Perceptions of E-books Among Students and Instructors in Higher Education

Yuan Chen

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Signed by the final examining committee:

          Adeela Arshad-Ayaz   Chair

          Steven Shaw   Examiner

          Ann-Louise Davidson   Examiner

          Saul Carliner   Supervisor

Approved by   Robert Bernard
                    Chair of Department or Graduate Program Director

                André Roy
                    Dean of Faculty

Date   September 8, 2015

ABSTRACT

Perceptions of E-books Among Students and Instructors in Higher Education

Yuan Chen

Research Purpose: Electronic books (e-books) have been predicted to have strong impact in higher education. But the adoption rate of e-books adoption in higher education has been slower than anticipated. A study of the perceptions of the perceptions towards e-books among students and instructors in higher education as well as the factors driving those perceptions might provide insights into the slow adoption rate.

Research Questions: 1. What are the perceptions of College (CEGEP) and university students and instructors towards e-books? 2. How do respondents' perceptions towards e-books differ demographically? 3. How do students and instructors' perceptions differ among different types of reading materials (general news, professional information, scholarly information)? 4. Which characteristics drive students' and instructor's perceptions towards e-books? 5. Are participants aware of the terms and conditions of ownership of e-books?

Literature review: The Technology Acceptance Model, which explains users' decisions to adopt new technology, underlies this study. Technically, e-books refers to the hardware on which people read digital materials, the software that presents the material on-screen, and the content that users actually read. Development of e-books was first proposed in 1945, with the first successful commercial e-book hardware appearing in 2007. Previous studies of users' perceptions of e-books have been mixed; some suggest users like them while others have found resistance. Perceptions vary among different demographic groups such as male and female groups, students and instructors groups,

and younger and elderly groups. Specific factors that generate favorable impressions of e-books include their low cost, convenience (store many books on a single, portable, lightweight device) and special features, like searching and annotating functions. Specific factors that hinder interest include compatibility issues (books bought for one device cannot be used on others), technical glitches, and quality of reading (which is lower in online situations).

Methodology: Online survey distributed to 869 participants distributed to students and faculty at one college and one university in Canada providing descriptive and inferential data. Statistical analyses such as t-test, one-way ANOVA and correlation are implied.

Results: Participants generally have positive attitudes towards e-books, but males, and those with higher levels of education and previous experience with e-books tend to have more positive attitudes. But participants' still see printed materials as more credible than e-books and online scholarly and professional publication. In addition, participants who were less likely to take notes when reading and who had fewer concerns about plagiarism had higher perceptions of e-books. Participants also lack awareness of the terms and conditions of ownership of e-textbooks.

Implications: This study provides instructors, librarians, and book publishers more detailed knowledge about the factors that could influence adoption of e-books in higher education. It also demonstrates that the Technology Acceptance Model is a useful framework for exploring the adoption of this technology.

Key Words: E-books, perception, student, instructor

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CHAPTER 1. INTRODUCTION

E-books have gained attention in the past decade from all branches of the

publishing industry. E-books are digital publications that can be read on

different electronic devices (Davidson & Carliner, 2013). They offer several advantages.

E-books potentially offer low cost (Gunter, 2005), easy portability (that is, lighter than

books to carry) (Pattuelli & Rabina, 2010), wide availability (distributed through the

Internet) (Littman & Connaway, 2004), accessibility (software that reads e-books can

adjust the sizes of fonts for people with visual impairments and even read the material to

users) (Gunter, 2005; Angeletaki, 2011), and interactivity (that is, readers can easily

search, go to particular segments, and even practice skills) (Rickman, Von, Klute, &

Tobin, 2009).

Digital content has also had a significant impact on certain areas of publishing,

including news and magazines, which, increasingly, people read online rather than in

print ("Newspapers: Fact Sheet", 2015). According to a Publishers Weekly report2

(2012), Amazon customers bought more electronic books than print ones in 2011. "For

every 100 printed books sold out, 114 e-books were downloaded" (Malik, 2012). Others

have predicted that this sales trend will continue. As Lee et al., 2012, report, an

increasing number of users report having had read at least one e-book. As a result of all

of these considerations, many in the publishing industry believe that e-books will become

the first choice for people to read in the near future.

One segment of the publishing industry in which e-books have been predicted to

have a strong impact is textbook publishing in higher education. The market should be a

large one, as most higher education courses require textbooks and textbook sales play a

significant role for major publishers like Elsevier, Routledge, and Wiley.

This market, too, should be particularly receptive to e-textbooks. They typically cost less than printed textbooks (Young, 2010) and can therefore help to reduce part of the cost of higher education. In fact, jurisdictions like the state of California and the province of Alberta have actively promoted the development of electronic textbooks precisely for this reason (Garber, 2012; "Alberta school", n.d.[1]). As university library collections are increasingly available electronically (Vasileiou, Rowley & Hartley, 2012; Kahn & Underwood, 2013), instructors and students are, by necessity, increasingly familiar with e-books. E-books could potentially spur improvements in teaching and learning in higher education (Cassidy, Martinez, & Shen, 2012; Broadhurst, & Watson, 2012; Abram 2010), as they have the capacity to show video (Dobler, 2015; Nelson, 2008) and offer interaction (for example, letting students check an answer after working through a problem). E-books offer convenience, too, providing on a single device all of the books and articles needed for all courses taken in a term (Richardson, & Mahmood, 2012). With Internet connections, these devices offer broader convenience for research because, in addition to textbooks, they also provide access to library collections (Berg, Hoffmann, & Dawson, 2010). Because use of computers, tablets, and smart phones on which people can access these publications is high among students in higher education (Pollock, 2012; Clark et al., 2008; Lam, P., Lam, S. L., Lam, J., & Mcnaught, 2008) and digital devices are popular among traditional students for entertainment purposes (Broadhurst, & Watson, 2012), moving from print to online books should prove an easy transition for users of e-textbooks for higher education. Indeed, almost 70% university

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[1]Alberta schools prepare to turn the page to digital textbooks. (n.d.). Retrieved June 23, 2015, from http://www.canada.com/story.html?id=10133c12-75f2-4378-9d44-85e792026e65

students have experience with or are currently using e-books and more than 65% realize

the advantages of e-books, according to Ebrary's Global Student e-Book Survey (2011).

So, not surprisingly, the Horizon Report, an annual report that predicts technology trends

likely to affect higher education in the short, medium, and long-term, predicted e-books

would be adopted in 1 year or less in 2011 (Johnson, Willis, Levine & Haywood, 2011).

But by the end of 2014, adoption of e-books is still not as promising as the

predictions. For instant, electronic books only represent around 20% (Milliot, 2015;

Parsons, 2014) of the textbook market in higher education in U.S. Printed books still

dominate. Research suggests some of the reasons why reality has differed from the

predictions. Some of the research challenges the ease-of-use that e-books are assumed to

offer. For example, many users find e-books difficult to navigate (Malama et al., 2005).

One issue is that e-books lack page numbers and references to specific locations in text

vary from device to device as different devices present the same text differently users

although e-books let users annotate readings, many users do not find the process easy to

use. Users find annotating text—an important activity for most readers in higher

education—similarly difficult (Asunka, 2013; Broadhurst, & Watson, 2012). As a result

of issues like these, several studies have found that students do not make full use of e-

books when they have them (Cassidy, E., Martinez, & Shen, 2012; Abdullah, & Gibb,

2008) causing Marmarelli and Ringle (2010) to conclude that, in their current form, e-

books have difficulty meeting the requirement of higher education for electronic books.

Even if the hardware and software offered the ease-of-use needed by students and

instructors in higher education, negative perceptions might be keeping students and

instructors from embracing them. Previous research found, for example, that many

students and instructor still prefer to use print books for academic activities (Woody et al., 2010; De Oliveira, 2012). In fact, some studies suggest that students and instructors in higher education do not consider e-books as "serious" as printed ones. Some studies found, for example, that students merely see e-books as sources of quick reference (Bailey, 2006; Gunter, 2005; Chu, 2003) but not for serious and extensive academic readings (De Oliveira, 2012; Abdullah, & Gibb, 2008; Gunter, 2005).

Students and instructor's perceptions of e-books play a central role in the adoption of e-books; these perceptions influence students and instructors to use or reject the technology (Stone, & Baker-Eveleth, 2013). On the one hand, several previous studies have explored students' and instructor's perception (Cassidy, E., Martinez, & Shen, 2012; De Oliveira, 2012) and attitudes (Shelburne, 2009; Teoh & Kropman, 2006) towards e-books. These studies have primarily focused broadly on whether students and instructors like or dislike the technology but they have not explored such perceptions in comparison to printed publications, or perceptions of the prices that students and instructors feel are fair for e-books.

RESEARCH QUESTIONS

The purpose of this stud is to investigate the perceptions of students and instructors in higher education towards e-books. The study intends to determine the general perceptions of students and instructors towards e-books and how those perceptions differ among different types of reading materials (such as news, professional information and scholarly information). The study also explores various factors that might influence the perceptions of e-books, such as whether students and instructors have similar preferences for reading different types of material in print or online, the

perceptions of fair pricing in relation to printed materials, and the terms and conditions under which students and instructors believe that they are purchasing e-book.

Specifically, these research questions guided this study:

RQ1: What are the perceptions of College (CEGEP) and university students and instructors towards e-books?

RQ2: How do respondents' perceptions towards e-books differ demographically?

RQ3: How do students and instructors' perceptions differ among different types of reading materials (general news, professional information, scholarly information)?

RQ4: Which characteristics drive students' and instructor's perceptions towards e-books?

RQ5: Are participants aware of the terms and conditions of ownership of e-books?

SIGNIFICANCE OF THE STUDY

On the one hand, many members of the higher education community want to see the adoption of e-books. Librarians, for example, want students and instructors to embrace e-books so that they can expand collections without expanding shelf-space (Broadhurst & Watson, 2012). Similarly, members of the sustainability community note that e-books can reduce the paper and waste resulting from printing books and study packs (Shelburne, 2009; Chu, 2003). And the distance education community notes that e-books are particularly well suited to that growing educational environment (Asunka, 2013).

On the other hand, despite the availability of e-books, adoption has lagged hehind predictions. Previous research data suggests some of the ways in which e-books fall short of needs in terms of functions and features, but only touch the surface of perception issues that could prove more significant in affecting the adoption of e-books. This study attempts to address this gap in the knowledge as well as update previous academic research regarding to students' and instructor's perceptions of e-books in higher education. At the least, the results might provide insights into the reasons that e-book adoption has lagged predictions. At the most, the results might pinpoint some specific reasons for the situation and provide publishers and members of the academic community with insights into how to address them. For example, if the results find poor perceptions about the seriousness of e-books in relation to printed ones, the publishing and higher education communities could respond with efforts to address that perception. Similarly, if the results find that the general offering of e-books—prices and terms and conditions— are mis-aligned with perceptions, they can adjust the offering.

CHAPTER 2. LITERATURE REVIEW

This chapter situates the study in the literature. I start by disclosing the theoretical foundation underlying the study and describing how literature described in this chapter was selected. Then I present the review of the key themes that emerged in the literature: definition of e-books, the evolution of e-books, users' perceptions towards e-books, and factors that affect the use of e-books.

THEORETICAL ORIENTATION

The theoretical framework that underlies this study concerns the acceptance and use of technology (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989; Venkatesh, 1999). Called the Technology Acceptance Model, it is a framework that explains users' decisions to adopt a particular technology and continue to use it. Perception is at the core of this model: if users perceive that a certain technology could enhance their work performance or help them complete a task with less effort, they will be more likely to use the technology (Venkatesh & Davis, 2000, Davis, 1989; Davis, Bagozzi, & Warshaw, 1989). Specifically, the model posits that four factors influence a user's choice to adopt a technology: perceived ease of use, the usefulness of new technology (Venkatesh, 1999), social influences -- meaning one's choice of using or not using a certain technology would be influenced by other individuals or groups around him/her (Venkatesh & Davis, 2000) -- and support for using the technology (Venkatesh, et al., 2003). The model was developed and refined over a period of nearly two decades, as researchers validated the model and made adjustments in response to empirical data. This testing also validated the model. For example, in one validation study, Venkatesh and Davis (1996) observed how the part-time MBA students' perceived ease of use and perceived usefulness towards

a new computer system affect their intention of using the system, and the results indicated that perceived ease of use had a significant effect on intention to use, which were explained by TAM. Because e-books are a new technology that are intended to replace an earlier technology, printed books, and purport to offer advantages that printed books do not, it is suitable for assessing issues associated with the adoption of this technology.

SELECTION OF LITERATURE FOR THE REVIEW

To identify previous studies and theoretical work on e-books, I first searched six databases, including: Educational Resources Information Center (ERIC), Library information, science and technology Abstract, Dissertations and theses (ProQuest), Education Full text (EBSCO), Academic Search Complete (EBSCO) and PsycInfo (EBSCO). Key words used for the search included: ("e-book*" or "Ebook" or "electronic book*" or "e-text book*" or "e-journal*" or "e-reader*") AND ("higher education*" or " university*" or "college*") and then combined these terms with ("perception*" or " perspective*" or "attitude*" or "usage*") AND ("student*" or "instructor*") and the search terms were further modified by using the subject terms of the retrieved studies. To ensure that the literature retrieved is current, the search was limited to a 10-year range between 2003 and 2013. Furthermore, given that commercial e-book readers were primarily introduced during that time, this search strategy is likely to have captured most of the relevant studies.

The initial search yielded approximately 306 of studies, from which around 70 were considered to be relevant to this one. From those studies, I applied branch searching

(retrieving studies from the references lists of selected articles) to get more relevant studies.

ABOUT E-BOOKS

This section provides a context for the discussions of the characteristics of e-books that underlie the perceptions of them. It first provides formal definitions of e-books, next describes the components of them, and last describes their evolution.

Formal Definitions of E-Books

The term e-book is defined in many ways: Davidson and Carliner (2013) provide this general definition of e-books: digital versions of printed books that users can read on computers or other digital device such as tablets or phones (Davidson & Carliner, 2013).

Similar to Davidson and Carliner (2013)'s e-book definition, previous studies mainly define e-book as " a digital format of printed book".

According to Armstrong, Edwards, and Lonsdale (2002) e-book is defined as " any piece of electronic text regardless of size or composition (a digital object), but excluding journal publications, made available electronically (or optically) for any device (handheld or desk-bound) that includes a screen (P.217)".

Anuradha and Usha (2006) define e-book as "an electronic text that serves the same purpose as a conventional printed book". They further expand the definition of e-book as a series of distributions including e-text, e-magazine, and Internet newspaper.

As Sena (2011) describes e-books as the digital format of conventional paper books that could be read using computers, tablets or smartphones and hardware devices such as e-readers.

Prior research also concludes that the e-book is not just an alternative of traditional paper books or software that could display printed book on the screen. E-books usually embed unique features compared with conventional print books. For instance:

Nelson (2008) mentions the e-book has "more important distinctions that may make it other than just a screen version of print book." The "distinctions" include for instance, simulation, animation, videos and audios.

Jeong (2012) describes e-books as text that is "digitally displayed on the screen", he also mention e-book as a combination of not only text but also video, graphics, animations and sounds. Jeong (2012) also mention the features of e-book including search ability and all day availability.

Muthu (2012) also included features such as navigation, annotation and hyperlinks within the definition of e-books.

The Components of E-books

E-books are comprised of three components: hardware, software and content. Hardware refers to the devices on which people read digital material. Users can read this material on a variety of devices, including desktop and laptop computers, tablets, smart phones, and devices specifically designed for reading e-books (Anuradha & Usha, 2006; Henke, 2002). These devices specifically designed for reading e-books are called e-readers: mobile devices mainly designed just for displaying texts on a portable screen

(Wiki, 2015). The difference between e-readers and other digital devices are that e-readers have better readability in different light conditions and usually have longer battery life. Examples of these devices including the Amazon Kindle, Barnes & Noble Nook, Kobo and Sony's digital reader (Dougherty, 2010).

Software, the second component of e-books, refers to the programming that permits the display of the digital material on the screen of any of the devices just named, such as a computer or device for reading e-books (Anuradha & Usha, 2006,). Each of the devices specifically designed for reading e-books has its own software for displaying the digital content. The software controls the appearance of the text on the screen and displays of images, as well as provides user controls, such as navigation from one part of the material to another and setting a bookmark to return to later. For example, the Kindle, Nook, and Kobo each have their own software. Furthermore, users can download the software to read books on other devices. For example, a user can download the Kindle reader and read Kindle books on a laptop computer. Other applications exist for reading digital material (Wilson & Landoni, 2001; Landoni & Hanlon, 2007), such as computer programs and apps for smart phones and tablets. For example, the application Adobe Reader lets users read documents.

Content, the third component of e-books, refers to the digital material that is produced on screen by the software and read on the hardweare devices. Davidson and Carliner (2013) define e-books content broadly, referring not only to books but also journals, periodicals and digital reading materials.

One key issue pertaining to content is its format. In addition to providing software, each e-book device stores content in a format specifically intended to be read

on its device. The Amazon, Nook, and Kobo formats differ from one another and can only be read on devices that contain the software of the same name. Other formats exist, such as the Portable Document Format (PDF) and actual images of pages, which have been scanned from the printed original (Carden, 2008), One of the challenging aspects of the various file formats for content is that no single software application or app can read content in all of the available formats. Furthermore, digital content in e-books can include multimedia such as narration and video (Rockinson- Szapkiw, Courduff, Carter & Bennett, 2013; Chesser, 2011). Some researchers only consider digital content that includes multimedia components such as video, audio, interaction and animation as "real e-books" (Jeong, 2012; Nelson, 2008).

The research community is split about whether e-books refer only to electronic books, only to the devices on which people read them, or the combination of the hardware, software, and content. Peters (2011) is one who differentiates among them. Abdullah and Gibb (2008) and Armstrong (2002) are among the researchers who believe the three need to be considered as a unit.

The Evolution of E-books

The first proposal for e-books, short for the term electronic books arose in 1945, when Vannevar Bush (1945) designed a personal device called Memex (Burke, 1991) that could hold a lot of information, which people could easily search (Manley & Holley, 2012). The next major development in the development of e-books occurred in the late 1960s, when Alan Kay (1968) designed a "small-sized computer" that can be "easily accessed as a book" (Wilson, 2001, par.3). But both the Bush and Kay designs were merely conceptual; the limited capabilities of technology at that time—when the first

computers were being invented in the case of Bush and when computers were room sized devices requiring special cooling in the case of Kay—prevented anyone from developing the devices (Burke, 1991; Manley & Holley, 2012). Although their devices were never built, Bush and Kay are still credited as the founders of e-books.

Project Gutenberg, started in 1971 by Michael Hart (1992), yielded the first e-book in 1984 (Doman, 2001). The result was a small digital device that could display content in a digital format on a screen (Wilson, 2001). The first published book was an electronic dictionary, which was sold to the public (Doman, 2001).

Two tracks of development followed. One focused on the use of the computer or computer-like devices as a reading device, following the arrival of the computer display in the 1970s and with ongoing improvements to its technology from cathode-ray tubes to LED and LCD monitors. Some computer-like digital devices developed in the 1990s also gave insight to further e-book device development. The Newton project from Apple Inc. started in the late 1980s, originally aimed to develop a handheld computer, which would be A4 paper, sized, with a similar price to other Apple computers (Hormby, 2013). After several rounds of research, the Newton platform was released in the early 1990s and incorporated the features of handwriting recognition, note-taking and data storage (Hormby, 2013). In 1996, a smaller and cheaper computer-like device called the personal digital assistant (PDA) appeared, the Palm Pilot, developed by Palm Inc. which has a touchscreen with functions of downloading apps and syncing data with computer. With the Palm Pilot, users could easily download documents from their computers and read them on the smaller and lighter devices (Melanson, 2012).

Meanwhile, the evolution of HTML (Hyper text markup language) and the Portable digital format (PDF) promoted the content displaying onscreen: HTML invented in 1989 by Tim Berners-Lee, is a standard language used to create texts, images, tables or other contents in web pages. It enables different browsers to interpret the content and then display the content in a standard format for all users (Raggett, Lam, Alexander & Kmiec, 1998). PDF, created in 1990s by Adobe Inc, first conceived by John Warnock, was developed to retain the format, fonts and graphic of the document and make sure the content display in a manner independent of different software, hardware and operation systems. Both HTML and PDF provide standard ways to display content onscreen. But computer displays are not considered ideal devices for reading because the screen resolution and brightness of computer screen could sometimes cause eye stains (Dilevko & Gottlieb, 2002; Armstrong & Lonsdale, 2009), the computer is not as portable as other handheld devices for reading, and users won't have the familiar "feel of book" (such us flipping over pages) while reading on computer screens (Barbier, 2007). So a second track of development of e-books focused on developing a device that more closely mimics the quality of paper and the development of content for such devices. The use of Electronic ink (E-ink), a paper-like display technology, makes devices such as Sony e-reader and Amazon Kindle better for electronic reading compared to LED screens (Siegenthaler, Wurtz, Bergamin & Groner, 2011). In 2004, Sony's e-reader 'LIBRIe' became the first e-book reader that provided a truly paper-like reading experience. 'LIBRIe' has a black and white ink-on-paper look and offers a similar appearance to newspaper (Press Release)[2]. Amazon's Kindle, another e-reader device that utilized e-ink

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[2] http://www.eink.com/press_releases/e_ink_sony_librie_launch_032404.html

technology, also brings customers the experience of paper-like e-books. Kindle books could be easily read in different light conditions (either sunlight or dim environment) and the battery life of Kindle 4 lasts more than one month. (Kindle review)[3].

Until the 2000s, e-books did not gain wide popular attention. That began to change in the early 2000s (Langston, 2003) with several developments. One was the slow, but gradual, collection of digital resources by university and public libraries. The lack of physical space in the library (Moore, 2015) and the increasing demand for the use of computer or other portable devices (Lewis, 2013) made libraries collect more digital materials for their patrons. Patrons could only read online or by printing the digital materials using authorized libraries. Another development was the launch of a consumer e-book reader, the Kindle device by Amazon. Amazon Kindle was first launched in e-book market in 2007, US, and the products were sold out within hours. According to Jeff Bezos, the founder and CEO of Amazon.com, Kindle provides costumers with not only the familiar feel of reading paper books, but it also go beyond physical books by offering services like search, annotation and adjustable text size, that make for a better reading experience (Amazon.com). The Amazon Kindle is a revolutionary portable e-reader that provides readers with wireless connections to download e-books and there is no computer needed to receive new content (Introducing Amazon Kindle).

But perhaps the most significant event in promoting wide popular awareness of e-books was when U.S. talk show host Oprah Winfrey named the Kindle one of her "favorite things" in 2008 (wired.com, 2008). Becoming one of Oprah's "favorite things" made the internet search for Kindle increase 2800% and gained more interest among

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[3] http://manybooks.net/ereaders/kindle-4-ereader-review/

women in the Kindle on the day that talk show released (Osmeloski, 2011). As a result, sales of Kindle devices and electronic books dramatically increased and continued to do so. In the year of 2009, right after Oprah launch, Kindle was claimed to have already achieved 90% e-book marker share (Maher, 2010).

Given the low cost of e-book,s and an economic recession that launched soon after the Kindle became popular, governments started to explore the use of e-books as an alternative to printed textbooks that could lower the total cost of a college or university education. Governments in the U.S. and Canada began initiatives to promote e-books including the following.

U.S Initiatives: In May 2009, the state of California launched the first open access digital textbook initiative in the US, aiming to save costs of textbooks and make educational resources easier to access (Platoni, 2009). The first phase of the initiative focus on providing 16 digital textbooks for high-school level math and science classes. Most educators in California believe digital textbook initiatives could fix current challenges in the extbook system, but issues such as budgets for purchasing digital devices and ensuring standards for digital textbooks still exist (Platoni, 2009). In the year of 2012, the US government approved an open textbook project, which could provide a solution for high-cost textbooks (Open access textbook org. 2012)[4]. The open textbooks project encouraged educators and publishers to develop fully online digital textbooks for students to help reduce their expenses in textbooks and increase their learning engagement at the same time.

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[4] http://www.openaccesstextbooks.org/model/index.html

Canadian Initiatives: British Columbia was the first province in Canada to introduce a plan to fund open access textbooks for 40 university courses in 2012 and more than 20,000 students benefit from saving costs for their textbooks each year (Di Valentino, 2012). Algonquin College in Ontario province started an e-textbook initiative at the beginning of 2013, which is "targeted to provide 100% of students with 100% of their resources 100% of the time" (e-text at Algonquin, par.1). According to the report "e-textbook at Algonquin College"[5], this e-textbook project allows students to access their textbook online in LMS or off-line on their mobile devices using installed software, and it aims to save 50% of textbook costs for students at Algonquin College. The pilot e-textbook launching started from January 2013, and around 700 first year students and 2,300 e-textbooks were involved. The pilot launch received positive feedback from students and when the first implementation began in September 2013, more students and e-textbooks were involved, till now approximately all full-time programs and more than 40,000 e-textbooks have been introduced to Algonquin College (E-Textbooks at Algonquin College).

In 2014, the province of Alberta also launched a new initiative exploring open educational resources for all Alberta students. This initiative will make all "Alberta learners have more learning resources (including textbooks, modules, multi-media learning resources) available freely online" (Ramsay, 2014, par. 2).

PERCEPTIONS OF E-BOOKS IN HIGHER EDUCATION

This section reviewed previous research about users' perceptions towards e-books. Four sub-sections about studies on general attitudes towards e-books,

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[5] http://teachonline.ca/pockets-innovation/e-textbooks-algonquin-college

demographic characteristics and perceptions of e-books, features and issues affect e-books perceptions, and perceptions towards different types of digital materials are covered in this part of literature review.

General perceptions towards e-books

Overall, mixed results were found regarding users' general perceptions towards e-book in previous studies. In general, research showed more than half of users who had used e-books were satisfied with their experience of using e-books (Mulholland & Bates, 2014; Herlihy & Yi, 2010; Croft & Davis 2010; Woody et al 2009; Jamali, Nicholas, and Rowlands, 2009; McKiel, 2007).

Previous studies related to user's general perceptions towards e-books covered research from different countries and types of participants (students and faculty). Results vary from different research settings.

Anuadha's and Usha's (2006) study on users' perspectives about e-books in an Indian academic environment showed that the majority of respondents (around 90%) were very satisfied or somewhat satisfied with their use of e-books. And students tend to use e-books more often compared to faculty respondents. Similar results were found in Croft's and Davis' (2010) survey study in Canada academic institution, which showed around 68% of students who have used e-books were either satisfied or very satisfied with their experience in using e-books. De Oliveira (2012) conducted a large-scale survey at Andrews University, in the US, exploring users' attitudes and usage patterns towards e-books. The survey results indicated that more than half of the population held positive attitudes towards e-books and would like to use and recommend using e-book more often. Jeong's (2012) study showed that Korean students were satisfied with e-books and

acknowledges the usefulness of current e-books. Lim and Hew (2014) studied students' perceptions towards a certain type of e-book at an Asian academic institution. The result revealed that overall participants held positive attitudes toward the use of NG-eBook. Mulholland and Bates (2014) conducted a study about e-book perceptions with faculty in Northern Ireland colleges and findings indicated a strong satisfaction level with e-book experience.

However, Gunter's (2005) study found some controversial results compared to other studies, reporting that participants' perceptions towards e-books are not promising, as many users indicated that they are not comfortable reading on screen. Arizona University conducted a focus group study with six faculty members on their general perceptions towards e-books, and found general unsatisfactory experience in using e-books. But all the participants in that study agreed that e-books could be a useful alternative if the issues were resolved (Carloack & Perry, 2008). Cassidy et al's (2012) study investigated graduate students' and faculty's perceptions among e-books in a four-year academic institution and revealed that around half (54%) of the respondents dislike e-books. But the respondents mentioned that they would nevertheless use e-books because of the convenience of the technology.

Some studies mentioned the differences between faculty and student perceptions towards e-books. For instance, Shelburne's (2009) showed that undergraduate students tend to have more positive perceptions towards e-books compared to faculty. Anuadha's and Usha's (2006) study also pointed out that students used e-books more often than faculty.

E-books vs. print books: Some studies focus on comparing the preference for e-books with their counterparts. Walton's (2007) survey of students' and faculty's perceptions towards e-books shows that students and faculty still have a preference for using print books while doing reading and research over e-books. Abdullah and Gibb (2008) found similar results that users still prefer reading paper books, the reason for that are varies such as preference of the feel for real books, dislike reading on the screen, or too expensive to purchase the equipment. However, some studies found users use more e-books than print books (Anuradha & Usha, 2006). The results might be affected by the use of different devices or different content areas.

Malama et al (2005) and Kiriakova et al. (2010) found that there has been a notable increase in the acceptance of e-books in higher education. Whereas other surveys like Angeletaki's (2011) found that e-books are not being widely.

Use pattern of e-books As for how often do users actually use e-books, a study by Levine-Clark (2006) reveals that more than 50% of users only used an e-book once, while very few (about 10%) used them very frequently. Croft and Davis (2010) and De Oliveira (2012) both showed that most users show no preference for e-books because they never use them or are unaware that e-books are available for therm.

As for would users actually use e-book, some studies found there are mainly two types of use in e-books which are to find relevant content and to do extended reading (Noorhidawati & Gibb, 2008), but most of the users just use e-books to find relevant content and only a few use e-books to do extended reading. Many studies suggest that readers will not read the entire book (Connaway & Snyder, 2005; King, Tenopir, & Clarke, 2006; Levine-Clark, 2006); they just use e-books to quickly locate a fact. In

contrast with using print books readers seldom read e-books in a linear fashion (Jung et al., 2012). Many e-book readers just browse the content rather than engage in serious extended reading of the contents (Slater, 2010). From instructors' or graduate students' perspectives, e-books could be used as research tools and could help them prepare for class (Rowlands et al., 2007). Gunter's (2005) survey showed that most popular e-books titles were about technical manuals, novels, dictionaries, encyclopedias and academic textbooks, which will also implies something about how users usually use e-books. In addition, some early studies like Nelson's (2001) pointed out that users tend to print contents instead of reading them on the screen. According to Clark, Goodwin, Samuelson and Coker's research (2008) about the usage of Amazon's Kindle, users intend to use e-books for leisure reading instead of academic readings (Marmarelli & Ringle; 2010).

Users' Demographic Characteristics and Perceptions

As mentioned in previous studies, some demographic characteristics are important factors that would affect users' perceptions towards using e-books. This section summarizes previous studies about how gender, age, experience of using e-books, and disciplinary differences affected users' perceptions towards e-books.

Gender: historically, studies related to information technology often indicate that gender is an essential factor that affects users perceptions and attitudes towards technologies. Several previous studies on e-books investigated gender differences while considering users' perceptions of e-books and mixed results were found among these studies. Some revealed that e-books were more welcomed by males than females. Males tend to read more e-books than females (Zhang & Kudva, 2014; Rowlands et al., 2007). Liu's and Huang's (2008) research indicated a significant difference between male's and

females' perceptions towards e-books and Huang, Liang and Chiu (2013) conducted research in elementary schools that also revealed that gender is still a good predicator of e-book usage. However, other later research reported no significant difference exists between male and female participants in their e-book perceptions (Gerlish, Browning & Westermann 2010; Letchumanan & Tarmizi, 2011; Jung et al., 2012).

Age is another factor that was considered while exploring users' e-book perceptions. There is a common belief that a younger generation has more positive attitudes towards new or emerging technologies. Jung et al.'s (2012) study found technology savvy participants, those who were born with technologies, have more positive attitudes towards e-books. But the influence of age on perception towards e-books might be more complex then anticipated, As stated by Rowlands et al. (2007), users' perception towards e-books might not relate to their age. The study found that although younger users tend to prefer reading e-books, the overall users' perceptions of e-books are not dependent on age. Cassidy et al. (2012) also found elderly participants had slightly more positive attitudes compare to younger participants.

Experience and awareness of e-books As mentioned in previous studies, experience with e-books and the awareness of e-books significantly affect users perceptions towards e-books (Woody et al, 2009; De Oliveira, 2012). Chu's (2003) study indicated those respondents who have never used e-books tend to have negative attitudes towards e-books. Similarly, Croft's and Davis' (2010) found a lack of awareness is the most comment reason pointed out by the participants for not using e-books.

E-books usage in different discipline The perceptions of e-books differs among different fields and subjects. For instance, the survey conducted at Auburn University

(Bailey, 2006) has shown that students who major in computer science tend to use e-books more than other majors. Other studies such as the survey in Colorado University (Littman & Connaway, 2006), as well as a survey in Western Michigan University (2005), found business, economics, medicine, health and literature are the highly used areas for e-books. The differences might depend on the features of the different majors, such as business persons usually need to quickly review some information so they tend to use e-books more and students in computer science might be more familiar with the new technology, which will benefit the use of e-books in that certain field.

Although some previous studies explored the relationship between users' perceptions and demographic characteristics, it would be worthwhile to further develop and explore the relationship in different research settings at different times to expand the research results. Moreover, there might be possible differences in perceptions resulting from use of e-books in different institutions such as universities and community colleges.

Characteristics of E-books Influencing Perceptions

Many studies addressed several main perceived benefits of e-books including: lower cost compared to their print counterparts and convenience, which means users could access their e-book content at anywhere and anytime. The literature also mentioned several unique features of e-books that could make e-books popular, such as the possibility of integrating verity of multimedia content, the annotation and highlight functions as well as searching and bookmarking capabilities.

Low cost. Since the rising cost of printed books becomes a barrier for people to read these days, e-books have a competitive advantage based on elimination of costs for paper, ink, binding or wrapping, and distribution (Siriginidi, 2003). As noted in the

literature, lower cost is regarded as one of the essential reasons for the users to choose e-books (Gunter, 2005; Schoch, Teoh & Kropman, 2006; Sprague & Hunter, 2008; Johnson et al., 2010). According to Bunkell and Dyas-Correia (2009), e-books costs 20 to 70 percent less compared to their counterparts. E-books will be cheaper in the long run because there are some of the e-books that can be downloaded for free (Weisberg, 2011) or sometimes you can even rent the e-books for a period instead of buying them (Radnor & Shrauger, 2012).

Convenience. According to Williams and Dittmer (2009) and Lam, Lam and McNaught (2010) users perceive convenience as a feature that is a basis to choose to use e-books. There are several aspects related to the convenience of the use of e-books. First, the portability (Landoni, Gibb, & Hassan, 2003; Rickman et al., 2009; Pattuelli & Rabina, 2010; Richardson & Mahmood, 2012) of e-books is better compared to paper based books, as e-books devices are usually small and light and could fit easily in users' bags (Weisberg, 2011; Angeletaki, 2011). It is easy for users to carry the e-books wherever they go (Littman & Connaway, 2004; Levine-Clark, 2006; Angeletaki, 2011) even in their travels (Weisberg, 2011). The capacity of e-books makes users carry more books (Richardson & Mahmood, 2012) without adding extra weight in their bags. In addition, users could access new e-books at anytime (Gunter, 2005; Estelle & Woodward, 2009; Angeletaki, 2011) and could read the e-books at anytime of the day regardless of light conditions. Moreover, e-books could be updated easily; unlike print books that will cost time and money for re-publishing, e-books could be undated quickly online.

Unique features of e-books The literature lists many unique characteristics that could make e-books outperform their print counterparts, and although those features

might not be fully developed or present for current e-books, these features are crucial for the further adoptions of e-books.

Broadhurst and Watson (2012) mentioned multitasking could be an important feature for e-books, as users prefer to read the book, listen to music, chat with friend and surf the Internet at the same time (Ellison et al. 2007; Stone & Baker-Eveleth, 2013). Secondly, many studies also mentioned that the combination of different multimedia contents (Abdullah & Gibb, 2008) such as audio, video (Nelson, 2008; Rockley, 2011; Jeong, 2012) or animations (Heting, 2003) are essential for e-books the use of multimedia enriches the types of content in e-books, which could meet different users' needs. The integration of multimedia content in e-books also has benefits in increasing learners' engagement and motivation (Moussa-Inaty & Atallah, 2012).

Many researchers have pointed out that e-books could be more acceptable for users if they could use the functions such as highlighting (Cassidy& Shen, 2012; Broadhurst &Watson, 2012), bookmarking (Pollock, 2012), and note taking (Rickman et al., 2009; Pollock, 2012) -- just as they do with the print books. Researchers also mentioned some interactive features such as searching topics and keywords inside the e-books or out on the web (Anuradha & Usha, 2006; Rickman et al., 2009; Cassidy& Shen, 2012) that facilitates active reading and that therefore could make e-books outperform the print books. The search capability (Wilson, Landoni, & Gibb, 2003; Broadhurst &Watson, 2012) could help users locate the contents in the book quickly and make their reading more effective. The hyperlink function (Wilson, Landoni, & Gibb, 2003; Berg, Hoffmann, & Dawson, 2010; Cassidy& Shen, 2012) in the e-books could help users access more resources not just those contained within one book. For example, the links to

dictionaries (Richardson & Mahmood, 2012; Heting, 2003) could help users have better a understanding of the text.

In addition, many studies mentioned that e-books need to support personalized reading: the functions such as jump back and forth (Cassidy& Shen, L, 2012), adjusting the font size, color (Princeton University, 2010) or the brightness of the display screen could make e-books popular.

Issues with E-books

Although e-books have some advantages that make them good for users, other studies found issues that could have negative effects on the adoption or acceptance of e-books.

Cost of e-Book Devices Reading E-books always requires e-reader device or computers. Although E-books are cheaper than the print books, the purchase of reading devices adds cost and may be a barrier (Behler, 2009; Pollock, 2012) to some extent, as e-books devices usually cost about $79.00 (for Amazon Kindle) to more than $500 (for tablets like iPad), and sometimes users even need to buy some additional software to support the reading of e-books.

Compatibility Since different e-readers use different types of format such as PDF, HTML etc. to present contents, not all the e-books are compatible for every e-reader (Angeletaki, 2011; Cassidy& Shen, L, 2012; Pollock, 2012). It is problematic for users to share the e-books (Mentch, 2010; Slater, 2010; Lim & Hew, 2014) and it limits the flexibility for users to access the digital content on different devices (Angeletaki, 2011; Heting, 2003). Moreover, because of the restriction of Digital Right Management (DRM) (Decian & Milana, 2005), almost all the different devices have their own

protected file type. For instance, Kindle used Amazon formatted e-books that prevent users who have other e-book devices from sharing the e-book (Griffey, 2010) and the tablet such as iPad needs to connect to the Apple store to purchase e-books (Trivedi, 2010). The e-books might not be easily transferred between devices, and users might experience inconvenience in e-book sharing.

Technical Glitches Many studies mentioned technical drawbacks of e-books. Firstly, e-books rely heavily on electrical power (Behler, 2009) and the Internet (Rickman et al., 2009; Asunka, 2013). According to Behler (2009) e-books might lack accessibility if the batteries are not good or there is no plug available. The update or purchasing of e-books depends of the Internet access, so if the bandwidths are not good (Asunka, 2013) or there is limited access to the Internet (Rickman et al., 2009), e-books might not convenient for users. Secondly, e-books rely heavily on the hardware devices (Abdullah & Gibb, 2008). If those devices have technical problems such as suddenly failing or being hacked (Shelburne, 2009; Asunka, 2013), users might lose the e-books that are stored in their devices. Thirdly, if the designs of current e-books are not good enough, users might face some difficulties in navigating (Malama et al. 2005; Waycott, 2005; Lam et al., 2009; Richardson & Mahmood, 2012) the book compared to print books. For example, it might be slow to turn pages (Nariani, 2009; Mentch, 2010; Berg, Hoffmann, & Dawson, 2010) and sometimes the annotation (Schoch et al., 2006; Moore, 2009; Lim & Hew, 2014), search (Rickman, Holzen, Klute, & Tobin, 2009) or highlighting (Angeletaki, 2011) functions are limited for some e-books or e-book devices. Moreover, it is hard to read two files simultaneously in one e-book device (Coleman 2004; Princeton University, 2010).

Influence on User Reading Patterns Studies found that reading through the glare on the screen of e-book devices could cause eyestrain (Schoch et al., 2006; Nariani, 2009; de Oliveira, 2012; Richardson & Mahmood, 2012; Lim & Hew, 2014) and fatigue (Kang, Wang & Lin, 2009). This may make it difficult for users to focus on the reading (de Oliveira, 2012), which could make the readers read slower than when reading print books. In addition, readers tend to scan the content in e-books rather than read in-depth (Redish, 2007; Abdullah & Gibb, 2008) and the multitasking function of e-books could disrupt readers' concentration on reading (Lam et al., 2009; Jeong, 2012), which will affect the accuracy and efficiency of reading.

Studying the perceptions and usage of e-books is crucial (Cox, 2008) as the field of study of the usage of e-books is still young and developing The results from surveys could inform not only researchers but also provide better information to vendors or e-book sellers that could facilitate the development of e-books. However, the current data are not adequate; it is necessary to continuing conducting surveys in different contexts.

Although many studies report that users are gradually accepting e-books and more people are starting to use e-books (Weisberg, 2011), there are still many reasons that hinder the usage of e-books. Users' perceptions could be a crucial factor for the development and adoption of the e-book; therefore it is necessary to do further studies on users' perceptions towards e-books. Most of the research so far focuses on universities or academic libraries. None focuses on community colleges; therefore it would be useful to explore college participants' perceptions towards e-books and to determine whether they have similar perceptions towards e-books compared to university participants.

CHAPTER 3. METHODOLOGY

In this chapter, I explain the methodology used to conduct the study. First, I explain the choice of a research methodology. Then, I describe the characteristics sought in participants of the study and the ethical precautions taken for collecting data from them. Next, I describe how data was collected, including a description of the instrument used for this study and the procedures for administering it. Fourth, I describe the procedures for analyzing data. I close the chapter by describing efforts to ensure the reliability and validity of the study.

Before proceeding, I would like to clarify my role in this study. I worked with a data set that had already been collected by other members of the research project team. Although I did not originally collect the data, it had not been used or further analyzed when I began my thesis. Furthermore, my thesis supervisor verified that I could ethically use this data set for my thesis. My original contributions include the literature review, the hypotheses and the data analysis and conclusions. Through the process of describing the entire research methodology in this chapter, as I do in this chapter, however, I provide the context for my contributions to this larger project in addition to highlighting my specific contributions.

CHOICE OF THE RESEARCH METHODOLOGY

As stated earlier, the purpose of the study is to explore the perceptions of e-books held by students and instructors in higher education, as well as the factors that drive those perceptions. Qualitative and quantitative methodologies both offer advantages for an exploratory study like this. Qualitative methodologies can provide rich, variety, and detailed information about the research phenomenon and identify possible relationships

within that phenomenon (Creswell, 2010). Quantitative research can help assess broad trends of phenomena within a population, and validate relationships between a general phenomenon and particular characteristics associated with it, such as perceptions and the characteristics that drive them (Creswell, 2010). In other words, both qualitative and quantitative methods would help answer the research questions.

But the literature on e-books already contains many qualitative studies on perceptions and experiences of using e-books in higher education. Examples include McClelland (2006), Doering, Pereira and Kuechler (2012) and Muir and Hawes (2013), each of which provided rich and detailed insights (Creswell, 2010) on the experiences and attitudes towards of students and instructors in higher education institutions towards e-books. Like most qualitative studies, each of these was primarily conducted with small sample sizes at single research locations. Not surprisingly, the results varied from place to place. And as is typical of qualitative research, the results only transfer, they do not generalize more broadly.

So perhaps the time had come for a quantitative study on the subject, one with larger populations conducted at several sites and that would provide generalizable data. The study would illuminate the findings from the earlier, qualitative studies.

Specifically, a cross-sectional survey was chosen for this study. Creswell (2010) noted that a cross-sectional survey "studies the current trends of the certain topic with data were collected at one point in time," adding that "survey design has the advantage of measuring current attitudes or practice" (p.377). A cross-sectional survey is especially suitable for the research questions underlying this study, which examine a particular attitude and practice at one point in time: perceptions of the phenomenon of e-books,

which are not being adopted as rapidly in higher education as some education futurists had predicted despite positive experiences reported in earlier, qualitative studies. In addition, a survey study is effective for exploring social descriptions because it could reach a large number of respondents and collect information related to their attitudes and perceptions in an appropriate and efficient way (Singleton & Straits, 1999).

PARTICIPANTS

In this section, I describe the criteria used to select participants for the study. The characteristics of the people who actually participated in it will be reported in the Results chapter.

Because the purpose of this study was to explore the perceptions of students and instructors in higher education towards e-books, the participants sought included students and instructors currently active in higher education. In most countries, higher education refers to several classes of educational institutions that offer educational programs for students who have completed a secondary (high school) education, provide formal degrees or certificates, and that are invested by a government or third party institution with the rights to award those degrees and certificates following inspections that assure the institutions meet certain criteria. The most common types of institutions of higher education are colleges and universities. In this study, colleges are defined as learning institutions for high school graduates to focus on studying some profession or technical subjects and pursue degrees in particular fields ("College", 2015), also called community college at most places in North America. Whereas the university is defined as a learning institution that offer undergraduate, graduate and professional level of studies in various disciplines, and is able confer bachelor, master's and doctorate degrees ("University",

2015). To ensure a somewhat representative population, then, the study needed to include populations at both colleges and universities.

Because the research team is located in Canada, for convenience the team limited its search for participants to this country (Creswell, 2010). To make sure that the population was somewhat representative of the broader population, the researchers also sought participants from more than one of the ten provinces and three territories in the country.

Furthermore, to make sure that the participants in a group would have some similar characteristics so that the differences would be the level of education or the role (student or instructor), the research team decided to conduct the study through institutions. That is, every student and instructor in a participating institution would receive an invitation to participate in the study.

So as to ensure that a cross-section of higher education was represented, then, the researchers sought to conduct the study at one college and one university that, ideally, would be located in different provinces. If possible, the research team also sought to administer the survey in institutions of different sizes (small, medium, or large).

In terms of the number of participants, because this is a quantitative study and statistical analyses would be performed on the responses, sample size also posed a consideration. Data from a certain minimum sample size would be needed to generate valid and generalizable results, at least to the populations that were surveyed. The conventional confidence level of 95% (Cohen, 1988) and the 5% acceptable margin of error were used to calculate the minimum sample size for this study.

Because most institutions require institutional approval to conduct whole-population surveys, the research team first sought entry into the organization, which usually comes through a member of the academic administration or someone who has access to those people. Appendix A provides a sample of a formal e-mail message that would be used to request permission to conduct the survey in an institution.

Before starting the recruiting process, the research team went through research ethics approval at the university of the primary investigator. That ethics protocol specified the process for gaining entry to an institution (including the sample letter shown before), recruitment and treatment of participants in the study, procedures for collecting and storing data, and the care and reporting of data collected.

After recruiting began and an institution agreed to participate, that institution would also need to issue a research ethics approval. The research team anticipated that this additional round of review and approval would be based on the first ethics approval and that the other institutions would recognize the approval from the first university, although the second institution might request additional modifications.

HOW DATA WAS COLLECTED

This section explains how data was collected. It first describes the instrument used to conduct the study, and then describes the procedures used to administer the survey. Note that the survey was developed and administered before I began work on the project.

Instrument

The primary source of data for this study was a survey instrument specifically designed for this study. Unlike instruments used in other surveys of prospective e-book

users, which mainly focus on features of e-book devices and their ease-of-use, this instrument was designed to assess the general attitudes of students and instructors towards e-books, contrast attitudes towards e-books with those towards the printed materials e-books are intended replace such as books, periodicals and news, assess perceptions towards e-books in the context of a higher education course from the perspectives of students and instructors, and assess characteristics that influence the decision to purchase e-books, such as the price and terms and conditions.

The survey has five sections. The first collects demographic data such as age, gender, education level, and status as student or instructor. The second section explores general awareness of e-books and includes questions about participants' awareness of e-books, their definition of the term, and the user experience. The third and fourth sections assess drivers that influence the decision to purchase e-books and other digital reading materials. It asks participants to contrast the credibility and convenience of different types of digital content, including books, journals, magazines and news, with their printed counterparts, as well as expectations regarding price and ownership of materials. This section relied on Likert scales and yes/no questions. Students and instructors received tailored versions of the fifth section, which explores students' reading habits and preference of choosing reading materials and instructors' beliefs about students' reading habits as they might be affected by e-books.

Two usability tests of the survey were conducted to ensure that participants could follow the instructions, to ensure that the interpretation of questions by participants matched those intended by the research team, and to gauge the length of time needed to

conduct the survey. As a result of feedback from the usability test, minor adjustments to wording of specific questions were made.

Process for Administering the Instrument

The research team decided to administer the survey online. The team did so for convenience and to ensure data integrity. Conducting the survey online removes the cost of printing and mailing the survey, and the errors that could be introduced by transcribing results into an online file for further analysis. An online survey can also be conducted more efficiently, as data collection can begin the day the online survey opens and closes when the online survey closes; no late responses affect data analysis. Last, an online survey can be made available to an entire population rather than a selected subset of it (Gingery, 2011)[6]. These advantages are offset somewhat by certain disadvantages. One is the inability to respond easily to participants' questions about the survey and lower response rates as compared to other methods (Gingery, 2011)[7].

The procedure for collecting data was identical at both institutions participating in the survey: one college and one university. After receiving approval to conduct the study in an institution, the primary investigator provided an administrator in the institution with the draft of an approved e-mail message to be sent to all students and instructors in the institution announcing the availability of the survey. The note explained the purpose of the survey and the estimated time needed to complete it, and informed students that they had the right to decide whether or not to participate. The note closed with a link to the survey. A draft of the note is provided in Appendix B.

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[6] http://survey.cvent.com/blog/market-research-design-tips-2/advantages-and-disadvantages-of-online-surveys
[7] http://survey.cvent.com/blog/market-research-design-tips-2/advantages-and-disadvantages-of-online-surveys

If someone clicked on the link, the system displayed an informed consent form. Appendix C shows the informed consent form. Participants who agreed to continue with the survey clicked a link that indicated their voluntary participation in the study. In those instances, the system displayed the first section of the survey, requesting demographics. The first screen asked whether the participant is a student or an instructor. Participants who answer "student" would receive the student version of the survey. Participants who answered instructor were asked a second question to clarify their instructor status: whether they also had standing as students. Participants who had standing as both students and instructors received the student version of the survey. After clarifying the path to follow, participants completed the rest of the survey.

Participants responded to the survey online at their own pace. As stated in the general information about the study and in the Informed Consent Form, all responses were anonymous. The survey did not request identifying information from participants and no one on the research team could trace responses back to a specific individual.

The online survey remained open for five weeks at each institution. The primary investigator provided the administrators at institutions administering the survey with four follow-up notes (approximately one for each week the survey was open) that the administrators could send to remind the students and instructors at their institutions that they could still participate in the survey.

When a survey closed at a location, the research team collected the data and imported it into a Excel spread sheet, which could be used for further analysis. Copies of the file were stored securely on the personal laptops of two to three research team members.

How Data Was Analyzed

My main involvement with this project was at the data analysis phase. After familiarizing myself with the survey and its context, I began initial work on the analysis.

I began this task by categorizing the survey questions into different themes, partly guided by the research questions, and partly guided by the five-part structure of the survey, and retrieved the answers for each question in each theme from the Excel spreadsheets provided to me by the primary investigator.

Next, I developed a codebook, which contained a checklist of all the variables used in the survey (as suggested by Creswell, 2010). Categorizes included in the codebook included:

- Descriptive data (such as age, gender, educational status)

- General perceptions of respondents' attitudes related to their experiences of using e-books (including college students' perception, college instructors' perception, university students' perceptions and university instructors' perceptions)

- Separate themes on college students' and instructors' and university students' and instructors' perceptions towards different types of digital material and related factors of use (such as reading habits, convenience, cost, availability, and credibility).

To facilitate computer analysis on the collected data, I assigned numeric scores to each response. For example, in order to analyze participants' perceptions towards e-books, I assigned 0= "enthusiastic", 1 = "positive", 2 = " indifference", 3 = "negative" and 4= "detest". Based on the assigned score, participants who select "positive" would receive a score of 1 (Creswell, 2010).

After converting the data to numeric scores, I began analysis of it using the Statistical Package for Social Science (SPSS). I first used SPSS helped to calculate basic descriptive statistics, including means, variance, Standard deviation (Creswell, 2010).

Then I used SPSS to make inferences and identify possible relationships among variables, as stated in the research hypotheses. Most of the relationships explored one or more relationships between a. demographic variable—such as age, gender, student status and types of educational institution, or previous experience with e-books and general perceptions of e-book (descriptive data) with a perception, including perceptions of the convenience of e-books, price of e-books, credibility of e-books, availability of e-books, and reading habits.

I also compiled descriptive statistics on participants' perceptions of different types of digital material such as news, professional information, scholarly information, as well as their awareness of the terms and conditions of e-book ownership.

When testing relationships among variables, I used three types of statistical tests:

- One-way analysis of variance (One-way ANOVA), which I used to determine whether a significant difference existed between groups (Urdan, 2010). For example, I used a one-way ANOVA to examine if there is significant difference based on gender and regarding participants' perceptions towards e-book.

- Pearson correlation coefficient, which I used to test the hypotheses about if there is significant relationship between variables. According to Urdan (2010), the "Pearson correlation coefficient describes and measures the degree of association between two or more variables" (P.145). It is helpful in seeking relationships between variables and exploring whether one variable influences another. For example, I used a Pearson

coefficient to test if there is significant relationship between the convenience of e-books and participants' perceptions towards e-books.

- t-test, which is used to "compare the means between two groups to see if there are significant from each other" (Urdan, 2010 P.93). I performed two sample t-tests, one to compare the means between the college and university groups and another to compare student sand instructors.

Table 3-1 lists the type of analysis performed for each research question or hypothesis.

Table 3-1.

Type of analysis performed for each question or hypothesis.

Research Question and Associated Null Hypotheses	Type of Analysis Performed
RQ1: What are university and college participants' perceptions towards e-books? H1.1$_0$: There is no significant difference between college participants' and university participants' perceptions towards e-books. H1.2$_0$: There is no significant difference between students' and instructor's perceptions towards e-books.	Analyzed as descriptive data. Generally, I summarized information such as participants' attitudes and experience about e-books. Demographic statistics were calculated in order to present a trend of the sample population.
RQ2: How do participants' perceptions differ demographically? H2.1$_0$: There is no significant difference between gender and participants' perceptions towards e-books.	Demographic data were analyzed using one-way ANOVA to determine whether a significant difference exists between those variables and participants perceptions towards e-books. In other words, this analysis helped determine whether

$H2.2_0$: There is no significant difference between age and participants' perceptions towards e-books.	participants' individual differences in age, gender, status or level of education affected their perceptions towards e-books.
$H2.3_0$: There is no significant difference between status and participants' perceptions towards e-books.	
$H2.4_0$: There is no significant difference between level of education and participants' perceptions towards e-books.	
$H2.5_0$: There is no significant difference between previous experiences of e-book and participants' perceptions towards e-books.	
RQ3: How do participants' perceptions differ among different type of information?	Analyzed using descriptive data.
Research Question 4: Which characteristics drive students' and instructor's perceptions towards e-books?	Analyzed using descriptive data and Pearson correlation coefficient tests, which determine whether the certain selected factor affect the participants' perceptions of e-books. Correlation tests indicate the relationships between variables and suggest the likelihood of adoption of e-books. For instance, if the results showed that perceptions of e-books are positively associated with certain variables and negatively associated with others, those relationships would provide insights into the likely trend in adoption patterns of e-books in
$H4.1_0$ There is no significant difference between credibility of information in the e-books and participants' perceptions towards e-books.	
$H4.2_0$ There is no relationship between convenience of e-books and participants' perceptions towards e-books.	
$H4.3_0$ There is no relationship between	

price of e-books and participants'	higher education.
perceptions towards e-books.	
H4.4$_0$ There is no relationship between	
availability of e-books and participants'	
perceptions towards e-books?	
H4.5$_0$ There is no relationship between	
participants' reading habits and perceptions	
towards e-books.	
Research Question 5: Are participants aware of the	Analyzed using descriptive data.
terms and conditions of ownership of e-books?	

ETHICAL CONSIDERATIONS

As stated previously, participants in this study included college and university

students. To assure that they had permission to collect data from these participants the

research team only began the study after receiving formal permission from the university

administration and approval from its research ethics committee, approvals sought in

addition to those of the university of the primary investigator.

The study posed minimal risk to participants. Rather, the primary ethical

consideration was protecting participants' personal private information, as participants

share their attitudes and beliefs about e-books when responding to the survey. By inviting

all students and instructors in the institutions studied to participate in the survey and by

using an anonymous online survey with no identifying information recorded, the privacy

of participants was assured. Furthermore, all participants only started the survey after

providing informed consent and had the freedom to withdraw at any time without adverse

consequences. Because some college students might not yet have reached age 18, the

informed consent form required participants to also certify that they were 18 years of age

or older, to avoid any issues associated with surveying minors.

All of the collected data were treated confidentially and stored in researcher's

computer. Because participants provide no identifying data, no personal information

could be leaked. The publication of the study will not identify any participants. We also

notified all the participants that they could withdraw from the study at anytime, and their

data will be removed from the study by members in the research team.

ASSURING RELIABILITY AND VALIDITY

The instrument was validated with two usability tests before data collection

began. None of the data from the usability tests was included in the data analyzed for this

study.

Calls for participation in the study were sent to the entire populations of students

and faculty at the participating institutions. Convenience sampling was used, which

depends on participants' willingness and accessibility (Creswell, 2010). According to

Creswell (2010), "Although the results of convenience sampling might not represents the

whole population, it still provides useful information for answering research questions"

(P.146).

CHAPTER 4. RESULTS

This chapter presents the results of the study. It first describes who participated in the study, then presents the results for each research question and its associated hypotheses. In each section, responses are first provided for college (CEGEP) students and instructors, then university students and instructors, and then combined responses for the two groups.

WHO PARTICIPATED IN THE STUDY?

As noted in the previous chapter, to ensure broad representation of higher education institutions, the survey would be conducted at one college and one university in different communities. For convenience, however, the study was conducted in Canada.

Through personal contacts, the primary investigator recruited a small college (approximately 2,000 students) in Quebec and a medium-sized university (about 10,000 students) in Ontario. The following sub-sections provide more in-depth information about each.

Participants in the Community College

The small community college is located in the province of Quebec. Community colleges in Quebec are slightly different than those in other provinces or states in North America. In Quebec, community colleges are called CEGEPs, an acronym for the French expression, *collège d'enseignement général et professionnel*. Like their counterparts in other provinces and states, CEGEPs provide general academic education that might prepare students for a university education as well as offer vocational programs that prepare students for jobs requiring a post-secondary education, but not a full bachelor's degree. CEGEPs differ from other community colleges in that they cover grade 12 of

high school (Quebec high schools only go through grade 11) and the first year of
university (all Quebec universities start their programs in the second year of a bachelor's
degree), which provides academically bound students with a transitional experience
before starting university.

The total number of students is 2,100 and instructors are 160, a total population of
2,260. A total of 266 respondents participated (only completed surveys were count) in
this study), which is 11.8% of the population. Among those 266 participants, 247 were
students and19 were instructors. Student participation in the study was 11.76% of the
total student population. The demographics of students who participated are:

- Gender: 147 (59.5%) female, 100 male (40.5%)

Table 4-1

Ages of College Students Participating in the Study

		Frequency	Percent	Valid Percent	Cumulative Percent
	19 or younger	241	97.6	97.6	97.6
Age	20-24	5	2.0	2.0	99.6
	70 plus	1	.4	.4	100.0
	Total	247	100.0	100.0	

- Age: 241 (97.6%) were between the age of 18 and 19, 5 (2%) between the ages of 20
  and 24, and 1 (.4%) who is 70 or above. See Table 4-1 for the ages of college
  students.

- Status: 97.2% were full-time students; 2.8% part-time students.

- All but one of the students is just completing their CEGEP education; one participant also has a master's degree.

    The remaining 19 participants were instructors, a participation rate of 11.87% of the total population of instructors. Demographics of the instructors who participated are:

- Gender: 12 female (63.1%), 7 male (36.9%).

- Age: Varied from 30 to 70 years old, although they tended to be younger, with 63.% between ages 30 and 44, and average age of the college instructors is 44.

- Status: 13 (68.4%) of the instructors participating in the study worked full-time in that position, the remaining 6 (31.6%) worked part-time as instructors.

Table 4-2

Ages of College Instructors Participating in the Study

		Frequency	Percent	Valid Percent	Cumulative Percent
	30-34	6	31.6	31.6	31.6
	35-39	3	15.8	15.8	47.4
Age	40-44	3	15.8	15.8	63.2
	45-49	1	5.3	5.3	68.4
	50-69	5	26.3	26.3	94.7
	70 plus	1	5.3	5.3	100.0
	Total	19	100.0	100.0	

    Overall, the demographics of participants who participated in the study in the community college were:

- Role: 247 students and 19 instructors.

- Gender: 159 (59.8%) female, 107 (40.2%) male

- Age: Varied from 18 to over 70 years old, See Table 4-3 for details about the

  participants' ages.

Table 4-3

Ages of College Participants Participating in the Study

		Frequency	Percent	Valid Percent	Cumulative Percent
	19 or younger	241	90.6	90.6	90.6
Age	20-24	5	1.9	1.9	92.5
	30-34	6	2.3	2.3	94.8
	35-39	3	1.1	1.1	95.9
	40-44	3	1.1	1.1	97.0
	45-49	1	.4	.4	97.4
	50-69	5	1.9	1.9	99.3
	70 plus	2	.7	.7	100.0
	Total	266	100.0	100.0	

To calculate the minimum sample size of this community college population

needed to make broad generalizations using the conventional confidence level of 95%

(Cohen, 1988) and a 5% acceptable margin of error, the Sample Size Calculator [8](Survey

System, 2014) was consulted. With a student population of 2,100 and an instructor

population of 160, the desired response rate was 14.5%. With an actual response rate of

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[8] http://www.surveysystem.com/sscalc.htm

11.8 in this study, although a little bit lower than desired response rate, there's still about 45% chance that the results would represent the entire population.

Participants in the University

The medium-sized university is located in the province of Ontario and offers bachelors, masters, and doctoral degrees in a variety of disciplines, in commerce, engineering, health sciences, and social sciences. It had 9,203 students at the time of the study, of which approximately 518 (5.6%) are graduate students. The university also has 868 instructors. Six hundred and three (603) people participated, 5.99% of the total population. Among the participants were 557 students (92.4%) and 46 instructors (7.6%).

Student participation in the study was 6.01% of the total student population. The demographics of students who participated are:

- Gender: 296 (53.1%) female, 261 (46.9%), male

- Age: 183 (32.9%) were between the age of 18 and 19, 300 (53.9%) were between the ages of 20 and 24, 28 (5.0%) were between the age of 25 and 29, 16 (2.9%) were between the age of 30 and 34, 6 (1.1%) were between the age of 35 and 39, 13 (2.3%) were between the age of 40 and 44, 6 (1.1%) were between the age of 45 and 49, and 5 (.9%) were between the age of 50 and 69, . See Table 4-4 for the ages of university students.

- Status: 535 (96.1%) were full-time students22 (3.9%) were part-time students.

- Degree sought: 543 (97.5%) are undergraduates, 9 (1.6%) are students in graduate diploma programs, and 4 (.7%) are master students.

Table 4-4

Age range of university students

		Frequency	Percent	Valid Percent	Cumulative Percent
Age	19 or younger	183	32.9	32.9	32.9
	20-24	300	53.9	53.9	86.7
	25-29	28	5.0	5.0	91.7
	30-34	16	2.9	2.9	94.6
	35-39	6	1.1	1.1	95.7
	40-44	13	2.3	2.3	98.0
	45-49	6	1.1	1.1	99.1
	50-69	5	.9	.9	100.0
	Total	557	100.0	100.0	

The remaining 46 participants were instructors, a participation rate of 5.3% of the total population of instructors. Demographics of the instructors who participated are:

- Gender: 25 (54.3%) female, 21 (46.7%) male.

- Age: 2 (4.3%) were between the age of 18 and 19, 2 (4.3%) were between the age of 25 and 29, 3 (6.5%) were between the age of 30 and 34, 7 (15.2%) were between the age of 35 and 39, 8 (17.4%) were between the age of 40 and 44, 9 (19.6%) were between the age of 45 and 49, 14 (30.4%) were between the age of 50 and 69 and 1 (2.2%) was older than 70. See Table 4-5 for the age distribution of university instructors.

- Status: 34 (73.9%) were full-time instructors, 12 (26.1%) were part-time instructors.

  See Table 4-6 for the status of university instructors.

Table 4-5

Age range of university instructors

		Frequency	Percent	Valid Percent	Cumulative Percent
	19 or younger	2	4.3	4.3	4.3
Age	25-29	2	4.3	4.3	8.7
	30-34	3	6.5	6.5	15.2
	35-39	7	15.2	15.2	30.4
	40-44	8	17.4	17.4	47.8
	45-49	9	19.6	19.6	67.4
	50-69	14	30.4	30.4	97.8
	70 plus	1	2.2	2.2	100.0
	Total	46	100.0	100.0	

Table 4-6

Status of university instructors

		Frequency	Percent	Valid Percent	Cumulative Percent
	Part-time	12	26.1	26.1	26.1
Status	Full-time	34	73.9	73.9	100.0
	Total	65	100.0	100.0	

Overall, the demographics of participants who participated in the study in the

university were:

- Role: 557 students and 46 instructors.

- Gender: 321 (53.2%) female, 282 (46.8%) male.

- Age: Varied from 18 to over 70 years old, See Table 4-7 for details about the

  instructor's ages.

Table 4-7

Age range of university participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Age	19 or younger	185	30.7	30.7	30.7
	20-24	300	49.8	49.8	80.5
	25-29	30	4.9	4.9	85.4
	30-34	19	3.2	3.2	88.6
	35-39	13	2.1	2.1	90.7
	40-44	21	3.5	3.5	94.2
	45-49	15	2.4	2.4	96.6
	50-69	19	3.2	3.2	99.8
	70 plus	1	.2	.2	.2
	Total	603	100.0	100.0	

To calculate the minimum sample size of this community college population

needed to make broad generalizations using the conventional confidence level of 95%

(Cohen, 1988) and a 5% acceptable margin of error, the Sample Size Calculator[9] (Survey

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[9] http://www.surveysystem.com/sscalc.htm

System, 2014) was consulted. With a student population of 9203 and an instructor population of 868, the desired response rate was 3.7%. With a response rate of 14.5% in this study, indicating that the results from the sample could well represent the whole population within the target university.

ANSWERING THE RESEARCH QUESTIONS AND HYPOTHESES

This section presents the answers to these research questions: (1) what are university and college participants' perceptions towards E-books? (2) How do participants' perceptions differ demographically? (3) How do participants' perceptions differ among different types of information? (4) Which characteristics drive students' and instructor's perceptions towards e-books? (5) Are participants aware of the terms and conditions of ownership of e-books?

Each sub-section answers a different question. Each one begins with a brief description of the question and its significance, and then responds to each of the hypotheses underlying it.

Answering Research Question 1: What Are University and College Participants' Perceptions Towards E-books?

This sub-section presents the answers to the first research question. After providing a brief description of the question and its results, this sub-section then presents the results of testing for each of these null hypotheses:

$H1.1_0$: There is no significant difference between college participants' and university participants' perceptions towards E-books.

$H1.2_0$: There is no significant difference between students' and instructor's perceptions towards E-books.

The section closes with a discussion to the broader research question.

Description of the research question and its results

Research Question 1 explores participants' general attitude towards their use of e-books. The insights provided by the data could add up to earlier studies on users' attitudes towards e-books.

The survey question used to assess this issue was "how would you characterize your current attitude towards e-books". Possible responses include enthusiastic, positive, indifference, negative and 4 of being detest.

The mean of the general attitudes for college participants was 1.46 (M=1.46, SD= .92, n= 266), which means an attitude between "positive" and " indifference". Around half of (52%) the college participants held positive or enthusiasm attitudes towards e-books.

For students the mean of the general attitudes was 1.46 (M= 1.46, SD= .91, n= 247). 52.3% of the college student participants held positive or enthusiasm attitudes towards e-books whereas 36.8% and 10.9% held indifference and negative attitudes towards e-books respectively.

For instructors the mean of the attitudes towards e-books is 1.47, (M= 1.47, SD= 1.07, n= 19). More than half of college instructor participants 52.6% held positive or enthusiasm attitudes towards e-books whereas 26.3% and 21.1% held indifference and negative attitudes respectively. Table 4-8 summarizes overall responses for college participants. Table 4-9 summarizes responses for college students, and Table 4-10 summarizes responses for college instructors.

Table 4-8

Responses of overall college participants on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	39	14.7	14.7	14.7
	Positive	100	37.6	37.6	52.3
Overall	Indifference	96	36.1	36.1	88.3
attitudes	Negative	27	10.2	10.2	98.5
	Detest	4	1.5	1.5	100.0
	Total	266	100.0	100.0	

Table 4-9

Responses of college students on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	35	14.2	14.2	14.2
	Positive	94	38.1	38.1	52.2
Students'	Indifference	91	36.8	36.8	89.1
attitudes	Negative	23	9.3	9.3	98.4
	Detest	4	1.6	1.6	100.0
	Total	247	100.0	100.0	

Table 4-10

Responses of college for instructors on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	4	21.1	21.1	21.1
	Positive	6	31.6	31.6	52.6
Instructors'	Indifference	5	26.3	26.3	78.9
attitudes	Negative	4	21.1	21.1	100.0
	Detest	0	0	0	100.0
	Total	19	100.0	100.0	

The mean of the university participants' general attitudes was 1.60 (M=1.60, SD= 1.2, n= 603), which means an attitude between "positive" and " indifference". Around half of (53.2%) the university participants held positive or enthusiasm attitudes towards e-books, 23.2% held indifference, and 23.6% held negative attitudes respectively.

For students the mean of general attitudes was 1.63, which is in between the "positive" attitude and "indifference" attitude but closer to "indifference" (M= 1.63, SD= 1.18, n= 557). Over 51.9% of the university student participants held positive or enthusiasm attitudes towards e-books whereas around 23.7% of students held indifferent attitudes and 24.4% of the university student participants had negative attitudes on e-books.

As for instructors, the majority of university instructors (69.6%) held the positive perceptions towards e-books, with the mean of 1.22, (M= 1.22, SD= 1.1, n=46),

closer to positive, whereas 17.4% and 13% of university instructors held indifference and negative attitudes respectively.

Table 4-11 summarizes overall university responses. Table 4-12 summarizes responses for university students and Table 4-13 summarizes responses for university instructors.

Table 4-11

Responses of university participants on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	108	17.9	17.9	17.9
	Positive	213	35.3	35.3	53.2
Overall	Indifference	140	23.2	23.2	76.5
attitudes	Negative	95	15.8	15.8	92.2
	Detest	47	7.8	7.8	100.0
	Total	603	100.0	100.0	

Table 4-12

Responses of university students on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	96	17.2	17.2	17.2
	Positive	193	34.6	34.6	51.9
Students'	Indifference	132	23.7	23.7	75.6
attitudes	Negative	91	16.3	16.3	91.9
	Detest	45	8.1	8.1	100.0
	Total	557	100.0	100.0	

Table 4-13

Responses of university instructors on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	12	26.1	26.1	26.1
	Positive	20	43.5	43.5	69.6
Instructors'	Indifference	8	17.4	17.4	87.0
attitudes	Negative	4	8.7	8.7	95.7
	Detest	2	4.3	4.3	100.0
	Total	46	100.0	100.0	

For overall participants in this study, the reported mean of overall general

attitudes was 1.56 (M= 1.56, SD= 1.1, n= 869). With around 52.9% of participants held

positive or enthusiasm attitudes towards e-books, 27.2% of participants held indifference attitudes and 19.9% held negative attitudes towards e-books.

In general, student participants' perceptions towards e-books varied with a mean of 1.58 (in between "positive" and "indifference" attitudes). Around half of (52%) the student participants held positive or enthusiasm attitudes towards e-books.

Instructors' participants seemed have more positive perceptions, with the mean of 1.29 (closer to the "positive" attitude). Approximately 64.6% of the instructor participants held positive or enthusiasm attitudes towards e-books. Table 4-14 summarizes overall responses. Table 4-15 summarizes responses for students and Table 4-16 summarizes responses for instructors.

Table 4-14

Combined responses of college and university participants on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	147	16.9	16.9	16.9
	Positive	313	36.0	36.0	52.9
Overall	Indifference	236	27.2	27.2	80.1
perception	Negative	122	14.0	14.0	94.1
	Detest	51	5.9	5.9	100.0
	Total	869	100.0	100.0	

Table 4-15

Combined responses of college and university students on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	131	16.3	16.3	16.3
	Positive	287	35.7	35.7	52.0
Students'	Indifference	223	27.7	27.7	79.7
perception	Negative	114	14.2	14.2	93.9
	Detest	49	6.1	6.1	100.0
	Total	804	100.0	100.0	

Table 4-16

Combined responses of college and university instructors on general attitudes towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Enthusiastic	16	24.6	24.6	24.6
	Positive	26	40.0	40.0	64.6
Instructors'	Indifference	13	20.0	20.0	84.6
perception	Negative	8	12.3	12.3	96.9
	Detest	2	3.1	3.1	100.0
	Total	65	100.0	100.0	

Testing of Hypothesis

Hypothesis 1.1$_0$: There is no significant difference between college participants' and university participants' perceptions towards e-books.

This hypothesis explores whether college participants and university participants' attitudes towards e-books differ from each other. Two tailed independent samples t-test analysis was used to analyze responses because t-test is suitable to compare the means between two groups (CEGEP group and university group).

Based on the t-test result that t=1.89 p=. 059, d=641, no significant difference was found between the perceptions of participants from CEGEP (M=1.46, SD= .92, n= 266) and the perceptions of participants from university (M=1.60, SD= 1.2, n= 603) at the .05 level, so the data supports the hypothesis. That is, whether participants are from university or college does not make a difference in their perceptions of e-books."

Hypothesis 1.2$_0$: There is no significant difference between students' and instructor's perceptions towards e-books.

This hypothesis explores if students and instructors' had different perceptions towards e-books. Independent samples t-test was used to test between student group and instructor group.

T-test result, t=2.03 p=. 043, d=867. Because at the 95% confidence interval, the difference between the means was .01to .57, the t-test result indicated a significant difference between students and instructors' perceptions towards e-books. The null hypothesis was not supported. That means students' perceptions towards e-books are different compared to instructors' perceptions towards e-books. Instructors tend to have more positive attitudes towards e-books compared to students.

Discussion for Research Question 1

The data suggests that general perceptions of e-books are generally positive as the data revealed that more than half of participants in university and college held enthusiasm or positive attitudes towards e-books. Perceptions slightly differ among groups— Instructors seemed to have more positive attitudes than student participants.

These findings are consistent with the literature, such as Falc's (2013), Shelburne's, (2009) and Rowlands et al's (2007) study, which also found positive results on participants' perception towards e-book. The results also found around 30% participants held 'indifference' attitudes towards e-books, this result could be explained by the unawareness of available e-books (Cassidy et al, 2012), there will be possibilities to switch their attitudes to more positive attitudes if more introductions and guidance of using e-books are given. In addition, the study also found instructors had more positive attitudes compared to students and the result was significantly different. The possible explanation for the results would be instructors have more autonomous of choosing the book formats compared to students (for instance, sometimes students are forced to use e-books or the course materials are only available online).

Answering Research Question 2: How Do Participants' Perceptions Differ Demographically?

This sub-section presents the answers to the second research question. After providing a brief description of the question and then this sub-section presents the results and testing for each of these hypotheses:

$H2.1_0$:   There is no significant difference between gender and participants' perceptions towards E-books.

$H2.2_0$:   There is no significant difference between age and participants' perceptions

towards E-books.

$H2.3_0$:   There is no significant difference between status and participants' perceptions

of E-books.

$H2.4_0$:   There is no significant difference between level of education and participants'

perceptions of E-books.

$H2.5_0$:   There is no significant difference between previous experiences with e-books

and participants' perceptions towards e-books.

The section closes with a discussion to the broader research question.

Description of the research question and its results

Research Question 2 explores if demographic factors have significant effects on

participants' general attitudes towards e-books. The demographic factors that have been

investigated in this study included: gender, age, participants' status, level of education

and their previous experience of e-books. Seven items in the survey were applied to

answer this research question. Numeric scores were assigned for each question for the

statistical tests.

Testing of Hypothesis 2.1$_0$: There Is No Significant Difference Between gender and Participants' Perceptions of E-books

For college participants, 159 female and 107 male college participants were

enrolled in this survey study. The mean of the general attitudes for female college

participants was 1.50 (M=1.50, SD= .86, n= 159), which means an attitude between

"positive" and "indifference" and the mean of the general attitudes for male college

participants 1.41 (M=1.41, SD= .99, n= 107), which is closer to a "positive" attitude.

Among the 247 college student participants, 147 of them are females and 100 of them are males. The mean of female students' attitudes towards e-books is 1.50 (M= 1.50, SD= .847, n= 147) and the male students' attitudes towards e-books is 1.40 (M= 1.40, SD= .985, n= 100).

In terms of college instructors', 12 female instructors and 7 male instructors participated, the mean of the female instructors' attitudes towards e-books is 1.42 (M= 1.42, SD= 1.08, n= 12), which is closer to the "positive" attitude. Whereas the mean of the male instructors' attitudes towards e-books is 1.57 (M= 1.57, SD= 1.13, n= 7), which is closer to the "positive" attitude.

The null hypothesis: there is no significant difference between gender and college participants' perceptions towards e-book. In order to test the hypothesis, one-way ANOVA was introduced. The ANOVA test indicated there is no significant difference (F=. 559, p=. 455) between gender and college participants' attitudes towards e-books. The null hypothesis was accepted.

While considering whether the college participants are students or instructors: the ANOVA indicated there is no significant difference (F=. 78, p=. 379) between gender and college students' attitudes towards e-books. But males students seem have more positive attitudes towards e-books. In terms of college instructors' perceptions and gender, no significant difference was found (F=. 087, p=. 77).

To summaries, the null hypothesis " there is no significant difference between gender and college participants' attitudes towards e-books" was supported as the ANOVA test result showed there is no significant difference between gender and college participants' attitudes towards e-books. The ANOVA results for college student

participants also accepted the null hypothesis of "there is no significant difference between gender and college students' attitudes towards e-books." The ANOVA results for college instructor participants also supported the null hypothesis "there is no significant difference between gender and college instructor participants' attitudes towards e-books".

For university participants, 321 female and 282 male university participants were enrolled in this survey study. The mean of the general attitudes for female university participants is 1.74 (M=1.74, SD= 1.14, n= 321), which is closer to " indifference" attitude and the mean of the general attitudes for male university participants is 1.45 (M=1.45, SD= 1.196, n= 282), which means an attitude between "positive" and " indifference".

Among the 557 university student participants, 296 of them are females and 261 of them are males. The mean of female university students' attitudes towards e-books is 1.79 (M= 1.79, SD= 1.15, n= 296) and the male university students' attitudes towards e-books is 1.46 (M= 1.45, SD= 1.19, n= 261), which is closer to the "positive" attitude.

In terms of university instructors', 25 female university instructors and 21 male university instructors participated, the mean of the female university instructors' attitudes towards e-books is 1.08 (M= 1.08, SD= .91, n= 25), which is closer to the "positive" attitude. Whereas the mean of the male university instructors' attitudes towards e-books is 1.38 (M= 1.38, SD= 1.24, n= 21).

In order to test the hypothesis: There is no significant difference between gender and university participants' perception towards e-books. A one-way analysis of variance was conducted. The ANOVA test revealed a significant difference (F=9.353, p<. 05)

between gender and university participants' attitudes towards e-books. Regardless whether the university participants are students or instructors, males (M=1.45, SD= 1.196, n= 282) hold more positive attitudes compare to females (M=1.74, SD= 1.14, n= 321). The null hypothesis was not supported by the data.

While considering whether the university participants are students or instructors: the ANOVA indicated a significant difference (F=11.88, p=. 001) between gender and university students' attitudes towards e-books. Males students seem have more positive attitudes towards e-books. However, in term of instructors' perceptions and gender, no significant difference was found (F=. 89, p=. 35).

In conclusion, the null hypothesis " there is no significant difference between gender and university participants' attitudes towards e-books" was not supported as the ANOVA test result showed there is a significant difference between gender and university participants' attitudes towards e-books. The ANOVA results for university student participants also failed to support the null hypothesis of "there is no significant difference between gender and university students' attitudes towards e-books." However, the ANOVA results for university instructor participants supported the null hypothesis "there is no significant difference between gender and university instructor participants' attitudes towards e-books".

For overall participants, there are 480 female participants and 389 male participants joined this survey study. The mean of female participants' general attitudes is 1.66 (M=1.66, SD= 1.06, N=480) whereas the mean of male participants' general attitudes is 1.44 (M=1.44, SD= 1.14, N= 389).

In general, the gender of student participants split between 443 female students and 361 male students. The mean of female student participants' general attitudes is 1.70 (M= 1.70, SD= 1.06, n= 443) whereas the mean of male participants' general attitudes is 1.44 (M= 1.44, SD= 1.14, n= 361).

Instructor participants' gender split between 37 female instructors and 28 male instructors with the mean of 1.19 (M= 1.19, SD= .97, n= 37) and 1.43 (M= 1.43, SD= 1.2, n= 28) for female instructors and male instructors respectively.

A one-way analysis of variance (one-way ANOVA) was conducted to evaluate the null hypothesis: there is no significant difference between gender and participants' perceptions towards e-book. The test of homogeneity of variances was tested and found tenable p= .07, The ANOVA test produced a significant difference (F=8.71, p<. 05) between gender and participants' attitudes towards e-books. Regardless whether the participants are students or instructors, males (M=1.44, SD= 1.14, N= 389) hold more positive attitudes compare to females (M=1.66, SD= 1.06, N=480). The null hypothesis was not supported by the data.

While considering whether the participants are students or instructors: the ANOVA indicated a significant difference (F=11.15, p=. 001) between gender and students' attitudes towards e-books. Males students seem have more positive attitudes towards e-books. However, instructors' perceptions and gender revealed no significant difference (F=. 79, p=. 38).

To conclude, the null hypothesis " there is no significant difference between gender and participants' attitudes towards e-books" was not supported as the ANOVA test result showed there is a significant difference between gender and participants

attitudes towards e-books. The ANOVA results for student participants also were not supported the null hypothesis of "there is no significant difference between gender and students' attitudes towards e-books." However, the ANOVA results for instructor participants supported the null hypothesis "there is no significant difference between gender and instructor participants' attitudes towards e-books".

Testing of Hypothesis 2.2$_0$: There Is No Significant Difference Between age and Participants' Perceptions of E-books

For college participants, a one-way analysis of variance was conducted to test the hypothesis: there is no difference between age and college participants' perceptions towards e-books. The results showed there's no significant difference ($F=1.57$, $p=.15$) between age and college participants' perceptions towards e-books, thus researcher failed to reject the null hypothesis. In depth, the one-way ANOVA tests indicated there is no significant difference ($F=1.83$, $p=.16$) between college students' age and their perceptions towards e-books and there's no significant difference ($F=1.08$, $p=.42$) between college instructors' age and their perceptions towards e-books.

For university participants, a one-way analysis of variance was conducted to test the hypothesis: there is no difference between age and university participants' perceptions towards e-books. The results showed there's no significant difference ($F=1.68$, $p=.10$) between age and university participants' perceptions towards e-books, thus researcher failed to reject the null hypothesis. In depth, the one-way ANOVA tests indicated there is no significant difference ($F=.85$, $p=.54$) between university students' age and their perceptions towards e-books and there's no significant difference ($F=1.17$, $p=.12$) between university instructors' age and their perceptions towards e-books.

For overall participants, a one-way ANOVA was conducted to evaluate if there is difference between age and participants' perceptions towards e-books. The results showed there's no significant difference (F=1.26, p=. 26) between age and participants' perceptions towards e-books, thus support the null hypothesis. In depth, the one-way ANOVA tests indicated there is no significant difference (F=. 87, p=. 54) between students' age and their perceptions towards e-books and there's no significant difference (F=1.05, p=. 41) between instructors' age and their perceptions towards e-books.

Testing of Hypothesis 2.3$_0$: There Is No Significant Difference Between Status and Participants' Perceptions of E-books

For college participants, 253 full-time participants and 13 part-time college participants were enrolled in this survey study. The mean of the general attitudes for full-time status college participants was 1.47 (M=1.47, SD= .92, n= 253), which means an attitude between "positive" and " indifference" and the mean of the general attitudes for part-time status college participants 1.23 (M=1.23, SD= .83, n= 13).

Among the 247 college student participants, 240 of them are full-time students and 7 of them are part-time students. The mean of full-time students' attitudes towards e-books is 1.46 (M= 1.46, SD= .91, n= 240) and the part-time students' attitudes towards e-books is 1.43 (M= 1.43, SD= .79, n= 7).

In terms of college instructors', 13 full-time instructors and 6 part-time instructors participated, the mean of the full-time instructors' attitudes towards e-books is 1.69 (M= 1.69, SD= 1.1, n= 13), which is closer to the "positive" attitude. Whereas the mean of the part-time instructors' attitudes towards e-books is 1.00 (M= 1.00, SD= .89, n= 6), which is closer to the "positive" attitude.

The null hypothesis: there is no significant difference between status and college participants' perceptions towards e-book. In order to test the hypothesis, one-way ANOVA was introduced. The ANOVA test indicated no significant difference (F=. 875, p=. 351) between status and college participants' attitudes towards e-books. The data supported the null hypothesis.

While considering whether the college participants are students or instructors: the ANOVA indicated no significant difference (F=. 010, p=. 922) between status and college students' attitudes towards e-books. Part-time students seem have more positive attitudes towards e-books.

In term of college instructors' perceptions and status, no significant difference was found (F=1. 78, p=. 199).

To summaries, the null hypothesis " there is no significant difference between status and college participants' attitudes towards e-books" was supported as the ANOVA test result showed there is no significant difference between status and college participants' attitudes towards e-books. The ANOVA results for college student participants also accepted the null hypothesis of "there is no significant difference between status and college students' attitudes towards e-books." The ANOVA results for college instructor participants supported the null hypothesis "there is no significant difference between status and college instructor participants' attitudes towards e-books".

For university participants, 569 full-time and 34 part-time university participants were enrolled in this survey study. The mean of the general attitudes for full-time university participants is 1.63 (M=1.63, SD= 1.169, n= 569), which means an attitude between "positive" and " indifference" and the mean of the general attitudes for part-time

university participants 1.18 (M=1.18, SD= 1.242, n= 34), which means an attitude closer to "positive".

Among the 557 university student participants, 535 of them are full-time students and 22 of them are part-time students. The mean of full-time university students' attitudes towards e-books is 1.65 (M= 1.65, SD= 1.175, n= 535) and the part-time status university students' attitudes towards e-books is 1.14 (M= 1.14, SD= 1.207, n= 22), which is closer to the "positive" attitude.

In terms of university instructors', 34 full-time university instructors and 12 part-time status university instructors participated, the mean of the full-time university instructors' attitudes towards e-books is 1.21 (M= 1.21, SD= .978, n= 34), which is closer to the "positive" attitude. Whereas the mean of the part-time university instructors' attitudes towards e-books is 1.25 (M= 1.25, SD= 1.357, n= 12), which is closer to the "positive" attitude.

In order to test the hypothesis: There is no significant difference between status and university participants' perception towards e-books. A one-way analysis of variance was conducted. The test of homogeneity of variances was tested and found tenable p= .7, The ANOVA test revealed a significant difference (F=4.747, p<. 05) between status and university participants' attitudes towards e-books. Regardless whether the university participants are students or instructors, part-time participants (M=1.18, SD= 1.242, n= 34) hold more positive attitudes compare to full-time participants (M=1.63, SD= 1.169, n= 569). The data failed to support the null hypothesis.

While considering whether the university participants are students or instructors: the ANOVA indicated a significant difference (F=4.097, p<. 05) between status and

university students' attitudes towards e-books. Part-time students seem have more positive attitudes towards e-books.

However, in term of instructors' perceptions and status, no significant difference was found (F=. 015, p=. 904).

In conclusion, the null hypothesis " there is no significant difference between status and university participants' attitudes towards e-books" was not supported as the ANOVA test result showed there is a significant difference between status and university participants' attitudes towards e-books. The ANOVA results for university student participants also was not supported the null hypothesis of "there is no significant difference between status and university students' attitudes towards e-books." However, the ANOVA results for university instructor participants supported the null hypothesis "there is no significant difference between status and university instructor participants' attitudes towards e-books".

For overall participants, there are 822 full-time status participants and 47 part-time status participants joined this survey study. The mean of full-time status participants' general attitudes is 1.66 (M=1.66, SD= 1.06, N=822) whereas the mean of part-time status participants' general attitudes is 1.44 (M=1.44, SD= 1.14, N= 47).

In general, the status of student participants split between 775 full-time students and 29 part-time students. The mean of full-time status student participants' general attitudes is 1.59 (M= 1.59, SD= 1.102, n= 775) whereas the mean of part-time status participants' general attitudes is 1.21 (M= 1.21, SD= 1.114, n= 29).

Instructor participants' status split between 47 full-time instructors and 28 part-time status instructors with the mean of 1.34 (M= 1.34, SD= 1.027, n= 47) and 1.17 (M=

1.17, SD= 1.200, n= 18) for full-time status instructors and part-time status instructors respectively.

A one-way analysis of variance (one-way ANOVA) was conducted to evaluate the null hypothesis: there is no significant difference between status and participants' perceptions towards e-book. The ANOVA test produced a significant difference ($F=5.542$, $p<.05$) between status and participants' attitudes towards e-books. Regardless whether the participants are students or instructors, part-time status (M=1.19, SD= 1.135, N= 47) hold more positive attitudes compare to full-time status (M=1.58, SD= 1.099, N=822). The null hypothesis was not supported.

While considering whether the participants are students or instructors: the ANOVA indicated no significant difference ($F=3.459$, $p=.063$) between status and students' attitudes towards e-books but part-time students seem have more positive attitudes towards e-books. However, in term of instructors' perceptions and status, no significant difference was found ($F=.339$, $p=.563$).

To conclude, the null hypothesis " there is no significant difference between status and participants' attitudes towards e-books" was not supported as the ANOVA test result showed there is a significant difference between status and participants attitudes towards e-books. However the ANOVA results for student participants supported the null hypothesis of "there is no significant difference between status and students' attitudes towards e-books." The ANOVA results for instructor participants supported the null hypothesis "there is no significant difference between status and instructor participants' attitudes towards e-books".

Testing of Hypothesis 2.4$_0$: There Is No Significant Difference Between Level of Education and Participants' Perceptions Towards E-books

This factor focused on student participants only. Students were categorized by different level of education: CEGEP, undergraduate, diploma, Master and PhD.

For college participants, 246 college participants indicated a CEGEP level of education and only 1 college participant indicated a master level of education. The mean of the general attitudes for CEGEP level participants was 1.47 (M=1.47, SD= .902, n= 246), which means an attitude between "positive" and " indifference" and the general attitudes for master level participant was 0, which means an enthusiastic attitude.

The null hypothesis: there is no significant difference between levels of education and college participants' perceptions towards e-books. The ANOVA results indicated no significant difference F=2.637, p=. 106 thus accepted the null hypothesis.

 To conclude, there is no significant difference between college students' level of education and their perceptions towards e-books.

For university participants, 543 university participants indicated an undergraduate level of education with the mean of general attitudes towards e-book (M=1.65, SD= 1.184, n= 543). 9 university participants indicated a diploma level of education with the mean of general attitudes towards e-book (M=1.33, SD= .866, n= 9), 4 university participants indicated a master level of education with the mean of general attitudes towards e-book (M=. 75, SD= .500, n= 4) and only 1 university participant indicated a CEGEP level of education with the positive attitude towards e-books with an attitude of enthusiastic.

The null hypothesis: there is no significant difference between levels of education and university participants' perceptions towards e-books. The ANOVA results indicated no significant difference F =. 161, p=. 185 thus supported the null hypothesis.

To conclude, there is no significant difference between university students' level of education and their perceptions towards e-books.

For overall participants, 247 student participants indicated a CEGEP level of education with the mean of general attitudes towards e-book (M=1.46, SD= .905, n= 247). 543 of all the student participants indicated undergraduate level of education with the mean of general attitudes towards e-book (M=1.65, SD= 1.184, n= 543) and 9 student participants indicated a diploma (M=1.33, SD= .866, n= 9) and 5 student participants had higher level of education with the mean of general attitudes towards e-book (M=0.60, SD= .548, n=5).

For the null hypothesis: there is no significant difference between levels of education and student participants' perceptions towards e-books, the ANOVA results indicated a significant difference F =3.12, p<. 05 thus the null hypothesis was not supported.

To conclude, there is no significant difference between students' level of education and their perceptions' towards e-books. Students had undergraduate level of education had less positive attitudes towards e-books, whereas students who held master level of education tended to have more positive attitudes towards e-books

Testing of Hypothesis 2.5$_0$: There Is No Significant Difference Between Previous Experiences with E-books and Participants' Perceptions Towards E-books

Participants' previous experiences were further divided to heard of e-books, read of e-books and purchase of e-books. Three items in the survey addressed participants' experiences on e-books.

All of the college respondents were asked to indicate their previous experience with e-books. Specifically, all the participants were asked whether they have heard, used and purchased e-books respectively. In total, 257 (96.6%) out of 266 college participants have heard of e-books. 171 out of 266 (64.3%) of the college participants claimed that they have read e-books. However, only 18.0% or 48 college participants mentioned that they have purchased e-books before.

In terms of college student participants' previous experience with e-books, 238 out of 247 student participants implied that they have heard of e-books, whereas 156 out of 247 college students had experience about reading e-books and only 45 out of 247 student participants who said they have made investment on e-books. Table 4-17 summarizes college students' and Table 4-18 summarizes instructors' previous experience towards e-books.

Table 4-17

College Students' previous experience towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
Heard of e-books	Yes	238	96.4	96.4	96.4
	No	9	3.6	3.6	100.0
	Total	247	100.0	100.0	
Read of e-books	Yes	156	63.2	63.2	63.2
	No	91	36.8	36.8	100.0
	Total	247	100.0	100.0	
Purchased of e-books	Yes	45	18.2	18.2	18.2
	No	202	81.8	81.8	100.0
	Total	247	100.0	100.0	

Table 4-18

College Instructors' previous experience towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
Heard of e-books	Yes	19	100.0	100.0	100.0
	Total	19	100.0	100.0	
Read of e-books	Yes	15	78.9	78.9	78.9
	No	4	21.1	21.1	100.0
	Total	19	100.0	100.0	
Purchased of e-books	Yes	3	15.8	15.8	15.8
	No	16	84.2	84.2	100.0
	Total	19	100.0	100.0	

For university participants The overall university participants' previous experience on hearing, using and purchasing of e-books indicated that 587 out of 603 (97.3%) university participants have heard e-books before, 525 out of 603 (87.1%) university participants have experiences on reading e-books whereas 330 (54.7%) university participant have made purchase on e-books.

As for the university student respondents' previous experience on hearing, using and purchasing of e-books, approximately 97.3% university student participants have

heard e-books and 87.4% university student participants have read e-books, and around

54.2% university student participants have experience on purchasing e-books.

University instructor participants' data about previous experiences on e-book

showed that around 97.8% of university instructor participants have heard e-books,

82.6% of the university instructor participants have read e-books whereas about 60.9% of

university instructor participants have purchased e-books before. Table 4-19 summarizes

university students' and Table 4-20 summarizes university instructors' previous

experience towards e-books.

Table 4-19

University Students' previous experience towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
Heard of e-books	Yes	542	97.3	97.3	97.3
	No	15	2.7	2.7	100.0
	Total	557	100.0	100.0	
Read of e-books	Yes	487	87.4	87.4	87.4
	No	70	12.6	12.6	100.0
	Total	557	100.0	100.0	
Purchased of e-books	Yes	302	54.2	54.2	54.2
	No	255	45.8	45.8	100.0
	Total	557	100.0	100.0	

Table 4-20

University Instructors' previous experience towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
Heard of e-books	Yes	45	97.8	97.8	97.8
	No	1	2.2	2.2	100.0
	Total	46	100.0	100.0	
Read of e-books	Yes	38	82.6	82.6	82.6
	No	8	17.4	17.4	100.0
	Total	46	100.0	100.0	
Purchased of e-books	Yes	28	60.9	60.9	60.9
	No	18	39.1	39.1	100.0
	Total	46	100.0	100.0	

For Overall Participants, Combining all the respondents' previous experience with hearing, using and purchasing e-books, 97.1% of the total 869 participants have heard about e-books and 80.1% of the 869 participants have read e-books whereas 43.5% of all the participants have made purchases of e-books.

Student participants in total, 780 (97.0%) out of 804 student participants indicated that they have heard of e-books, 643 out of 804 (79.9%) students have read e-books and 43.2% or 347 students mentioned that they have purchased e-books before (see Table 4-21 for University and College combined Students' previous experience towards e-books).

Table 4-21

University and College combined Students' previous experience towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
Heard of e-books	Yes	780	97.0	97.0	97.0
	No	24	3.0	3.0	100.0
	Total	804	100.0	100.0	
Read of e-books	Yes	643	80.0	80.0	80.0
	No	161	20.0	20.0	100.0
	Total	804	100.0	100.0	
Purchased of e-books	Yes	347	43.2	43.2	43.2
	No	457	56.8	56.8	100.0
	Total	804	100.0	100.0	

In terms of the overall data for instructor participants, 64 (98.5%) out of 65 instructor participants indicated that they have heard of e-books. and 53 out of 65 (81.5%) instructors claimed that they have read e-books. 43.2% or 347 students and 47.7% or 31 instructors mentioned that they have purchased e-books (see Table 4-22 for University and College combined instructors' previous experience towards e-books).

Table 4-22

University and College combined Instructors' previous experience towards e-books

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes	64	98.5	98.5	98.5
Heard of	No	1	1.5	1.5	100.0
e-books	Total	65	100.0	100.0	
	Yes	53	81.5	81.5	81.5
Read of e-	No	12	18.5	18.5	100.0
books	Total	65	100.0	100.0	
	Yes	31	47.7	47.7	47.7
Purchased of	No	34	52.3	52.3	100.0
e-books	Total	804	100.0	100.0	

Heard of e-books

For college participants**,** A one-way analysis of variance was conducted to test the null hypothesis: there is no difference between heard of e-books and college participants' perceptions towards e-books. The results showed there's no significant difference (F=. 463, p=. 497) between heard of e-books and college participants' perceptions towards e-books, thus researcher failed to reject the null hypothesis. In depth, the one-way ANOVA tests indicated there is no significant difference (F=. 479, p=. 489) between college students' perceptions towards e-books and those participants who have heard of e-books

(M=1.45, SD= .916, n= 238) or who have not heard of e-books (M=1.67, SD= .500, n= 9). Since all of college instructor participants have heard of e-books, there was no comparative data to run ANOVA tests.

For University participants, A one-way analysis of variance was conducted to test the hypothesis: there is no difference between heard of e-books and university participants' perceptions towards e-books. The results showed no significant difference (F=. 779, p=. 378) between the mean attitudes for university participants who have heard e-books (M=1.60, SD= 1.170, n= 588) and the mean attitudes for university participants who have not heard e-books (M=1.87, SD= 1.407, n= 15), thus researcher failed to reject the null hypothesis. The one-way ANOVA tests for student participants indicated there is no significant difference (F=. 601, p=. 439) between the mean attitudes for students who have read e-books (M=1.63, SD= 1.173, n= 542) and the mean attitudes for students who have not read e-books (M=1.87, SD= 1.407, n= 15). All of university instructors have heard of e-books, there was no comparative data for ANOVA tests.

For overall participants one-way ANOVA was conducted to determine if there's significant difference between heard of e-books and participants' perceptions towards e-books. The results showed no significant difference F =2.18, p=. 141 thus the null hypothesis was not was not supported. Taking participants' status into consideration, there's no significant (p=. 343) difference between the heard of e-books and student participants' perceptions towards e-books. Since all of instructor participants have heard of e-books, there was no comparative data to run ANOVA tests.

Experience of reading e-books

For college participants The null hypothesis " there is no significant difference between experience of reading e-books and college participants' attitudes towards e-books. A one-way analysis of variance was applied to test if the mean attitude towards e-books differs between college participants who have read e-books (M=1.27, SD= .887, n= 171) and who haven't read an e-book (M=1.81, SD= .867, n= 95). The ANOVA test revealed a significant difference (F=23.152, p<. 05).

While considering whether the college participants are students or instructors: There is a significant difference (F=19.197, p=. 000) between experience of reading e-books and college students' attitudes towards e-books. Students who have read e-books before (M=1.28, SD= .877, n= 156) seem to have more positive attitudes towards e-books compare to those who haven't read an e-book (M=1.78, SD= .867, n= 91).

In term of college instructors' perceptions and experience of reading e-books, a significant difference was also found (F= 5. 89, p<. 05), that is to say, college instructors who have read e-books have more positive attitudes towards e-books (M=1.20, SD= 1.014, n= 15) compared to those who haven't read an e-book (M=2.50, SD= .577, n= 4),

In conclusion, the null hypothesis " there is no significant difference between experience of reading e-books and college participants' attitudes towards e-books" was not supported. College participants (both students and instructors) who have read e-books tend to have more positive attitudes towards e-books than those who haven't read an e-book.

For university participants, the null hypothesis " there is no significant difference between experience of reading e-books and university participants' attitudes towards e-

books. The ANOVA test revealed a significant difference (F=11.118, p<. 05), which means university participants' who have read e-books seem to have more positive attitudes towards e-books (M=1.54, SD= 1.161, n= 525) than those who haven't read an e-books (M=2.01, SD= 1.201, n= 78).

The ANOVA results for student participants indicated a significant difference (F=7.816, p=. 005). Students who have read e-books before (M=1.58, SD= 1.171, n= 487) seem to have more positive attitudes towards e-books compare to those who haven't read an e-book (M=2.00, SD= 1.180, n= 70).

In term of instructors' perceptions and experience of reading e-books, a significant difference was also found (F=8. 005, p<. 05), that is to say, for instructors who have read e-books have more positive attitudes towards e-books (M=1.03, SD=. 885, n= 38) compared to those who haven't read an e-book (M=2.13, SD= 1.458, n= 8),

To summaries, the null hypothesis " there is no significant difference between experience of reading e-books and university participants' attitudes towards e-books" was not supported. University participants (both students and instructors) who have read e-books tend to have more positive attitudes towards e-books than those who haven't read an e-book.

For overall participants the null hypothesis: there is no significant difference between participants' experience of reading e-books and participants' perceptions towards e-books. According to the levene's test, the homogeneity of variances was not found tenable, so the robust test results were considered. A one-way ANOVA results showed a significant difference F (1,278)=23.09, p=. 000 thus failed to support the null hypothesis and conclude there is a significant difference between participants' experience

about reading e-books and their perceptions towards e-books. Participants who have read e-books before (M=1.47, SD= 1.11, N=696) held more positive attitudes compared to those who haven't read an e-book (M=1.90, SD=1.03, N= 173). Taking participants' status into consideration, significant differences are found in both students participants $F_{(1,802)}$=16.28, p=. 000 and instructors participants group $F_{(1,63)}$=14.18, p=. 000. The null hypothesizes were not supported.

To conclude, participants', both students' and instructors', experience of reading e-books could have effects on their perceptions towards e-books. That is to say, for those who have read e-books they could possibly have more positive perceptions towards e-books compare to those who haven't read e-books.

Experience of purchasing e-books

For college participants, a one-way analysis of variance was used to test the null hypothesis " there is no significant difference between experience of purchasing e-books and college participants' attitudes towards e-books. The ANOVA test revealed a significant difference (F=22.499, p=. 000).

The ANOVA results for college students' experience of purchasing e-books and their attitudes towards e-books indicated a significant difference (F=18.427, p=. 000). Students who have purchased e-books before (M= .96, SD= .903, n= 45) seem to have more positive attitudes towards e-books than those who haven't purchased an e-book (M= 1.57, SD= .868, n= 202).

In term of college instructors' perceptions and experience of purchasing e-books, there is also a significant difference (F=4. 890, p<. 05), that is to say, for college instructors who have purchased e-books have more positive attitudes towards e-books

(M=. 33, SD= .577, n= 3) compared to those who haven't read an e-book (M=1.69, SD= 1.014, n= 16),

In conclusion, the null hypothesis " there is no significant difference between experience of purchasing e-books and college participants' attitudes towards e-books" was not supported. College participants (both students and instructors) who have purchased e-books tend to have more positive attitudes towards e-books than those who haven't purchased an e-book.

For university participants, The ANOVA test revealed a significant difference (F=9.793, p<. 05), which means that university participants' who have purchased e-books have more positive attitudes towards e-books (M=1.47, SD= 1.228, n= 330) than those who have never purchased an e-book (M=1.77, SD= 1.090, n= 273).

The ANOVA results for university student participants revealed a significant difference (F=4.837, p=. 028). University students who have purchased e-books before (M=1.53, SD= 1.243, n= 302) seem to have more positive attitudes towards e-books compare to those who haven't read an e-book (M=1.75, SD= 1.089, n= 255).

In terms of university instructors' perceptions and experience of purchasing e-books, a significant difference was also found (F=19. 003, p=. 000), that is to say, for university instructors who have purchased e-books have more positive attitudes towards e-books (M=. 75, SD= .752, n= 28) than those who have never purchased an e-book (M=1.94, SD= 1.110, n= 18).

To summarize, the null hypothesis " there is no significant difference between experience of purchasing e-books and university participants' attitudes towards e-books" was not supported. This means that university participants (both students and instructors)

who have read e-books tend to have more positive attitudes towards e-books than those who haven't read an e-book.

For overall participants, a one-way ANOVA was conducted to determine if there's significant difference between participants' experience of purchasing e-books and participants' perceptions towards e-books. The results indicated a significant difference $F(1,728)=14.04$, $p=.000$ therefore the null hypothesis was not supported.

It concluded that participants who have purchased e-books (M=1.40, SD= 1.20, N=378) tended to have more positive perceptions towards e-books than those who never have bought an e-book (M=1.68, SD= 1.00, N=491). Taking participants' status into consideration: there is a significant difference between students' experience of purchasing e-books and their perceptions towards e-books. ($F(1,659)=7.19$, $p=.008$). A significant difference $F(1,63)=23.77$, $p=.000$ was also found between instructor participants' purchase of e-books and their perceptions towards e-books.

Discussion for Research Question 2

Gender: The findings indicated a significant difference between gender and participants' general perceptions towards e-books. The result that male participants have more positive attitudes compared to females is consistent with the prior studies which also found males were more interested in using e-books (Zhang & Kudva, 2014; Rowlands et al., 2007). The findings for university participants also revealed a significant difference. However the results for college participants found no significant difference, the result was supported by (Jung et al., 2012; Letchumanan & Tarmizi, 2011). Although no significant difference was found, the results still indicated that male participants had

more positive attitudes towards e-book. The results can be explained that because males are more comfortable with technologies.

While considering student participants and instructor participants separately, the results of student participants were in line with the overall participants but the results of instructors participants determined to be non-significant differences, which revealed that female instructors (M=1.19, n=37) have more positive attitudes towards e-books than male instructors (M=1.43, n=28).

Age: The results found no significant difference between age and participants' perceptions from different categories (college participants, university participants, student participants, and instructor participants). The finding from this study was not in line with some of prior studies, which found significant differences between age and participants attitudes towards e-books (Zhang & Kudva, 2014, Cassidy et al., 2012). Previous studies found technology savvy participants have more positive attitudes towards e-books (Jung et al., 2012), Cassidy et al.'s (2012) study found significant differences between the age of using e-books and not using e-books, but the result in this study found participants' perceptions towards e-books were not significantly different among different age groups. Older participants even had slightly more positive attitudes compare to younger participants. The possible explanation could be the proliferate use of technologies (Zhang & Kudva, 2014) nowadays regardless of their age.

Status: A significant difference was found between overall participants' status and their perceptions towards e-books as well as between university student participants' status and their perceptions towards e-books, which indicated that participants who held part time status have more positive attitudes towards e-books than participants who held

full time status. Although the results of college participants and instructor participants determined to be non significant, they also indicated that part-time participants held more positive attitudes towards e-books compare to full-time participants. As Revelle et al. (2012) revealed that, there is significant difference between status and participants' e-book perceptions. However, there are not a lot studies explore the different attitudes between full-time and part-time participants. The results could be explained by the features of part-time students who needs more flexible reading materials and e-books might fit their needs better.

Level of education: Only student participants (from both college and university) were asked about their education level. The findings indicated no significant differences. College students had more positive attitudes (M=1.46, n=247) than undergraduate students (M=1.65, n=543). The results were not perfectly in line with some previous studies (Zhang & Kudva, 2014; Jung et al., 2012). However, students who did master level studies held more positive attitudes towards e-books (M= 0.6, n=5). The result was supported by Shelbune (2009), which indicated graduate students are more open to e-books. The results of this study found Master participants had the most positive attitudes towards e-books (M=0.6, n=5), diploma students came the second (M=1.33, n=9) then college students (M=1.46, n=246) and university students (M=1.65, n=543), which were partially indicated that more educated users tend to have more positive attitudes towards e-books (Jung et al., 2012) The possible explanation for the inconsistent findings could be that most of previous studies did not differentiate college students and undergraduate students. The inadequate number of master and PhD participants in this study also might affect the results.

Previous experience with e-books: Participants were required to indicate their previous experiences about hearing, reading and purchasing e-books. Significant differences were found between overall participants experience about reading and purchasing e-books and their attitudes towards e-books. The mean attitudes of participants' who have read (M=1.47, n=696) or purchased e-books (M=1.40, n=378) were more positive than those who have not read (M=1.90, n=173) or purchased an e-book (M=1.68, n=491). The results were in line with some previous studies (Levine-Clark, 2006; Nicholas et al. 2008; Shelburne, 2009; Nariani, 2009). The results implied that participants tend to have more positive attitudes with e-books, if they have more opportunities to know and to use e-books (Nicholas et al. 2008; Nariani, 2009).

Answering Research Question 3: How do students and instructors' perceptions differ among different types of reading materials (general news, professional information, scholarly information)?

This sub-section presents the answers to the third research question. It provides a brief description of the question and then presents the results for the question, the section closes with a discussion to the broader research question.

Description of the research question and its results

The purpose of this research question is to examine college and university students' and faculty's perceptions among different types of publications. Nowadays various types of reading materials are available for readers to choose. The significant of this study is to help explore which type of reading material do participants perceived as a best choice when reading different types of information such as news, professional information or scholarly information. In this study, print, television, radio, Internet sites,

online database and social networking were selected as different types of medias, which could carry reading materials. Four items in student survey and three items in instructor survey were used to investigate participants' perceptions among different type of publications when acquiring different type of information. In addition, within the student survey, student participants were also asked to indicate the reason why they print the reading materials. Numeric scores were assigned to each answer in order to conduct statistical tests.

In the following section, the result of college participants' perceptions among different types of publications, university participants' perceptions among different type of publications, and overall participants' perceptions among different type of publications was presented separately. Descriptive analysis was used to test the hypothesis.

For college participants: All of the college respondents were asked to rank their perceived type of publications for three different type of information: news, profession information and scholarly information.

In terms of news, over 59% of college participants chose print as their first choice for reading news, 59% of college participants thought print publications give the most credibility for news whereas 85.7% of college participants ranked social network as the least credible resource for general news. While considering if participants are students or instructors: around 59.1% (146 out of 247) college students placed print as the most credible resource for general news and 85.8% college students ranked social network as the least credible resource. 57.9% college instructors put print as the most credible resource for general news and 84.2% college instructors put social network as the least credible resource.

When it comes to professional information, over 54.5% college participants place print as the most credible for professional information, online database came second with 49.2% college participants, internet sites ranked the third with 69.2% college participants and social network was ranked as the least credible for professional information with 94% college participants. While splitting results between students and instructors: 55.9% college students placed print as the most credible resources for professional information and 49.8% college students ranked online database as the second credible resources for professional information, 94.3% college students selected social network as the least credible resource for professional information. The results for college instructors showed the equal percentage of participants (36.8%) ranked print and online database both as the most credible resources for professional information. And 47.4% of the college instructors select print as the second credible resource for professional information, 89.5% college instructors placed social network as the least credible resource for professional information.

The scholarly information mainly means information that students and instructors need for school-based project such as research, homework and other academic assignments. Overall, 62.8% of the college participants ranked print as the most credible resources for scholarly information and 94.7% place social network as the least credible resources for scholarly information. While considering whether participants are student or instructors, the results indicated similar ranking orders with print to be the most credible (63.6% college students and 52.6% college instructors) and social network to be the least credible (94.7% college students and 94.7% college instructors) resources for scholarly information.

Student participants were also asked to indicate the most and the least reason why they print the reading materials. The results showed that 45.7% college students put "prefer print" at the first place and 39.3% college students put "convenience" at the second and "length of reading came last.

To conclude, more than half of the college participants ranked print as the most credible resources regardless of the type of information. More than 90% of college participants considered social network as the least credible resources. Students and instructors response showed similar results. In terms of the reason why student print the reading materials, preference of print was the most common reason.

For university participants: All of the university respondents were asked to rank from their perceived the most credible type of publication to the least credible type of publication for three different type of information: news, profession information and scholarly information.

As for general news, around 55.7% (336 out of 603) of university participants place print as the most credible resource for general news, whereas 75.1% of university participants ranked social network as the least credible resource for general news. While splitting between students and instructors: around 55.5% university students placed print as the most credible resource for general news and 74.7% university students ranked social network as the least credible resource. 58.7% university instructors put print as the most credible resource for general news and 80.4% university instructors put social network as the least credible resource.

In terms of professional information, around 52.7% (318 out of 603) university participants place print as the most credible for professional information, online database

came second with 48.8% university participants, internet sites ranked the third with 66.2% university participants and 89.2% university participants ranked social network as the least credible for professional information. While considering whether participants are students or instructors: 53.0% university students placed print as the most credible resources for professional information and 89.2% university students selected social network as the least credible resource for professional information. The results for university instructors showed 50.0% university instructors ranked print as the most credible resources for professional information. And 50.0% of the university instructors selected online database as the second credible resource for professional information, 89.1% university instructors placed social network as the least credible resource for professional information.

In terms of scholarly information, 59.4% of the university participants ranked print as the most credible resources for scholarly information and 90.0% place social network as the least credible resources for scholarly information. While considering whether participants are student or instructors, the results indicated similar ranking orders with print to be the most credible (59.6% university students and 56.5% university instructors) and social network to be the least credible (90.1% university students and 89.1% university instructors) resources for scholarly information.

Student participants were also asked to indicate the most and the least reason why they print the reading materials. The results showed that 46.9% university students put "prefer print" at the first place and 48.5% university students put "length of reading" at the second and "convenience" came last.

To conclude, more than half of the university participants ranked print as the most credible resources regardless of the type of information. Around 90% of university participants considered social network as the least credible resources. Students and instructors response showed similar results. In terms of the reason why student print the reading materials, preference of print was the most common reason indicated by university students.

For overall participants: All of the participants were asked to rank from their perceived the most credible type of publication to the least credible type of publication for three different type of information: news, profession information and scholarly information.

As for general news, around 56.7% (493 out of 869) of participants place print as the most credible resource for general news, whereas 78.4% of participants ranked social network as the least credible resource for general news. While splitting between students and instructors: around 56.6% students placed print as the most credible resource for general news and 78.1% students ranked social network as the least credible resource. 70.8% instructors put print as the most credible resource for general news and 56.9% instructors put social network as the least credible resource.

In terms of professional information, around 53.3% (463 out of 869) participants place print as the most credible for professional information, online database came second with 48.9% participants, internet sites ranked the third with 67.1% participants and 90.7% participants ranked social network as the least credible for professional information. While considering whether participants are students or instructors: 53.9% students placed print as the most credible resources for professional information and

90.8% students selected social network as the least credible resource for professional information. The results for instructors showed 36.9% instructors ranked print as the most credible resources for professional information. And 46.2% of the instructors selected online database as the second credible resource for professional information, 63.1% instructors placed social network as the least credible resource for professional information.

In terms of scholarly information, 60.4% of the participants ranked print as the most credible resources for scholarly information and 91.5% place social network as the least credible resources for scholarly information. While considering whether participants are student or instructors, the results indicated similar ranking orders with print to be the most credible (60.8% students and 43.1% instructors) and social network to be the least credible (91.5% students and 63.1% instructors) resources for scholarly information.

Student participants were also asked to indicate the most and the least reason why they print the reading materials. The results showed that 46.5% students put "prefer print" at the first place and 46.1% students put "length of reading" at the second and "convenience" came last.

To conclude, more than half of the participants ranked print as the most credible resources regardless of the type of information. Most of participants considered social network as the least credible resources. Students and instructors response showed similar results. In terms of the reason why student print the reading materials, preference of print was the most common reason indicated by students.

Discussion for Research Question 3

General news: The results for overall participants showed that around 56.7% of participants placed print as the most credible media and over 78.4% participants ranked social network such as Facebook as the least credible resource for general news. The results of College participant and university participants, student and instructor participants indicated similar results.

Professional information: The results for overall participants revealed that 53.3% of participants placed print as the most credible media, 48.9% participants placed online database as the second most credible media, 67.1% participants ranked internet sites the third credible media for reading professional information and over 90.7% participants placed social network as the least credible resource for general news. The results of College participant and university participants, student and instructor participants indicated similar results.

Scholarly information: The results for overall participants indicated that 60.4% of participants put print as the most credible media and over 90.7% participants placed social network as the least credible resource for general news. The results of college and university participants, student and instructor participants indicated similar results.

In this study, participants were further asked to indicate the reason why they perceived print as the most credible media and why they print reading materials. The results showed that regardless of whether participants come from college or university, whether they are students or instructors, 'prefer print' is the most common reason for participants to explain why they use print and perceived print as the most credible media for reading.

This study found that most of participants perceived print as a more preferable and credible media for all types of publications whereas social network perceived to be the least credible media for attaining information especially for attaining professional and scholarly information. The results were in line with some of previous studies which concluded that users are still prefer using print books when compared to e-book counterparts (Gregory, 2008; Shelburne, 2009; Woody et al., 2010). Some prior studies indicated that reasons such as the pleasure of reading print books (Shelburne, 2009) and easy to use Warburton, 2011) could explain why users still prefer print books. Camacho and Spackman (2011) also found faculty prefer print books although they are not refuse to use e-books. The possible explanation for the results could be in line with the explanations found in prior studies, users still treat paper books as their preference reading materials especially for serious readings as the technology of current e-books might not be robust as the tangible paper books (Kelley & Warburton, 2011) and the quality of current e-books might not be guaranteed.

Answering Research Question 4: Which characteristics drive students' and instructor's perceptions towards e-books?

This sub-section presents the answers to the forth research question. After providing a brief description of the question and then this sub-section presents the results and testing for each of these hypotheses:

$H4.1_0$:	There is no significant relationship between the credibility of e-books and participants' perceptions towards e-books.

$H2.2_0$:	There is no significant relationship between the convenience of e-books and participants' perceptions towards e-books.

$H2.3_0$:   There is no significant relationship between the price of e-books and participants' perceptions towards e-books.

$H2.4_0$:   There is no significant relationship between the availability of e-books and participants' perceptions towards e-books.

$H2.5_0$:   There is no significant relationship between participants' reading habits and their perceptions towards e-books.

The section closes with a discussion to the broader research question.

Description of the research question

The purpose of this research question was to investigate what are the factors that drive participants' perception towards e-books and how do those factors drive participants' perceptions. According to previous literature, factors such as: credibility, convenience, price, availability and reading habits were commonly mentioned that affect users' perceptions towards e-books. Thus in this study, the five factors were selected to test if they affect participants' general perception towards e-books. 20 items in the survey were designed (4 for convenience factor, 4 for credibility factor, 6 for price factor, 1 for availability factor and 5 for reading habits factor) to explore if those factors significantly affect participants' general attitudes towards e-books. If the significantly relationships exist, how do they affect participants' perceptions towards e-books (negative or positive) were further discussed.

Testing of Hypothesis 4.1$_0$: There is no significant relationship between the credibility of e-books and participants' perceptions towards e-books.

Four questions about credibility of e-books, e-magazine, e-newspaper and e-journals were asked respectively in the survey in order to examine the relationship

between the credibility of e-books and participants' perception towards e-books. Survey answers were split by strongly agree, agree, no opinion, disagree and strongly disagree. Numeric scores were assigned for each answer from 0 of being "strongly agree" to 4 of being "strongly disagree".

For college participants, on average, around 33.43% of college participants disagreed or strongly disagreed that print books are more credible compare to e-books, which means around one thirds of participants held positive attitude towards the credibility of e-books. Further specified in different types of e-books: 26.3% of college participants disagreed that print books are more credible than e-books, 38.7% of college participants disagreed that print magazines are credible than e-magazines, 34.9% of college participants disagreed that print newspapers are more credible than e-newspapers, and 33.8% of college participants disagreed that print journals are more credible than e-journals. According to the frequency tables, although more than half of the college participants still felt printed reading materials are more reliable, but college participants seemed to have more positive attitude towards the credibility of e-magazines compared to other types of e-books.

Considering if college participants are students or instructors, college instructor participants had more positive attitudes towards the credibility of e-books than college student participants. About 56.6% of college instructor participants disagreed or strongly disagreed that print books are more credible than e-books whereas only 31.68% college student participants disagree or strongly disagreed that print books are more credible than e-books. Further specified in different categories of e-books, 47.4% of college instructor participants vs. 24.7% college student participants disagreed that print books are more

credible than e-books, 52.6% of college instructor participants vs. 37.6% college student

participants disagreed that print magazines are more credible than e-magazines, 57.9% of

college instructor participants vs. 33.2% college student participants disagreed that print

newspapers are more credible than e-newspapers, and 68.5% of college instructor

participants vs. 31.2% college student participants disagreed that print journals are more

credible than e-journals.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis

that there is no significant relationship between college participants' general perception

towards e-books and the credibility of e-books (N=266). The results revealed that there is

significant, negative, small to moderate relationship between participants' perception

towards e-books and their perceived credibility of print book vs. e-books r=-.251, p<. 01;

e-magazines r=-.181, p<. 01; e-newspapers r=-.206, p<. 01; e-journals r=-. 156, p<. 01.

College participants who held positive perceptions towards e-books tend to agree that e-

books are as credible as print books. Thus the null hypothesis was not supported. While

splitting results between college students and college instructors, significant negative

small to moderate relationship was found in college students' responses (N=247, print

book vs. e-books r=-.256, p<. 01; e-magazines r=-.157, p<. 01; e-newspapers r=-.211, p<.

01; e-journals r=-. 147, p<. 01). In terms of college instructors' responses, although

negative correlation was found, but there is no significant relationship between college

instructor participants' general perception and their perceived credibility of e-books

(p>.01).

For university participants, on average, 32.4% of university participants disagreed

or strongly disagreed that print bring more credibility for books, which means they held

positive attitude towards the credibility of e-books. Further specified in different categories: 28.4% of university participants disagreed that print make books more credible, 33.3% of university participants disagreed that print make magazines more credible, 32.7% of university participants disagreed that print make newspapers more credible, and 35.0% of university participants disagreed that print make journals more credible. The data revealed that university participants seem had more positive attitudes towards the credibility of e-journals.

Considering university participants' status, university instructor participants had more positive attitudes towards the credibility of e-books than university student participants. About 63.9% of university instructor participants disagreed or strongly disagreed that print provide more credibility than e-books whereas only 29.7% university student participants disagree or strongly disagreed that print provide more credibility than e-books. Further specified in different categories of e-books, 60.0% of university instructor participants vs. 26.6% university student participants disagreed that print brings more credibility to books, 67.4% of university instructor participants vs. 30.5% university student participants disagreed that print brings more credibility to magazines, 73.9% of university instructor participants vs. 29.3% university student participants disagreed that print brings more credibility to newspapers, and 65.2% of university instructor participants vs. 32.5% university student participants disagreed that print brings more credibility to journals.

A Pearson correlation coefficient was calculated to evaluate the null hypothesis that there is no significant relationship between university participants' general perception towards e-books and the credibility of e-books (N=603). The results indicated

that there's significant negative moderate relationship between participants' perception towards e-books and the credibility of print book, which means for university participants who have more positive attitudes towards e-books tend to disagree that print made books more credible. (E-books r=-.363, p<. 01; e-magazines r=-.272, p<. 01; e-newspapers r=-.272, p<. 01; e-journals r=-. 255, p<. 01). The null hypothesis was not supported. While taking university participants' status into consideration, significant negative moderate relationship was found in university students' responses (N=557, print book vs. e-books r=-.375, p<. 01; e-magazines r=-.280, p<. 01; e-newspapers r=-.271, p<. 01; e-journals r=-. 257, p<. 01). Although negative correlation was found in university instructors' responses, but there is no significant relationship between university instructor participants' general perception and the credibility of e-books (p>.01).

For overall participants, on average, 32.7% of participants disagreed or strongly disagreed that print provide more credibility for books, which means they held positive attitude towards the credibility of e-books. Further specified in different categories: 27.8% of participants disagreed that print brings more credibility to books, 35.0% of participants disagreed that print brings more credibility to magazines, 33.4% of participants disagreed that print brings more credibility to newspapers, and 34.6% of participants disagreed that print brings more credibility to journals. According to the statistics, although more than half of the participants still felt printed reading materials are more reliable, but in terms of e-materials, participants seemed to have more positive attitude towards the credibility of e-journal and e-magazines compared to e-books.

Considering participants' status, instructor participants had more positive attitudes towards the credibility of e-books than student participants. About 61.9% of instructor

participants disagreed or strongly disagreed that print provide more credibility than e-books whereas only 30.35% student participants disagree or strongly disagreed that print provide more credibility than e-books. Further specified in different categories of e-books, 59.2% of instructor participants vs. 26% student participants disagreed that print brings more credibility to books, 63.1% of instructor participants vs. 32.8% student participants disagreed that print brings more credibility to magazines, 69.2% of instructor participants vs. 30.5% student participants disagreed that print brings more credibility to newspapers, and 66.2% of instructor participants vs. 32.1% student participants disagreed that print brings more credibility to journals.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that there is no significant relationship between participants' general perception towards e-books and the credibility of e-books (N=869). The results revealed that there's significant negative moderate relationship between participants' perception towards e-books and their perceived credibility of print book vs. e-books $r=-.328$, $p<.01$; e-magazines $r=-.243$, $p<.01$; e-newspapers $r=-.247$, $p<.01$; e-journals $r=-.224$, $p<.01$. In other words, participants who held positive perceptions towards e-books thought e-books are credible when compared to print books (Table 22). Thus the null hypothesis was not supported. While taking participants' status into consideration, significant negative moderate relationship was found in students' responses (N=804, print book vs. e-books $r=-.337$, $p<.01$; e-magazines $r=-.243$, $p<.01$; e-newspapers $r=-.247$, $p<.01$; e-journals $r=-.222$, $p<.01$). However, in terms of instructors' responses, although negative correlation was found, but there's no significant relationship between instructor participants' general perception and their perceived credibility of e-books ($p>.01$).

To conclude, small to moderate negative significant differences were found between both college and university participants. The null hypothesis: there is no significant relationship between participants' perceptions and the credibility of e-books was not supported. However, while splitting the results between students and instructors. No significant relationship was found for instructor participants' perceptions and the credibility of e-books.

Testing of Hypothesis 4.2$_0$: There is no significant relationship between the convenience of e-books and participants' perceptions towards e-books.

Four questions in the survey were related to the convenience of e-books compared to printed books. Convenience of e-books, e-magazine, e-newspaper and e-journals were addressed separately. Participants were asked to select from frequency answers such as "always, most of the time, some of the time and never" to examine their perceived convenience of e-books.

For college participants, most of the college respondents (85.8%) had the their opinions between "most of the time" and "some of the time" when asking to indicate whether e-books are more convenience compare to print books (Mean=1.84, SD=. 736 for e-books, Mean=1.80, SD=. 931 for e-magazines, Mean=1.54, SD=. 873 for e-newspapers, Mean=1.20, SD=. 873 for e-journals, N=266).

Taking college participants' status into consideration, 78.9% of college instructor participants thought that reading e-books are sometime or most of the time more convenience compared to print books whereas 85.8% college student participants held the idea that reading e-books is at least sometime more convenience than reading printed books, 84.2% of college instructor participants vs. 75.3% college student participants

perceived that reading e-magazines is at least sometime more convenience than reading printed magazines, 89.5% of college instructor participants vs. 87.4% college student participants perceived that reading e-newspapers is at least sometime more convenience than reading printed newspapers, and 94.7% of college instructor participants vs. 94.3% college student participants perceived that reading e- journals is at least sometime more convenience than reading printed journals.

A Pearson correlation coefficient was conducted to test the null hypothesis: there is no significant relationship between college participants' general perception towards e-books and the credibility of e-books (N=266). The results revealed there is moderate significant relationship between college participants' perception towards e-books and their perceived convenience of e-books (With e-books r=. 417, p<. 01; e-magazines r=. 266, p<. 01; e-newspapers r=. 132, p<. 01; e-journals r=. 231, p<. 01.), which indicated college participants who held more positive attitudes towards e-books tend to notice the convenience of e-books. The null hypothesis was not supported. While considering whether college participants are students or instructors, significant moderate relationship was found in college students' responses (N=247, e-books r=. 405, p<. 01; e-magazines r=. 249, p<. 01; e-journals r=. 207, p<. 01). College instructors' responses revealed moderate to large significant relationship with (N=46, e-books r=. 417, p<. 01; e-magazines r=. 266, p<. 01; e-journals r=. 231, p<. 01). However, no significant relationship was found between students' and participants' perceptions towards e-books and their perceived convenience of e-newspaper (p>.01).

For university participants, around 84.6% of university participants indicated that e-books are at least some time more convenience compared to printed materials

(Mean=1.54, SD=. 78 for e-books, M=1.79, SD=. 89 for e-magazines, M=1.50, SD=. 89 for e-newspapers, M=1.12, SD=. 90 for e-journals, N=603). The lower the means, the higher the convenience level participants think about e-books.

Taking university participants' status into consideration, instructor and student participants indicated similar results. Around 82.6% of university instructor participants perceived that reading e-books are sometime or most of the time more convenience than reading print books whereas 87.4% university student participants held the idea that reading e-books is at least sometime more convenience than reading printed books, 82.6% of university instructor participants vs. 78.1% university student participants perceived that reading e-magazines is at least sometime more convenience than reading printed magazines, 91.3% of university instructor participants vs. 88.7% university student participants perceived that reading e-newspapers is at least sometime more convenience than reading printed newspapers, and 91.3% of university instructor participants vs. 94.3% university student participants perceived that reading e- journals is at least sometime more convenience than reading printed journals.

A Pearson correlation coefficient was conducted to test the null hypothesis: there is no significant relationship between university participants' general perception towards e-books and the credibility of e-books (N=603). The results showed there is moderate to large significant relationship between university participants' perception towards e-books and their perceived convenience of e-books (With e-books $r=. 509, p<. 01$; e-magazines $r=. 384, p<. 01$; e-newspapers $r=. 373, p<. 01$; e-journals $r=. 352, p<. 01$.) That is to say, participants who held more positive attitudes towards e-books are more aware of the convenience feature of e-books. Thus the null hypothesis was not supported. While

splitting the results between students and instructor, significant moderate relationship was found in students' responses (N=557, e-books r=. 516, p<. 01; e-magazines r=. 387, p<. 01; e-newspapers r=. 359, p<. 01; e-journals r=. 344, p<. 01). University instructors' responses revealed moderate to large significant relationship with (N=46, e-books r=. 597, p<. 01; e-magazines r=. 362, p<. 01; e-newspapers r=. 509, p<. 01; e-journals r=. 530, p<. 01).

For overall participants, overall 86.7% of participants held the opinion that e-books are at least some time more convenience compared to printed materials with the mean of (Mean=1.77, SD=. 769 for books, Mean=1.79, SD=. 894 for magazines, Mean=1.51, SD=. 887 for newspapers, Mean=1.14, SD=. 889 for journals, N=869). The lower the means, the higher the convenience level participants think about e-books.

Taking participants' status into consideration, instructor participants had more positive attitudes towards the convenience of e-books than student participants. Around 81.5% of instructor participants thought that reading e-books are sometime or most of the time more convenience compared to print books whereas 86.9% student participants held the idea that reading e-books is at least sometime more convenience than reading printed books, 83.1% of instructor participants vs. 77.2% student participants perceived that reading e-magazines is at least sometime more convenience than reading printed magazines, 90.8% of instructor participants vs. 88.3% student participants perceived that reading e-newspapers is at least sometime more convenience than reading printed newspapers, and 92.3% of instructor participants vs. 94.3% student participants perceived that reading e- journals is at least sometime more convenience than reading printed journals.

A Pearson correlation coefficient was conducted to test the null hypothesis: there is no significant relationship between participants' general perception towards e-books and the credibility of e-books (N=869). The results showed there is moderate significant relationship between participants' perception towards e-books and their perceived convenience of e-books (With e-books r=. 480, p<. 01; e-magazines r=. 350, p<. 01; e-newspapers r=. 309, p<. 01; e-journals r=. 317, p<. 01.) That is to say, participants who held more positive attitudes towards e-books are more aware of the convenience of e-books. Thus the null hypothesis was not supported. While splitting the results between students and instructor, significant moderate relationship was found in students' responses (N=804, e-books r=. 480, p<. 01; e-magazines r=. 347, p<. 01; e-newspapers r=. 294, p<. 01; e-journals r=. 304, p<. 01). Instructors' responses revealed moderate to large significant relationship with (N=65, e-books r=. 561, p<. 01; e-magazines r=. 387, p<. 01; e-newspapers r=. 468, p<. 01; e-journals r=. 523, p<. 01).

To conclude, moderate positive significant differences were found for both college and university participants group. The null hypothesis: there is no significant relationship between participants' perceptions and the convenience of e-books was not supported. That is to say, the convenience of e-books positively related to participants' perceptions towards e-books.

Testing of Hypothesis 4.3$_0$: There is no significant relationship between the price of e-books and participants' perceptions towards e-books.

Six "yes/no" questions about the price of e-books compared to their counterpart—print books were asked to explore what is the appropriate price participants perceived for e-books. The price scales varied from the same price, 10% less than print books, 25%

less, 33% less, 50% less and 60% less. 0 score was assigned for answer "yes" and 1 for the answer "no".

For college participants, the frequency data indicated that if the price of e-books is the same as their print counterpart, 84.2% college participants responded "no" whereas if the price of e-books drops to 60% less than the price of printed books, 85.0% college participants would prefer to use e-books. With the price of e-books dropped from 10% less to 60% less than the price of printed books, the number of college participants who would like to replace printed books with e-books increased from 69 out of 266 to 226 out of 266 with an increasing of 69.2%.

While viewing the data for college instructor participants and college student participants separately, 21.2% college instructor participants responses "yes" whereas 15.4% college student participants responses "yes" to indicated they would like to buy e-books when the price of e-books are the same as the price of printed books. As the price of e-books drops to 60% less than printed books, 78.9% college instructor participants responses "yes" whereas 85.4% college student participants responses "yes" to indicate they would prefer to buy e-books.

A Pearson correlation coefficient was conducted to test the null hypothesis: there is no significant relationship between college participants' general perception towards e-books and the price of e-books (N=266). The results revealed there is moderate significant relationship between college participants' perception towards e-books and price of e-books (With the same price $r=.309$, $p<.01$; 10% less than print books $r=.299$, $p<.01$; 25% less than print books $r=.332$, $p<.01$; 33% less than print books $r=.257$, $p<.01$; 50% less than print books $r=.329$, $p<.01$; 60% less than print books $r=.259$, $p<.01$.),

which indicated college participants tend to prefer buying e-books as the price of e-books get lower. The null hypothesis was not supported. While considering whether college participants are students or instructors, significant moderate relationship was found in college students' responses (N=247, With the same price r=. 305, p<. 01; 10% less than print books r=. 288, p<. 01; 25% less than print books r=. 310, p<. 01; 33% less than print books r=. 246, p<. 01; 50% less than print books r=. 308, p<. 01; 60% less than print books r=. 246, p<. 01). College instructors' responses revealed that although college instructors tend to have more positive attitudes towards e-books when the price of e-books lower than printed books, but significant relationships between perceptions of e-books and the price of e-books were only found when the price of e-books lower 25% than e-books and the price of e-books lower 50% than e-books (N=19, 25% less than print books r=. 614, 50% less than print books r=. 559, p<. 01).

For university participants, the statistic results showed that if the price of e-books is the same as the price of printed books, the mean of university participants responses is (Mean=. 86, SD=. 348, N=603) whereas if the price of e-books drops to 60% less than the price of printed books the mean of university participants' responses is (Mean=. 25, SD=. 432, N=603), the lower the mean, the higher potential that participants would buy e-books.

Considering the data for university instructor participants and university student participants separately: when the price of e-books is the same as the price of printed books the mean of university instructor participants' responses is (Mean=. 76, SD=. 431, N=46) whereas the mean of university student participants' responses is (Mean=. 87, SD=. 340, N=557). If the price of e-books drops to 60% less than the price of printed

books the mean of university instructor participants' responses is (Mean=. 30, SD=. 465, N=46) whereas the mean of university student participants' responses is (Mean=. 24, SD=. 424, N=557), the lower the mean, the higher potential that participants would buy e-books.

A Pearson correlation coefficient was conducted to test the null hypothesis: there is no significant relationship between university participants' general perception towards e-books and the price of e-books (N=603). The results revealed there is moderate significant relationship between university participants' perception towards e-books and price of e-books (With the same price r=. 325, p<. 01; 10% less than print books r=. 381, p<. 01; 25% less than print books r=. 388, p<. 01; 33% less than print books r=. 359, p<. 01; 50% less than print books r=. 361, p<. 01; 60% less than print books r=. 329, p<. 01.), which indicated university participants tend to prefer buying e-books as the price of e-books get lower. The null hypothesis was not supported. While considering whether university participants are students or instructors, significant moderate relationship was found in university students' responses (N=247, With the same price r=. 309, p<. 01; 10% less than print books r=. 368, p<. 01; 25% less than print books r=. 378, p<. 01; 33% less than print books r=. 342, p<. 01; 50% less than print books r=. 359, p<. 01; 60% less than print books r=. 338, p<. 01). University instructors' responses revealed larger significant relationship (N=46, With the same price r=. 451, p<. 01; 10% less than print books r=. 536, p<. 01; 25% less than print books r=. 551, p<. 01; 33% less than print books r=. 624, p<. 01; 50% less than print books r=. 549, p<. 01; 60% less than print books r=. 488, p<. 01).

For overall participants, the frequency data indicated that if the price of e-books is the same as their print counterpart, 85.4% participants responded "no" whereas if the price of e-books drops to 60% less than the price of printed books, 86.8% participants would prefer to use e-books. With the price of e-books dropped from 10% less to 60% less than the price of printed books, the number of participants who would like to replace printed books with e-books increased from 127 out of 869 to 754 out of 869 with an increasing of 72.2%.

While viewing the data for instructor participants and student participants separately, 23.1% instructor participants responses "yes" whereas 12.9% student participants responses "yes" to indicated they would like to buy e-books when the price of e-books are the same as the price of printed books. As the price of e-books drops to 60% less than printed books, 72.3% instructor participants responses "yes" whereas 87.9% student participants responses "yes" to indicate they would prefer to buy e-books.

A Pearson correlation coefficient was conducted to test the null hypothesis: there is no significant relationship between participants' general perception towards e-books and the price of e-books (N=869). The results revealed there is moderate significant relationship between participants' perception towards e-books and price of e-books (With the same price r=. 319, p<. 01; 10% less than print books r=. 358, p<. 01; 25% less than print books r=. 368, p<. 01; 33% less than print books r=. 327, p<. 01; 50% less than print books r=. 349, p<. 01; 60% less than print books r=. 304, p<. 01.), which indicated participants tend to prefer buying e-books as the price of e-books get lower. The null hypothesis was not supported. While considering whether participants are students or instructors, significant moderate relationship was found in students' responses (N=804,

With the same price r=. 306, p<. 01; 10% less than print books r=. 345, p<. 01; 25% less than print books r=. 354, p<. 01; 33% less than print books r=. 311, p<. 01; 50% less than print books r=. 341, p<. 01; 60% less than print books r=. 303, p<. 01). Instructors' responses revealed a larger positive correlation between perceptions towards e-books and the price of e-books (N=46, With the same price r=. 425, p<. 01; 10% less than print books r=. 526, p<. 01; 25% less than print books r=. 574, p<. 01; 33% less than print books r=. 560, p<. 01; 50% less than print books r=. 539, p<. 01; 60% less than print books r=. 444, p<. 01).

To conclude, moderate positive significant differences were found for both college participants and university participants groups. The null hypothesis: there is no significant relationship between participants' perceptions and the price of e-books was not supported. That is to say, the lower the price of e-books the better preference of e-books. In addition instructor participants' perceptions were more correlated to the price of e-books compared to student participants' perceptions.

Testing of Hypothesis 4.4$_0$: There is no significant relationship between the availability of e-books and participants' perceptions towards e-books.

One question in the survey was related to the availability of e-books. The question asked about to what extend does the availability of online reading affect participants reading. Answer scales were varied from reading 11% more to reading 11% less.

For college participants, 27.8% college participants responded they have read more if e-book format is available, whereas 3.8% of college participants indicated that have read fewer. More than half of the college participants indicated there is no change in their amount of reading.

While viewing the data for college instructor participants and college student participants separately, 22.1% college instructor participants responded they would read more if e-book format is available whereas 28.3% college students indicated they would read more with the availability of e-books. However more than half of the college instructor participants 63.2% and college student participants 50.2% reported no change.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that there is no significant relationship between college participants' general perception towards e-books and the availability of e-books (N=266). The results revealed that there is small significant relationship between college participants' perception towards e-books and the availability of e-books ($r <. 2$, $p <. 01$). Thus the null hypothesis was was not supported. While taking college participants' status into consideration, small significant relationships were found for both college students' responses (N=247, $r <. 2$, $p <. 01$) and college instructors' responses (N=19, $r =. 275$, $p <. 01$).

For university participants, 27.2% university participants indicated they have read more if e-book format is available, whereas 5.7% of university participants indicated that have read fewer. More than half of the university participants indicated there is no change in their amount of reading.

While viewing the data for university instructor participants and university student participants separately, 10.9% university instructor participants responded they would read more if e-book format is available whereas 28.5% university students indicated they would read more with the availability of e-books. However, more than half of the university instructor participants 67.4% and around half of university student

participants 43.1% reported that the availability of e-books won't change their amount of reading.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that there is no significant relationship between university participants' general perception towards e-books and the availability of e-books (N=603). The results revealed that there is small significant relationship between university participants' perception towards e-books and the availability of e-books (r<. 2, p<. 01). Thus the null hypothesis was not supported. While taking university participants' status into consideration, small significant relationships were found for both university students' responses (N=557, r<. 2, p<. 01) and university instructors' responses (N=46, r<. 1, p<. 01).

For overall participants, 27.4% participants responded they have read more if e-book format is available, whereas 5.1% of participants indicated that have read fewer. About 46.8% of the participants indicated there is no change in their amount of reading.

Splitting between the data for instructor participants and student participants separately, 13.8% instructor participants reported that they would read more if e-book format is available whereas 28.5% students indicated they would read more with the availability of e-books. However 66.2% of the instructor participants and 41.9% of student participants reported no change whether the e-books are available or not.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that there is no significant relationship between participants' general perception towards e-books and the availability of e-books (N=869). The results revealed that there is small significant relationship between participants' perception towards e-books and the availability of e-books (r<. 2, p<. 01). Thus the null hypothesis was not supported. While

taking participants' status into consideration, small significant relationships were found for both students' responses (N=804, r<. 2, p<. 01). However, no significant relationship was found for instructors' responses (N=65, r<. 2, p>. 01).

To conclude, small positive significant differences were found for both college group and university group. The null hypothesis: "there is no significant relationship between participants' perceptions and the available of e-books" was not supported.

Testing of Hypothesis 4.5₀: There is no significant relationship between participants' reading habits and their perceptions towards e-books.

Student participants and instructor participants had different survey questions for this section. Specifically for student participants two elements of reading habits were further explored in the survey: reading preference and note taking habits.

For college participants, more college student participants 45.7% indicated they prefer print readings compared to 14.6% who prefer online reading. In terms of note taking for online reading, 50.2% college students indicated that they don't take notes whereas 38.1% would take note in a separate file.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that a) there is no significant relationship between college participants' general perception towards e-books and their reading preference (N=247). The results revealed that there is small negative significant relationship between college participants' perception towards e-books and their reading preference(r<. 2, p<. 01). Participants who prefer print books might have less positive attitudes towards e-books. Thus the null hypothesis was not supported. The null hypothesis b) There is no significant relationship between college participants' general perception towards e-books and their note taking

(N=247). The results revealed that there is moderate positive significant relationship between college student participants' perception towards e-books and their note taking habits(r=. 314, p<. 01). Which means participants who don't take notes online might have more positive perceptions towards e-books. Thus the null hypothesis was not supported.

For university participants, 35.9% university student participants indicated they prefer print readings and 24.6% who prefer online reading. In terms of note taking for online reading, 59.1% university students indicated that would take note in a separate file.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that a) there is no significant relationship between university participants' general perception towards e-books and their reading preference (N=557). The results revealed that there is a moderate negative significant relationship between university participants' perception towards e-books and their reading preference(r=-. 480, p<. 01). Participants who prefer print books might have less positive attitudes towards e-books. Thus the null hypothesis was not supported. The null hypothesis b) There is no significant relationship between university participants' general perception towards e-books and their note taking (N=557). The results revealed that there is small positive significant relationship between university student participants' perception towards e-books and their note taking habits(r<. 2, p<. 01). Which means participants who don't take notes online might have more positive perceptions towards e-books. Thus the null hypothesis was not supported.

For overall participants, 36.8% student participants responded they prefer print readings, whereas 19.9% of student participants indicated that they prefer online readings. In terms of note taking habits, around 48.7% of students indicated that they would take the note in a separate file.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that a) there is no significant relationship between participants' general perception towards e-books and their reading preference (N=804). The results revealed that there is a moderate negative significant relationship between university participants' perception towards e-books and their reading preference(r=-. 399, p<. 01). Participants who prefer print books might have less positive attitudes towards e-books. Thus the null hypothesis was not supported. The null hypothesis b) There is no significant relationship between university participants' general perception towards e-books and their note taking (N=804). The results revealed that there is small positive significant relationship between university student participants' perception towards e-books and their note taking habits(r<. 2, p<. 01). Which means participants who don't take notes online might have more positive perceptions towards e-books. Thus the null hypothesis was also was not supported.

To conclude, negative significant differences were found for both college student group and university student group. The null hypothesis: "there is no significant relationship between student participant' perceptions towards e-books and their reading habits" was not supported.

Instructor participants were asked to share their opinions on whether the use of e-books would increase the risk of plagiarism.

For college participants, in terms of whether the use of e-books could increase the risk of plagiarism 47.4% college instructor strongly disagree or disagree that the use of e-books could increase the risk of plagiarism whereas 36.8% of the college instructor don't think the risk of plagiarism differs between using print or e-books.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that a) there is no significant relationship between college participants' general perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism (N=19). The results revealed that there is a moderate negative significant relationship between college participants' perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism (r=-. 425, p<. 01). Participants who had positive attitudes on e-books concerned less about the risk of plagiarism that might bring by e-books. Thus the null hypothesis was not supported.

For university participants in terms of whether the use of e-books could increase the risk of plagiarism. 50.0% university instructor strongly disagree or disagree that the use of e-books could increase the risk of plagiarism whereas 26.1% of the university instructor don't think the risk of plagiarism differs between using print or e-books.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that a) there is no significant relationship between university participants' general perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism (N=46). The results revealed that there is a moderate negative significant relationship between university participants' perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism (r=-. 370, p<. 01). Participants who had positive attitudes on e-books concerned less about the risk of plagiarism that might bring by e-books. Thus the null hypothesis was not supported.

For overall participants in terms of whether the use of e-books could increase the risk of plagiarism. 49.2% instructor strongly disagree or disagree that the use of e-books could increase the risk of plagiarism whereas 29.2% of the instructor don't think the risk of plagiarism differs between using print or e-books.

A Pearson correlation coefficient was conducted to evaluate the null hypothesis that a) there is no significant relationship between participants' general perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism (N=65). The results revealed that there is a moderate negative significant relationship between participants' perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism (r=-. 380, p<. 01). Participants who had positive attitudes on e-books concerned less about the risk of plagiarism that might bring by e-books. Thus the null hypothesis was not supported.

To conclude, negative moderate significant differences were found. The null hypothesis: "there is no significant relationship between instructor participant' perceptions towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism" was not supported.

Discussion to the Research Question

Credibility: The null hypothesis was there is no significant relationship between participants' perceived e-book credibility and general attitudes towards e-books. In terms of overall participants, the null hypothesis was not supported. A small to moderate significant relationship was found between perceived e-book credibility and general attitudes towards e-books (N=804, print book vs. e-books r=-.337, p<. 01; e-magazines r=-.243, p<. 01; e-newspapers r=-.247, p<. 01; e-journals r=-. 222, p<. 01). The survey

explore the credibility of e-books by asking participants to compare between the credibility of print books and e-books, that's why the results found negative relationships as the less participants thought print book give more credibility, the more they give credit to e-book. Different type of materials such as e-books, e-magazine, e-newspapers and e-journals were explored separately, similar results were found for different type of materials. The results for college and university participants found similar significant small to moderate relationships between perceived e-book credibility and general attitudes towards e-books. However, no significant relationship was found for instructor participants in each group (college, university or overall). Although no significant results were found, instructors who help more positive attitudes towards e-books were more likely perceived e-books as credible sources.

The results were consistent with some previous research, which indicated that credibility is a main factor that affects users attitudes and acceptance of e-books (Shelburne, 2009). If respondents perceived e-books as reliable and trustworthy sources (Asunka, 2013) they are more likely to have positive attitudes towards e-books.

Convenience: The null hypothesis was there is no significant relationship between participants' perceived e-book Convenience and general attitudes towards e-books. In terms of overall participants, the null hypothesis was not supported. A moderate significant relationship was found between perceived e-book Convenience and general attitudes towards e-books (N=869, e-books r=. 480, p<. 01; e-magazines r=. 350, p<. 01; e-newspapers r=. 309, p<. 01; e-journals r=. 317, p<. 01). Different type of materials including e-books, e-magazine, e-newspapers and e-journals were explored separately, convenience of e-books tended to have more significant positive relationship with

participants' attitudes. The results for university participants found larger significant relationships between perceived e-book Convenience and general attitudes towards e-books. Moreover, the results for instructor participant groups both college and university revealed that perceived convenience of e-books strongly related to instructors' attitudes towards e-books N=65, e-books r=. 561, p<. 01; e-magazines r=. 387, p<. 01; e-newspapers r=. 468, p<. 01; e-journals r=. 523, p<. 01.

The results could be supported by prior research, which also revealed that Convenience is affects users attitudes and acceptance of e-books (Williams & Dittmer, 2009; Angeletaki, 2011). If respondents recognized the convenience of e-books they are more likely to have positive attitudes towards e-books (Levine-Clark, 2006; Lam et al., 2010).

Price: The null hypothesis was there is no significant relationship between participants' perceived e-book Price and general attitudes towards e-books. In terms of overall participants, the null hypothesis was not supported. A moderate significant relationship was found between perceived e-book Price and general attitudes towards e-books (With the same price r=. 319, p<. 01; 10% less than print books r=. 358, p<. 01; 25% less than print books r=. 368, p<. 01; 33% less than print books r=. 327, p<. 01; 50% less than print books r=. 349, p<. 01; 60% less than print books r=. 304, p<. 01). The results showed that price of e-books significantly and moderately related to participants attitudes towards e-books. Participants would have more positive attitudes towards e-books if the price of e-books less that 25% of their print counterparts. The results for university and college participants found similar results. The results were in line with previous articles that mentioned lower price is an essential factor that affects users

attitudes and acceptance of e-books (Gunter, 2005; Schoch, Teoh & Kropman, 2006; Sprague & Hunter, 2008; Johnson et al., 2010).

Availability: The null hypothesis was there is no significant relationship between participants' perceived e-book *Availability* and general attitudes towards e-books. In terms of overall student participants, the null hypothesis was not supported. But only small significant relationship was found between perceived e-book *availability* and general attitudes towards e-books (r<. 2, p<. 01). The results of instructor participant indicated a non-significant relationship between e-book availability and general attitudes. The availability of e-books did not affect participants' amount of reading. The results in this study was inconsistent with some of the survey studies from other researchers (Littman & Connaway, 2004; Levine-Clark, 2006) they reason for that inconsistency could be that most of the participants are more familiar with e-books as well as the trends that more and more books are provided in both print and e-book versions. Among the correlation results of each factor, convenience had the strongest relationship with participants' perceptions towards e-books, price held the second close relationship with participants' perceptions towards e-books and credibility was the third and availability had the smallest relationship with participants perceptions towards e-books.

Reading habits: reading preference and note taking were the two elements under the title reading habits for student participants. The null hypothesis '1) there is no significant relationship between participants' reading preference and general attitudes towards e-books' was not supported. Overall, a moderate negative significant relationship (r=-. 399, p<. 01) was found, as students who prefer reading print tend to have less positive attitudes towards e-books. The results of university student participants seemed

have stronger negative relationship between the preference of print books and the attitudes towards e-books compare to college students. The null hypothesis 2) there is no significant relationship between participants' note taking habits and general attitudes towards e-books', was not supported. A small significant relationship ($r<. 2, p<. 01$) was found, as students who do not take note very often tend to have more positive attitudes towards e-books. The results of college student participants seemed have stronger relationship between note taking habits and the attitudes towards e-books compare to university students. The results partially supported previous studies, which implied that adding note-taking functions (Rickman et al., 2009; Pollock, 2012) would help users to have more positive attitudes towards e-books.

Instead of answering reading habits related questions, instructor participants were asked to share their opinions on whether the use of e-books would increase the risk of plagiarism. The null hypothesis 'a) there is no significant relationship between participants' general perception towards e-books and their opinions on whether the use of e-books could increase the risk of plagiarism.' was not supported. A moderate negative significant relationship ($r=-. 380, p<. 01$) was found, which indicated that participants who had positive attitudes on e-books concerned less about the risk of plagiarism that might bring by e-books.

Answering Research Question 5: Are participants aware of the terms and conditions of ownership of e-books?

This sub-section presents the answers to the fifth research question. After providing a brief description of the question and then this sub-section presents the results and testing for each of these hypotheses:

H5.1$_0$:   There is no significant difference between college participants' understanding of the e-books ownership and university participants' understanding of the e-books ownership.

H5.2$_0$:   There is no significant difference between student participants' understanding of the e-books ownership and instructor participants' understanding of the e-books ownership.

The section closes with a discussion to the broader research question.

Description of the research question and its results

The purpose of this research question was to explore if the participants are aware of the ownership of the e-books when they use e-books. One item in the survey was used to answer this research question, the answers of the survey were spilt by "own the e-book", "have the e-book for a certain period", "renting the e-book". Descriptive analysis and t-tests were used to present the results.

For college participants, the data of college participants revealed that 74.1% of college participants had the idea that they own the e-books and have access to the e-books at any time, 12.4% of college participants thought they could access the e-books for 1or 2 years, and 13.5% of college participants noticed that they rent the e-books.

The results of college student participants showed that, 184 out of 247 student participants perceived that they own the books and have access to the e-books at any time, only 33 out of 247 college student participants were aware that they just rent the e-books for a period of time (M=. 39, SD=. 712, N=247).

The results of instructor participants showed similar responses, with the mean of .47 (M=. 47, SD=. 772, N=19), 13 out of 19 college instructor participants perceived that

they own the books and have access to the e-books at any time, 15.8% of the instructor participants were aware that they actually rent the e-books for a period of time.

For university participants, the data of university participants indicated that 69.7% of university participants thought that they own the e-books and have access to the e-books at any time, 17.9% of university participants thought they could access the e-books for 1or 2 years, and 12.4% of university participants realized that they are renting e-books.

The results of university student participants' understanding of e-book ownership results of have the mean of .44 (M=. 44, SD=. 708, N=557), 385 out of 557 student participants perceived that they own the books and have access to the e-books at any time, only 71 out of 557 university student participants knew that they just rent the e-books for a period of time.

Instructor participants' knowledge of e-books ownership showed similar results, with the mean of .33 (M=. 33, SD=. 634, N=46), the majority of university instructor participants (35 university instructor participants) perceived that they own the e-books, only 4 out of 46 of the university instructor participants had the knowledge that they actually rent the e-books for a period of time.

For overall participants, the data of university and college combined participants understanding on the e-book ownership indicated that overall around 71.0% of participants held the idea that they own the e-books and have access to the e-books at any time, 16.2% of the participants thought they could access the e-books for 1or 2 years, and only 12.8% of the participants noticed that they are renting e-books.

The results of students' understanding of the e-book ownership revealed that 70.8% of student participants thought they own the e-books and have access to the e-books at any time, whereas 12.9% of student participants realized they just rent the e-books.

The results of students' understanding of the e-book ownership indicated that, 73.8% of instructor participants perceived that they own the books whereas only 10.8% of the instructor participants were aware that they just rent the e-books for a period of time.

Testing of Hypothesis

Hypothesis 5.1_0: There is no significant relationship between college participants' understanding of e-book ownership and university participants' understanding of e-book ownership. This hypothesis explores whether college participants and university participants' understanding of e-book ownership differ from each other. Two tailed independent samples t-test analysis was used to analyze responses because t-test is suitable for compare the means between two groups (CEGEP group and university group).

The result of t-test for college participants group and university participants group revealed that there was no statistically significant difference between the mean of college participants' understanding of the e-book ownership, t=. 637, p=. 525. The data supported the null hypothesis.

Hypothesis 5.2_0: There is no significant relationship between student participants' understanding of e-book ownership and instructor participants' understanding of the e-book ownership. This hypothesis explores whether student participants and instructor

participants' understanding towards e-book ownership differ from each other. The result of t-test for students' participants group and instructor participants group indicated that there was no statistically significant difference between the mean of students participants' understanding of the e-book ownership and instructor participants' understanding of the e-book ownership, t=. 575, p=. 565. The data supported the null hypothesis.

Discussion for Research Question 5

In general, the majority of participants both students and instructors did not fully recognize the ownership of e-books. More than 74% of college participants held the opinion that they own the e-books and around 70% of university participants thought when they paid for e-books they owned the e-books. However, there are different types of licensing models available for e-book sales (Kumbhar, 2012). For most of the times, users just lend the licensed e-books for a certain period of time. For instance users could pay for around 10% to 30% of the price to lend an e-book from Ebrary (Rapp, 2011) or like Amazon kindle model, users were bound to 'buy' e-books only by visiting Amazon website (Seringhaus, 2010).

Two tailed t-tests were conducted to explore if the mean of students' awareness of e-book ownership differs to instructors' awareness of e-book ownership and if the mean of college participants' awareness of e-book ownership differs to university participants' awareness of e-book ownership. Non-significant results were found.

Since the e-book ownership is more complex than we may think (Schiller, 2010), it would be essential to explore participants' awareness of e-books. Participants' awareness of e-books related to what they will do with the e-books. If participants know more about the ownership as well as the terms and conditions of e-books, they will get

better use of e-books and they might gain more trust on e-books. The possible reasons

that lead to current unawareness of e-book ownership would be: first the perceived

similarity of e-books and print books. As mentioned by Seringhaus (2010), although e-

book is identical to its print counterpart to some extent, e-books can never be lent, sold,

or reproduced the same way we did for traditional print books. The second reason would

be the lack of advertising on the terms and conditions of e-book. Publishers must

carefully include the copyright notice (Kumbhar, 2012) and make users to be more aware

of e-book copyrights and ownerships before reading the e-book.

CHAPTER 5. CONCLUSIONS

This chapter summarizes the findings of this study, and then discusses the implications for teaching and learning in higher education as well as to research and theory in educational technology. Next, it describes the limitations of the study, and closes with suggestions for future research.

IMPLICATIONS

This section discusses the implications of the study: first to teaching and learning in higher education and then to research and theory in educational technology.

Implications for Teaching and Learning in Higher Education

The results of this study suggest practical issues that instructors, college and university, and e-book publishers must address to build adoption of e-books for educational purpose.

In terms of choosing to adopt e-books in higher education, the results of this study suggest that a number of issues could affect adoption in the future. First are demographic variables: the results indicated that age might not be a significant influencer for participants' perception of e-books and it might not affect the adoption of e-books. However, gender, level of education, and educational status had significant influence on participants' perception towards e-books. It is suggested that educators and e-book publishers, sales persons, and librarians should take those demographic differences into consideration while selling and introducing e-books to individual users. Secondly, the exploration on different type of publications offered information to guide e-books publishers, sales persons, and librarians on how to make the full use of e-books and how to improve the quality of e-book. The third issue affecting possible adoption of e-books:

terms and conditions. Other studies (such as Selber, 2011) suggest that instructors and students who purchase e-textbooks might not be aware that some require a constant Internet connection to use and cannot be used offline. This study adds to the concerns about a lack of awareness about terms and conditions, as participants in this study primarily felt that they owned e-textbooks when many publishers actually only rent them to users for a term.

In terms of factors that affect possible adoption of e-books, first is the price of e-books. Both instructors and students showed a strong preference for low-priced devices (less than $100) and a significant savings of the e-textbook over its printed version. Although the issue of a low-cost device might have been resolved by making reading possible on tablets and smart phones, many publishers do not discount electronic versions of textbooks to the extent that participants in this study expected. In addition addressing these issues, publishers still face a gap in credibility between electronic and printed books, with participants indicating that they perceive printed textbooks as the more credible format.

After resolving issues of adoption, other issues affecting the use of e-books as texts arise when administering a course. One is that, although everyone gains access to their textbook electronically, a significant percentage (70%) of the participants in this study print the e-book and read it on paper. Assuming such a pattern of behavior is consistent across higher education, instructors and students might continue to prefer printed books to avoid the effort and expense of printing.

The results also suggest that instructors will need to make a strong effort to encourage students to read e-texts as participants who primarily read online said that they

either skipped or skimmed the assigned readings. This reading behavior contrasts with research behaviors, as participants indicated that they extensively rely on electronic materials for class-related research.

Not only do the results suggest actions needed to promote adoption of e-books in higher education, they also suggest an explanation for the lower-than-expected adoption of e-books in higher education and the current pattern of flat growth of their sales. Credibility that lags printed books and a penchant for printing e-books and reading their printouts suggest that a possible limited willingness to engage with electronic books. Pricing that seems higher than consumers expect and terms and conditions that are more restrictive than users might expect further detract from their attractiveness. Add these issues to the usability concerns noted in earlier studies such as difficulty in identifying a particular location in the book and difficulty in taking notes, and the result is a lack of incentive to adopt e-textbooks, which, in turn, is reflected in their sales.

Implications for Research and Theory in Educational Technology

Such an explanation for the slower-than-expected adoption of e-books in higher education suggests, in turn, the first implication of this study to research and theory: that the Technology Acceptance Model (Davis, 1989; Venkatesh, 1999) is useful in explaining the adoption of e-books in higher education classrooms (Carliner, 2010). The Model was originally considered because it seems to explain previous findings in previous research. For example, one of the components of the model suggests that participants' perceptions towards the ease of use have significant influence on the diffusion of e-books adoption in higher education. Previous research suggests that, although e-books are lighter than printed books, users find basic reading tasks such as

taking notes, finding specific locations, and even getting access to certain books without an internet connection to be difficult to perform with e-books (Schoch et al., 2006; Moore, 2009; Nariani, 2009; Rickman et al., 2009).

Similarly, the Model proved beneficial in explaining the results of this study. For example, one of the components of the model suggests that users tend to use certain technology while they feel uncertainty among new technologies. The data supports this assertion; it found that although participants had generally positive perceptions of e-books, they did not see them as the most credible format of material for textbooks. In other words, e-books have failed to supplant printed books as the most credible forms of instructional books.

The usefulness of this model in describing this and earlier studies on e-books suggests that it could serve as a useful framework for other studies exploring the potential of other new technologies for education.

The second implication of this study to research and theory is that, it not only adds up more data to the study of exploring perceptions of e-books. It also explored a number of issues that other studies did not consider, including the credibility of e-books in relation to other types of delivery media (such as print and web-based) and types of published material used in higher education classrooms (such as scholarly and professional publications, and news), willingness to purchase as different price points, and terms and conditions of purchase.

The results suggest that these issues could affect the adoption of e-books in higher education classrooms. In other words, perception studies that primarily focus on initial reaction to a technology and its usability might overlook key characteristics that

could affect adoption of a technology, even if overall reception is favorable and people perceive it as generally easy to use.

Furthermore, the combination of the Unified Model of Technology Acceptance and the consideration of characteristics that go beyond reaction and usability of a technology also explain why those who predicted the widespread adoption of e-textbooks missed the mark in their predictions.

In addition, the study suggests that perceptions of different technologies might actually differ among age groups. Despite a general tendency to assume that younger people—especially those who are college and university age—are the most likely of all age groups to have positive perceptions of, and attitudes towards, technologies, the results of this study suggest that, for e-books, that's not the case. The results of this study suggest that no significant difference in perceptions of e-books existed among age groups. Rather, gender, level of education, and part- or full-time status played roles in shaping attitudes.

LIMITATIONS

Several limitations possibly affect this study. First, the study was only conducted at, one university and one college. This might affect the generalizability of the results. Furthermore, both institutions are based in Canada, limiting the generalizability to the one country. It is possibly that different results might have been obtained in other institutions representing other regions in Canada.

Second, although typical for Quebec, the college participating in this study was not typical of colleges in other provinces in Canada, much less in North America. As noted earlier, CEGEPs provide education corresponding to grade 12 of high school and

the first year of university, and all Quebec students attend them. In contrast, colleges in other provinces and states do not provide grade 12-education and are only attended as an alternative to university. As a result, a CEGEP population is not necessarily representative of all Canadian colleges, much less colleges in other parts of North America.

Third, the sample size of the study was not large enough to be generalized to represent the whole population in Canadian University and college. Because we used convenience sampling and only 869 participants were involved, the variety of the sample and numbers of the students are not promising to draw a general conclusion for a larger population.

Fourth, the survey used in this study was originally designed for nonparametric analyses. But the analysis in this thesis applies statistical analysis to some of the nonparametric questions. For example, questions related to factors that drive perceptions towards e-books, ideally questions like these would have offered participants a scale on which to respond rather than distinctive choices. This mixing of non-parametric data with statistical analysis might limit the reliability and validity of this analysis, and might not fully reflect the relationships between perceptions and particular factors.

Fifth, because the university participating in the study had a relatively small overall graduate student population (about 5% of the total population; in other universities, the percentage can be as high as 20%), a particular concern exists about the extent to which the responses of graduate students in the university reflect overall perceptions of e-books among graduate students.

Last, because of its length, the survey did not explore certain aspects of participants' backgrounds, such as their academic disciplines and cultural backgrounds, both of which could have affected their perceptions of e-books.

RECOMMENDATIONS FOR FUTURE RESEARCH

Partly as a result of the technical limitations of this study, partly as a result of questions raised by the responses, several future studies seem to emerge from this one. First is a study validating the results of this one would be conducted in different institutions in different colleges and universities in Canada.

Second, although participation by faculty was at the same percentage rate as students in the college and university, the much smaller population sizes of faculty at both institutions suggest that a broader study of faculty—perhaps involving faculty at several institutions—might be beneficial. A similar concern exists about the number of participants at the graduate level in university, so another related study might focus solely on perceptions of graduate students.

Future research should capture the disciplines of both students and instructors, to see whether perspectives of e-books vary among disciplines. Previous research found that students from disciplines such as business and computer science have different perceptions of e-books than those in other disciplines (Littman & Connaway, 2006; Bailey, 2006).

In addition, future research could explore whether perceptions towards e-books differ among different types of books. This study solely focused on the e-book as a textbook. But other research, conducted almost a decade ago, suggests that participants'

perceptions vary among different uses of e-books, such as conducting research (Rowlands et al., 2007) and leisure readings

Similarly, future studies on e-books might compare whether perceptions of e-books change depending on the ways they do (or do not) integrate media other than text, such as video and audio recordings. Such studies might looks at the effect of the presence and absence of multimedia on broader perceptions of e-books.

Last, this study focused solely on perceptions of e-books as they pertain to the intention to purchase them. Future research could focus on perceptions of the experience after participants purchased e-books and whether those perceptions differed because of characteristics of the e-books themselves, the devices on which participants use e-books, the terms and conditions of using e-books, and whether or not participants had a choice in using e-books.

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APPENDIX A

Dear Ms./Mr.

We are hereby seeking your permission to conduct the survey study at your

institution. This is a survey of the perceptions of e-books in higher education, which

would be conducted at a one university and one community college (CEGEP),

which would include administrators, instructors, and students, and would measure

not only perceptions of e-books, but also the drivers of those perceptions, so that

administrators and instructors can address those drivers to ensure the smoothest

possible implementation of e-books, should they choose to do so at their

institutions.

Upon completion of the study, we undertake to provide you with a copy of the

survey results.

If you require any further information, please do not hesitate to contact us.

Your permission to conduct this study will be greatly appreciated.

Sincerely,

Name

APPENDIX B

We invite you to participate in this survey about perception towards electronic

books (e-books).

This survey will take about 10 to 15 minutes to complete. It has four parts. The

first part asks demographic questions. The second part asks about some general

information about your familiarity with e-books. The third section asks general questions

about class-related reading and research. The last part asks about your perceptions of different types of published materials, both in print and in electronic format.

The results of this study are intended for publication in an academic journal. They may also be summarized for a professional magazine.

As a participant in the study, you should understand that:

- You are free to withdraw your consent and discontinue your participation at anytime without negative consequences.

- Your participation in this study is confidential. That means that the researcher will know, but will not disclose your identity.

- Although the data from this study may be published, no identifying information will be included in that publication.

As a means of thanking you for your participation, the research team offers you an opportunity to participate in a drawing for a Kindle. If you participate, note that your name and contact information are not being kept with your responses, so your responses remain anonymous.

Information about the drawing appears at the end of the survey.

If have questions the study in general, please contact the primary investigator, Saul Carliner, at +1.514.848.2424 ext. 2038 or saul.carliner@education.concordia.ca

APPENDIX C

Thank you for participating in this survey about uses of—and opinions about— electronic books (e-books) in higher education.

The survey takes about 10 to 15 minutes to complete.

It has four parts. The first part asks demographic questions. The second part asks about some general information about your familiarity with e-books. The third section asks general questions about class-related reading and research. The last part asks about your perceptions of different types of published materials, both in print and in electronic format.

The results of this study are intended for publication in an academic journal. They may also be summarized for a professional magazine.

As a participant in the study, you should understand that:

- You are free to withdraw your consent and discontinue your participation at anytime without negative consequences.

- Your participation in this study is confidential. That means that the researcher will know, but will not disclose your identity.

- Although the data from this study may be published, no identifying information will be included in that publication.

As a means of thanking you for your participation, the research team offers you an opportunity to participate in a drawing for a Kindle. If you participate, note that your name and contact information are not being kept with your responses, so your responses remain anonymous.

Information about the drawing appears at the end of the survey.

If have questions the study in general, please contact the primary investigator, Saul Carliner, at +1.514.848.2424 ext. 2038 or saul.carliner@education.concordia.ca If you have general questions about your rights as a research participant, please contact

Brigitte Des Rosiers, Ethics and Compliance Officer at Concordia University, at (514)

848-2424 x 7481 or bdesrosi@alcor.concordia.ca

By clicking continue—you indicate that you agree to these conditions and

continue with the study.

Part I: Demographic Questions			
1	Identify your role	Student	Instructor (with no student standing)
		If you responded "student" to the previous question:	If you responded "student" to the previous question:
1-1		No question for students	If you responded "instructor" to the previous question: Do you also have status as a student in yours or another institution? • Yes—send down student path • No—continue down instructor path
1-2		No question for students	Have you worked outside of education? • Yes • No
1a		Indicate status: • Part-time • Full-time	Indicate status: • Part-time • Full-time
1b		Indicate level at which you are a student: • CEGEP • Undergraduate • Diploma • Masters • PhD	Indicate level at which you are an instructor: • CEGEP • University
1d		Indicate your age range: • 19 or younger • 20-24 • 25-29 • 30-34 • 35-39	Indicate your age range (leave age bands the same): • 19 or younger • 20-24 • 25-29 • 30-34

		• 40-44 • 45-49 • 50-69 • 70-plus			• 35-39 • 40-44 • 45-49 • 50-69 • 70-plus	
		What is your gender? • Female • Male			What is your gender? • Female • Male	
Part II: General Perceptions and Information about e-Books						
2 a	Have you heard of the term e-book before?	Yes			No	
2 b	In your own words, define the term e-book:	Allow for an open response				
2 c	Have you ever read an e-book?	Yes			No	
2 d	Have you ever purchased an e-book?	Yes			No	
2 e	How would you characterize your current attitude towards e-books	I am enthusiastic about them.	I have a positive opinion of them.	I don't think about them too much.	I have a negative opinion of them.	I detest them.
2 g	Printing gives credibility to *books*.	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
2 h	Printing gives credibility to *magazines*.	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
2 i	Printing gives credibility to *newspapers*.	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
2 j	Printing gives credibility to *academic journals*.	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
2 k	Reading books online is more convenient than reading printed books.	Always	Most of the time	Some of the time	Never	
2 l	Reading	Always	Most of the	Some of the	Never	

	magazines online is more convenient than reading printed magazines.		time	time	
2 m	Reading newspapers online is more convenient than reading printed newspapers.	Always	Most of the time	Some of the time	Never
2 n	Reading academic journals online is more convenient than reading printed journals.	Always	Most of the time	Some of the time	Never
2 o	If the price of e-books were **the same** as those of printed text books, would you replace your print books with online ones?	Yes		No	
2 p	If the price of e-books were *10 percent less* than that of printed text books, would you replace your print books with online ones?	Yes		No	
2 q	If the price of e-books were *25 percent less* than that of printed text books, would you replace your print books with online ones?	Yes		No	
2 r	If the price of e-books were *33 percent less* than that of printed text books, would you replace your print books with online ones?	Yes		No	

2 s	If the price of e-books were *50 percent less* than that of printed text books, would you replace your print books with online ones?	Yes				No	
2 t	If the price of e-books were *60 percent less* than that of printed text books, would you replace your print books with online ones?	Yes				No	
2 u	When I purchase an e-book:	I believe that I own the book, and always have access to it.		I believe that I have access to that book for an extended period of time, such as a year or two.		I believe that I am renting the book for the length of the term.	
2v	A fair price for an e-reading device (like a Kindle, Lobo, or iPad) is:	$0-$99	$100-$199	$200-$299	$300-$399	$400-$499	$500 or more
Part III: Questions for Students about their Reading Habits							
3 a	In a week when your instructor assigns readings in both print and online formats, which are you more likely to read?	The print readings		I read both sets of readings.	The online readings		None of the readings
3 b	When I read an assigned reading from an online text.	I almost always print it before reading it (that is, I print at least 90 percent of the time).		I usually print it before reading it (that is, I do not print 90 or more percent of the time, but more than 50 percent of the time)	Sometimes, I print it before reading it (that is, I print between 10 and 50 percent of the time, but more than 50 percent of the time)		I almost always read it online (that is, I print less than 10 percent of the time).

3 c	When you choose to print an online reading, the most common reason for doing so is:	I prefer to read print.	The length of the reading. If a reading exceeds a certain number of pages, it's easier to read it in print.	Convenience. At the time when I plan to actually read the article, it will be easier to do so on a printed copy than online.	
3 d	When you read material in print format, do you write notes on the readings?	Yes, I write notes directly in the book or copy of the article	I take notes, but I do not write them on the readings.	No, I don't take notes at all.	
3 e	When you read material in an online format, do you write notes on the readings?	Yes, I write notes directly in the file with the reading	I take notes, but I keep them in a file that's separate from the readings.	No, I don't take notes at all.	
Part IV: Questions for Instructors about Class-Related Readings					
4 a	In a week when you assign readings in both print and online formats, which do you think students are more likely to read?	The print readings	I read both sets of readings.	The online readings	
4 b	When students read an assigned reading from an online text:	The typical student almost always prints it before reading it (that is, they print at least 90 percent of the time).	The typical student usually prints it before reading it (that is, they do not print 90 or more percent of the time, but more than 50 percent of the time)	Sometimes, the typical student prints it before reading it (that is, they print between 10 and 50 percent of the time, but more than 50 percent of the time)	The typical student almost always reads it online (that is, they print less than 10 percent of the time).	I do not know enough about my students' reading habits to respond to this question.
4 c	When students read material in	Yes, I believe that the typical	I believe that the typical	No, I believe that the typical	I do not know enough about	

	print format, does the typical student write notes on the readings?	student in my classes writes notes directly in the book or copy of the article	student in my classes take notes, but does not write them on the readings.	student in my classes does not take notes at all.	my students' reading habits to respond to this question.
4 d	When you read material in an online format, do you write notes on the readings?	Yes, I write notes directly in the file with the reading	I take notes, but I keep them in a file that's separate from the readings.	No, I don't take notes at all.	
4 e	Use of e-books as textbooks will increase problems with plagiarism.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
4 f	Use of e-books could improve the consistency of teaching among different sections of the same course	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
4 g	Use of electronic versions of articles as readings for classes will increase problems with plagiarism.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
4 h	Use of e-books will reduce use of the school bookstore.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
4 i	Use of electronic articles from journals will put services that prepare course packs out of business.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
4 j	If you responded agree or strongly agree to the previous question, respond to this statement: It worries me that services that	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree

	prepare course packs could go out of business.					
4 j	If you responded agree or strongly agree to the previous question, respond to this statement: It worries me that services that prepare course packs could go out of business.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Part V: Questions about Perceptions of Different Types of Publications						
5 a	Rank order the following sources in terms of *general news*, from most credible to least credible:	Print	Television	Radio	Internet sites, like globeandmail.com and cnn.com	Social networking sites, like Facebook
5 b	Rank order the following sources in terms of *professional information*, from most credible to least credible:	Print	Online databases with electronic versions of the articles	Internet sites, like globeandmail.com and cnn.com	Social networking sites, like Facebook	
5 c	Rank order the following sources in terms of *scholarly information*, from most credible to least credible:	Printed journals	Online databases with electronic versions of the articles	Internet sites, like globeandmail.com and cnn.com	Social networking sites, like Facebook	
5 d	The availability of online material has affected my reading assignments in this way:	Overall, I assign approximately 11 percent or more readings than I did	Overall, I assign approximately 1 to 10 percent more readings than I did	The amount of assigned reading has not really changed.	Overall, I assign approximately 1 to 10 percent fewer readings than I did	Overall, I assign approximately 11 percent or fewer readings than I did	Online readings have always been available to me, so I have no point of comparis

		earlier.	earlier.		earlier.	earlier.	on.

Thank you for completing this survey.

As was promised in the note recruiting participants for this study, we are conducting a drawing for a Kindle. If you choose to participate in this drawing, your name will be kept separately from your data, so that your data continues to remain anonymous.

Are you interested in submitting your name for the drawing?

Yes	No

For those who responded no, display the following: "Your responses are helpful to our research. Thank you for your participation in the survey."

For those who responded yes, display the following:

"As just noted, your name will be kept separate from the data—so your responses remain anonymous.

Please provide the following information"

Name
So we can notify you if you win the Kindle, provide the following contact information: e-Mail address Telephone
So we can send the Kindle to you if you win the drawing, please provide your mailing address: Street address line 1: _____ Street address line 2: _____ City: _____ Province: _____ Postal code: _____

"Your responses are helpful to our research. Thank you for your participation in the survey."