook research, and e-book research in general is relatively new, with most of the research having been conducted within the past 10 – 15 years (Ramaiah, 2005). Existing research has focused on e-book usage in relation to book title, subject, and types of users in libraries; e-book usage compared to printed book usage; and awareness of e-books, how they are used, why they are used, and perceptions of them by academics, librarians, and end-users (Nicholas, Rowlands, & Jamali, 2010; Rowlands, Nicholas, Jamali, & Huntington, 2007).

Based upon student preferences, there can be large variances in the forms of educational technologies that they use (Grasha and Yangarber-Hicks, 2000). For example, in terms of library e-book usage as it relates to subjects, researchers found that students and academics access e-books in some subjects more so than they do in other subjects. In an analysis of universities' e-book data usage, both Dillon (2001) and Ramirez and Gyeszly (2001) found that e-books were more popular in Computer Science, Economics, and Business than they were in other subject areas. The results were similar in a study conducted by Fernandez (2003). Littman and Connaway (2004) discovered in their study at Duke University that e-books were more popular in the subject areas of Computers, Psychology, Medicine, Religion, Arts and General Social Sciences. The least popular subject areas for e-books were US History, Law, Business, Economics, Management, and Literature. In a study at the University of North Carolina, Chapel

Hill, Fernandez (2003) concluded that printed books under the Humanities subject areas (i.e., Literature or History), were accessed more often than their electronic counterpart. Fernandez states "...this is logical, since texts in the humanities generally require a close reading. Since most library users will typically want to avoid eyestrain from looking at a computer monitor and prefer turning pages than scrolling down screens, it is understandable why they would prefer a print edition of a book to read" (p. 29). On the other hand, individuals in Computer Sciences, are accustomed to using technology, thus they may be more comfortable reading a book on a screen as opposed to on paper.

Although fewer in number, other studies have also tried to determine who end-users of e-books are, why they use e-books and how they use them (Rowlands, et al., 2007). Chu (2003) surveyed students of a Library Studies program and determined that those students that use e-books do so because e-books are available around the clock, and they are "searchable", meaning students can easily search the text for key words or phrases. Some students found e-books undesirable because they were hard to read and browse, in addition to the need for special equipment to read them.

Gibbon's (2001) results for e-textbook usage were mixed. The study assessed usage of e-books within the library system located in Rochester, New York. Many respondents either stated they would use an e-textbook over a printed book or had no preference either way. Respondents to the study cited back-lighting features, the ability to make fonts larger, and the ability to carry several titles on one reading device as good features of e-books. Complaints about the books were in relation to the e-reader device itself, saying that it was too big and bulky (Gibbons, 2001).

Woody, Daniel, and Baker (2010) examined what might influence the preferences for e-textbooks. Their findings indicated that students still prefer print to digital books, and found no correlation between overall preferences for e-textbooks and the number of e-textbooks previously used. Woody et al., (2010) also determined that gender, computer use, or comfort with computers affected preference for e-textbooks. Shepperd, Grace, and Koch (2008) surveyed students in a psychology course that had the choice between a printed textbook and an e-textbook. Of those who chose an e-textbook, they were very neutral in their evaluations for using it. They were also reluctant to recommend one to others and found them somewhat inconvenient to use. Interestingly, those that had used e-textbooks in previous classes chose not to use an e-textbook in the Psychology class.

In one of the primary research studies related to students usage of e-textbooks, the National Association of College Stores (NACS) (2010) found that the majority (87%) of the over 600 students surveyed in their study had not purchased e-books within the past 6 months. If given the choice, just over 73% of the respondents indicated that they would choose a printed textbook over an electronic textbook. These results are similar to a follow-up study conducted in 2011 by the same organization. Interestingly, 75% of the student respondents in 2011, more than in the earlier study, indicated that they would choose a printed textbook over an electronic version. What is missing from both studies, however, is why students would choose a printed book over an e-textbook, which leaves an important gap in the literature.

### **Advantages and Disadvantages of E-Textbooks**

Many researchers have highlighted some potential advantages and disadvantages of e-textbooks. Davy (2007) found that e-textbooks had several good qualities over their traditional printed copy counterparts. He found they were ubiquitous items, interactive, provided multi-

media, enabled printing on demand, thus saving paper, and could cater to individual learning styles. Woody, et al. (2010) found e-textbooks to offer greater flexibility and accessibility than printed copies, and e-textbooks proved increased visual appeal. Neither of these researchers cited any disadvantages of e-textbooks. In an examination of college student's preferences Rowlands, et al. (2007) found that students believed e-textbooks were up-to-date, space savers, accessible around the clock, convenient, and they perceived e-textbooks to make it easier to create copies of the text. However, contrary to these advantages, the students also believed that e-textbooks were difficult to read, annotate, and bookmark a page/place in the book. Anuradha & Usha (2006), similar to Davy, found that multi-media, portability, and flexibility in searching/browsing were advantages of e-textbooks, in addition to full-text searching and reference linking. The disadvantages were that the technology may still be somewhat in its infancy and there may also be a lack of awareness of the software/hardware that is available for e-textbooks. Rao (2001) found them to be convenient, less expensive than printed copies, portable, and instantly available. For a summary of the advantages and disadvantages of e-textbooks, see Table 1.

<Insert Table 1 Here>

### **Technology and Generation Y**

The term Generation Y (Gen Y) has several monikers such as the Millennial Generation (Millennials), Echo Boomers, and Nexters. Various sources place different ranges on the date of birth for individuals in this group, but most generally range from those born from the mid-1970's to 2001 (Coates, 2007; Dulin, 2005; Shih & Allen, 2007). This age group makes up roughly 26% of the current population. For the purposes of this study, this group will be referred to as Gen Y, and will consist of those born after 1980 but no later than 2000 (Baldonado &

Spangenburg, 2009). This group consists of the students in college classrooms today and are typically defined as civic minded, socially conscious, and environmentally aware (e.g., Coates, 2007; Jayson, 2006; Saunderson, 2009); technologically savvy (e.g., Bracy, Beville, & Roach, 2010; Coates, 2007; Hershatter & Epstein, 2010; Ng, Schweitzer, & Lyon, 2010; Tapscott, 1998); and, are multi-taskers (Johnson & Lopes, 2008), team-oriented (Shaw & Fairhurst, 2008), stressed, and demanding of themselves and others. Their attitudes, values, and expectations are said to differ from those of Generation X and Baby Boomers – their previous generations – especially in relation to technology usage. According to Coates (2007) and Hershatter & Epstein (2010), they know more about, and use more, technology than previous generations.

Hershatter and Epstein (2010) found that Gen Y incorporates technology as a “fully integrated means of interacting with the world” (p. 211), and technology is the primary difference that separates Gen Y from previous generations, especially in the workplace. Coates (2007) explains that Gen Y “cut their teeth on computer keyboards, and to them, computer technology and the Internet are as natural as breathing” (p. 1). Gen Y has grown up with access to the Internet, cell phones, and, more recently, social media (Considine, Horton, & Moorman, 2009). In fact, they are often referred to as “digital natives” because these technologies are indigenous to them (Hershatter & Epstein, 2010; Prensky, 2001). In terms of classroom related technologies, today’s students are quite comfortable with the usage of tools such as PowerPoint with embedded videos or hyperlinked websites, and other techniques that appeal to visual leaning styles (Shih & Allen, 2007). They have a passion for technology and they prefer it and teamwork as their learning environment (Childs, Gingrich, & Piller, 2009; Coates, 2007; Shaw & Fairhurst, 2008).

Despite research about the level of technological savviness of Gen Y, there is also research that contradicts this notion (Banwell & Gannon-Leary, 2000; Barr, Garrett, Balzer, Heine, & Houston, 2006; Combes, 2009; Nicholas, Rowlands, & Huntington, 2008). Banwell & Gannon-Leary (2000) found, in their preliminary studies that students are still at a very basic level when it comes to the use of technology, meaning they use it for email and word processing, but little beyond that. Barr et al. (2006) determined that, while students were adept at using the Internet in general, their search skills within library database systems were not at all comprehensive. According to Combes (2009), the fact that Gen Y is technologically savvy is a perception rather than a reality, because, although Gen Y may be accustomed to using technology, they do not know, or are not taught, how to use it efficiently and effectively. Nicholas et al. (2008) found similar results, especially when comparing student's use of library databases versus that of using Google as a search engine for articles relating to their research. Nicholas et al. claim that this is a result of teachers not properly teaching students how to use technology for research.

## METHODS

This study utilized an online survey as a means of data collection. Students at a small, private West Coast university, and a large, public university in the Midwest were sent a link and invited to take the survey. All students were enrolled in various hospitality or management classes that were taught by the authors of this study. Data was collected between December 6, 2012 and December 17, 2012. The students of the courses were invited to take the survey at the end of their academic semester. Those that did complete the survey were awarded extra credit points. In total, 232 students received the survey invitation. The online survey was administered via the Qualtrics Research Suite system which Qualtrics is an online research company that,

among other services provides a survey tool that can be used to create, administer, and analyze surveys.

The survey included a section that inquired about demographic characteristics such as age, gender, year in school, major, ethnicity and country of origin. To answer research question one students were asked questions related to their experience and preference toward e-textbook usage. In order to measure the type of media students preferred for their textbooks students were simply asked “If the choice were entirely up to you, what would your preferred textbook option be when taking a class” (NACS, 2010, 2011)? The response choices for this question were simply “Printed or Digital”. Following Woody et al (2010), students who indicated that they had prior experience with e-textbooks completed a section of the survey that inquired about their reasons for using e-textbooks, how long ago they had used them, and what sort of devices they used to read them. For this question, devices include a laptop computer, desktop computer, smart phone, e-reader, or iPad/tablet computer, and students were permitted to select all of the options that applied to them.

To address research question number two, the students were asked to elaborate as to why they preferred one format to the other by selecting from a list of possible reasons that were culled from previous research about e-books and their advantages and disadvantages, some of which are from Chu (2003), and most of which are mentioned in Table 1. Students were required to approach this question in two ways. The first was to select the *primary* reason for their preference. In that instance, they could select only one option. Following that question, the students were then asked to select *all* of the reasons that they prefer one type of textbook to the other. Approaching the question in this way enabled the students to list the most important reason for their preference, while at the same time giving them the opportunity to provide

secondary reasons that may still be important to them – just not as important as the primary reason.

Not all of the advantages and disadvantages of e-textbooks listed in Table 1 were utilized in this study as options for the students. Utilizing all of the questions from previous studies would have made the survey long and cumbersome, thus adversely affecting the response rate. In addition, not all response options from previous studies were used as some of them were repetitious (e.g., lower cost and less expensive; or greater flexibility and convenience). Prior to administering the questionnaire, a small pilot test was conducted with six undergraduate students not in either of the researcher's classes, as well as six faculty members, in order to test the survey for logic and wording. Based primarily on student input, some repetition with wording was noted, as were "outdated" terms such as "need special equipment". As a result minor wording changes were made to the survey and specific devices upon which e-textbooks could be used were added to the survey.

Due to the fact that this study takes an exploratory approach, the analysis of the data primarily consists of descriptive statistics. As is inherent in exploratory research, these descriptive results do lead to more questions about this topic, and provide a basis upon which to build future research.

## RESULTS

One hundred and ninety two students, of the 232 that received the survey at two different universities in the United States responded to the survey, resulting in an 83% response rate. Two surveys were incomplete and thus deleted, leaving a total of 190 complete surveys for analysis. The majority of the respondents were female (63%), either Juniors (33.2%) or Seniors (46%), from the United States (75.8%), and considered themselves Caucasian/White (61.6%). Just

under 73% of the student respondents were majoring in hospitality management, with the rest of the respondents majoring primarily in business related fields (e.g., accounting, finance). See Table 2 for a summary of the demographic results.

<Insert Table 2 Here>

When asked whether they would choose an e-textbook or a printed textbook for a class, and the choice were entirely up to them, the majority of the students (57.4%) indicated that they would choose a printed copy of a textbook. Just fewer than 25% stated they would choose an e-textbook, and slightly less than 18% had no preference either way. To explore these preferences further, the students that indicated they preferred print to digital were asked to select one reason, from a choice of six, (I simply prefer print to digital; I lose access to digital content after the end of the semester; more convenient; price; no buyback option with digital; no e-textbooks offered in classes I have taken; and, other) as to why they *primarily* preferred print to digital. Of the 109 students that indicated they would choose a printed textbook, 45% said that their *primary* reason for doing so is because they simply prefer print to digital, followed by the fact that they believed printed books to be more convenient than e-textbooks (31%) (See Table 3). Seventeen percent of the respondents selected “other” as the reason they would choose print to digital textbooks. The students that selected this option were asked to write further details as to why they would prefer printed textbooks. Some of the responses indicated that they like to make notes in, and highlight sections of, a printed textbook - something they believed they could not do in digital versions. Other reasons included the fact that reading a printed textbook was less distracting than using a computer to read a book, and that printed books were easier to read. Finally, one student indicated, “holding a book makes me feel at home”. Students were asked a follow-up question so they could select other reasons they preferred printed textbooks. The results of these

findings are indicated in Table 3. While the results are similar to the results for primary reasons, what is most interesting is the fact that the “digital books cannot be sold in a bookstore buy-back option” emerged towards this top of the list. While that may not be a primary reason students choose not to use e-textbooks, it appears that it could certainly play a role in their decision.

<Insert Table 3 here>

For the 47 students that preferred digital to printed textbooks, their *primary* reason, from a selection of six options (I prefer digital to print; reduces weight of textbooks; all required course materials are in one place all the time; saves paper; convenience; price; and, other) was because, with digital, all required course materials could be in one place all the time (25.3%), followed by the fact that they felt digital books were more convenient than printed versions (23.4%). Other reasons included price (14.9%), a preference for digital to print (12.8%), and that digital books save paper (10.7%). Also, as one student commented, it is easier to quickly find content in e-textbooks. In addition to this the students were asked a follow-up question so they could select all of other reasons that they preferred electronic textbooks. Table 4 provides a summary of the results. Results here are fairly similar to those for the “primary” reasons for student preferences. Convenience rose to the top of the list, followed by “reduces weight of textbooks”. While neither of those options emerged as primary reasons, students must still feel they have some merit in their decision to choose one type of book to another.

<Insert Table 4 here>

Most of the students (55.3%) (Table 5) had past experience with using e-textbooks, primarily because an e-textbook had been required for a course at school (86%). Some, approximately 9.5%, used e-textbooks for leisure reading, while the remaining (just under 5%) used them for research purposes. Of those students that had experience with e-textbooks, many

of them (approximately 47%) had used the e-textbooks within the past twelve months. When asked what type of device they used to read their e-textbooks, students could select all that applied from the following list: Laptop computer, desktop computer, smartphone (e.g., iPhone, Blackberry), e-reader, (e.g., Nook, Kindle), or tablet (e.g., iPad). Ninety two percent of the students used a laptop, and 27% also used a desktop computer. Smartphones were used on occasion (13%), as were tablets (8.6%). The least used device was an e-reader with only 6.7% of the students using one to read an e-textbook.

<Insert Table 5 here>

## DISCUSSION

The students' reasons for preferring digital to printed books were similar to previous e-textbook research. Their primary reason – all required course materials are in one place – coincided with most all of the previous research about library e-textbooks (Anuradha et al., 2006; Rao, 2001; Rowlands et al., 2007; Sadon, 2010; Woody et al., 2010). With the number of books students are required to buy each school year, it makes sense that they would prefer to have access to those books in one place instead of carrying individual books everywhere. This “portability” allows a student to access any of their textbooks at most anytime, anywhere. Other reasons for using digital media that were cited in this study were because of its convenience, price and weight (less weight), which are all similar reasons to those that were found by Rao (2001), Rowlands, et al., (2007) and Sadon (2010), respectively, in their studies about e-textbook usage primarily in libraries. Students have been consistent in stating across studies why they might prefer digital to printed books, which is valuable information for e-textbook publishers. If publishers can consistently provide what the students desire, or enhance what is already offered

to make e-textbooks appear more like printed books, students will slowly come around to using them.

Despite some students indicating that they do prefer digital to print, as was the case in the National Association of College Store's two studies, and as we have seen in this study, the majority still seem to prefer print to digital textbooks. For those in the publishing industry, this presents an ongoing challenge. While publishers continue to make more and more textbooks available online, or digitally in other ways (downloadable for a specified amount of time), sales of the books continue to struggle. College students today, despite their self-professed technological savviness, grew up with *printed* textbooks in the K-12 classroom, and thus desire them when they are in college. They want that with which they are most familiar. What is interesting about this is that Generation Y is typically considered a very volatile generation that is not very loyal to products and services. They will change products quickly if they feel they were "mistreated" in some way, or if they can get a better deal elsewhere. Yet, they remain relatively loyal to their printed textbooks.

The encouraging results of this study for publishers is that the percentage of respondents who prefer printed textbooks (57%) is a much lower percentage than the 73% and 75% percent of students that indicated they prefer print to digital textbooks in the studies conducted by NACS. Publishers have an incentive for selling e-textbooks for a number of reasons, one of which is that e-textbooks sales help to cut into the resale market of traditional textbooks. When a student sells a book back to a bookstore, the bookstore then resells the used book to another student in the future, and this can be done many times with the same book. Publishers do not receive any money from the sale of used textbooks. As Maher (2010) says "the used book market is cannibalizing new-textbook print sales" (¶ 1). Publisher's efforts to sell e-textbooks are

a way for them to make up for profit lost on not being able to sell new, traditional textbooks (O’Grady, 2012). In addition, e-textbooks are not re-salable so students have to buy a new one for their classes every year. Publishers also appreciate the e-textbooks because they enable the publishers to add “interactive features (think instructional video and tests/quizzes), real-time updates, and all the benefits of Internet access) (O’Grady, 2012, ¶ 1). Finally, publishers are looking to increase e-textbook sales because they help the bottom line by increasing profit margins (Maher, 2010; O’Grady, 2012). Distribution of e-textbooks is much cheaper than traditional textbooks because they require fewer resources (paper and ink), and they do not need to be physically shipped anywhere, thus saving on distribution costs.

The challenge for publishers, alongside educators, would then be to continue to gain the trust of college students and convert them, so to speak, into digital textbook users. This could be done by looking at the factors that deter students from buying e-textbooks, such as the fact that students believe they cannot highlight or take notes in digital versions of them. Most publishers today do provide this attribute in the digital copies of their textbooks, but apparently students are not aware of it, or they do not know how to use it. Students also appreciate that with printed textbooks they can go back and look at their notes and highlighted sections of the book after a course has ended as some like to keep their textbooks. However, for e-textbooks, many are only available for a semester, after which time a student loses access to it. Publishers are slowly changing this policy, and making some e-textbooks available for purchase and download, but, as with the highlighting and note taking, students are not yet aware of these changes.

Anecdotal evidence also suggests that students are not necessarily aware of the lower prices of e-textbooks, as compared to hard copies. Additionally, in terms of price, even though students do not get the full price of selling their hard-copied textbooks back to their bookstore at

the end of a semester, students do appreciate the cash they can get from doing so. That is not possible with e-textbooks, and is a difficult aspect for publishers to overcome especially since more and more e-textbooks are becoming downloadable. With downloadable textbooks, there is nothing to return at the end of a semester. While this negative aspect (no book buyback) of electronic textbooks was not a strong factor in this study, it is something of which publishers need to be aware, at least until students become better educated about the use and potential benefits of electronic textbooks.

Based upon these results, it appears that students are still fairly unsure of what e-textbooks are and all that they have to offer. Thus, the primary recommendation for publishers to gain trust and educate students about e-textbooks is to communicate with them. Publishers can do this through the university educators by getting them involved in the “promotion” of e-textbooks. As an example, educators can make a point of explaining how the e-textbooks work, that they are less expensive than hard copies of textbooks, and explain the benefits of using them when it comes to ability to search e-textbooks, as well as other features. This is very important if publishers are to provide students with exactly what they want and like in terms of e-textbooks. If not, the students will not adopt them. Publishers must also make sure that they are educating the educators, because if instructors are not using e-textbooks in classes for some reason, students may never get to experience using them.

At the same time the number of technologies used for educational purposes has been increasing in addition to the level of comfort both instructors and students have with using such technologies (Khan, 2009). Course materials are an integral part of the learning experience for students. As such it is important for educators to be aware of the types of materials that will be most helpful for students’ success in their courses because it has been shown that different

technologies used in teaching environments directly influences student performance (Dille & Mezack, 1991). This is partly due to the differences in learning styles and personal characteristics of the students themselves. Previous research has shown that students' decisions to use different types of technologies vary greatly based upon their individual preferences (Grasha and Yangarber-Hicks, 2000). This in turn has an influence on a student's preferences for types of classroom technologies. It is therefore possible that a student who has a preference toward mobility may be more accepting of using e-textbooks.

A key advantage of using e-textbooks is the additional features that can be incorporated to aid the instructor in teaching. Internet links to additional materials and educational videos can be incorporated directly into the content of the e-textbooks. This not only helps the instructor to supplement their classroom materials but it also presents the material in different formats that may appeal to the varying learning styles of different students. As the functionality of educational technologies improves, they have the potential to meet students' various learning needs and even improve their ability to learn (Dew, 2010). This could certainly be the case for e-textbooks, as well as e-reading devices.

Educators do have an opportunity to teach students about using e-textbooks, and the many advantages that they carry. In fact, as the results in this study show, of the students that did have experience using e-texts, 86% of them did so because the e-textbook was required for a class. However, even if students are required to purchase an e-textbook for a class, they may still be close-minded about using it, or have hesitations about using it, which can take away from the learning experience for the student. If students do become frustrated with using an e-textbook, they will become frustrated in the class, and with the educator. At least to cater to Generation Y, educators may wish to consider offering students the option to purchase either a printed copy of

the textbook or an electronic version. This leaves the decision up to the student as to which option is most desirable and suitable for their learning style.

Lastly, because of students' apparent hesitation to use e-textbooks, publishers may question whether they are actually the most appropriate target market for them. As previously mentioned, because Generation Y has not grown up with e-textbooks in the classroom, they are not necessarily that familiar with using them. It is a relatively new technology for them, despite their perceived technological savviness. The generation behind them, sometimes referred to as either the iGeneration, or Generation Z, however, is growing up with technology especially once they become students. Students from kindergarten on up are now exposed to e-textbooks, and other forms of technology. They will be the future market for publishers. However, this is a market that publishers can target now, or at the very least, educate that generation's parents about e-textbooks. So, while adoption of e-textbooks may be slow for Generation Y right now, that will most likely change as the younger generation moves through school.

Future research can assess this younger generation's (e.g., Generation Z) viewpoints about e-textbooks as compared to Generation Y, and provide a clearer picture to publishers or educators about the differences between the two types of students. Future research can also delve deeply into *why* students prefer one type of textbook to the other. There may be other personality characteristics that push a student towards digital or printed textbooks, despite whether they are aware of the features and benefits of using e-textbooks. Students may also be willing or unwilling to adopt e-textbooks based upon their learning styles, in particular when incorporating technology. Students of various attitudes and backgrounds (i.e., cultural backgrounds) learn in different ways and technology may or may not play a role in their learning styles. There may also be additional factors not examined in this study that make up students reasons for preferring one

type of format to another, especially in their preference for printed to digital material. Additional research may need to be conducted to further investigate this particular preference.

In addition to the possible influence of a student's personality characteristics or learning styles, along with other factors on e-textbook acceptance, faculty members may also have viewpoints about electronic textbooks that may directly or indirectly influence students' perceptions of them. Students' awareness or lack of awareness about e-textbooks may be because their instructors are not making them aware of them; or, the instructors themselves may not be aware of all that e-textbooks have to offer. Lastly, for those students that have used e-textbooks before, it would prove interesting to know not only *if* they are satisfied with the books but the *level* to which they are satisfied, and how effective the e-textbooks were in their learning process. These vantage points have not been deeply explored and would prove insightful, and perhaps helpful for a faster adoption of e-textbooks.

## CONCLUSION

Student preferences about using electronic textbooks were assessed. In general, students still prefer printed textbooks to electronic textbooks. The primary reason for their preference was because the students simply prefer print to digital, and they also believed that printed textbooks were more convenient than electronic textbooks. Those that preferred electronic textbooks preferred them because all of the student's required course materials would be in one place at all times. Based on the findings, there are implications for both publishers of e-textbooks, and educators in universities. Essentially, both need to better communicate to students the benefits of using e-textbooks (e.g., low prices), what features e-textbooks offer (e.g., highlighting

capabilities, portability), and how e-textbooks can be better for the environment (e.g., use less paper) – all in efforts to get more students in Generation Y to adopt them.

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