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언론정보학석사학위논문

Study on the Differences between Paper Books
and E-books in Media Attributes, Functions,
and Reading Experiences

(종이 책과 전자 책의 미디어 속성적, 기능적, 독서
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방 서 경

ABSTRACT

Study on the Differences between Paper Books and E-books in Media Attributes, Functions, and Reading Experiences

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This study is premised on the view of e-books as a brand new medium that provides the readers with a totally different set of usage and/or experience and also as much more than simply a book in paperless format. As new technological functions get added on to this new concept of a book, the discrepancy in the characteristics between paper books and e-books as well as the readers and writers' experience resulting therefrom can only grow further apart. For example, word search, dictionary, or sharing functions are new attributes that that were not available to readers of paper-books. Thus, we can no longer solely apply the criteria traditionally used in defining paper books to draw the definition for e-books. To that end, this study views the differences between paper-books and e-books from three standpoints: inherent attributes as medium, functional characteristics and experiential traits. Our analysis begins by applying the media attributes traditionally used by other scholars to assess how squarely e-books fall within such analytical framework. The focus of this paper then shifts to the functional aspects of e-books from the readers' and writers' perspective and assesses what functions were added or removed during the transition from a traditional paper-based book to its digitalized version. This paper also goes one step beyond by inquiring into what functional aspects of e-books are most often utilized and appreciated by both readers and writers. Lastly, this study examines the different sets of experience stemming from the aforementioned media attributes and functional aspects of the two types of book media, concluding that readers seek different experience from e-books based on their preference and circumstances as readers.

Keywords : e-books, paper books, media attributes, reading experiences, e-book functions

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Chapter ONE Introduction

1-1. Purpose of the Study

The purpose of this study is to examine the difference between the traditional media and new version of that same media in terms of media attributes, media functions, and user experiences. Amongst various means of communication in human lives, books have been one of human beings' primary mode of communication with the longest history since the invention of characters. They have preserved and succeeded human intellectual and spiritual world. Human communication has been changed and expanded through technological advancements such as language, letters, printing media, broadcasting media, and more recently network communication media. From the very earliest version of a book to the most current form, many essential attributes of a book have been preserved and have provided the readers of both past and present with the similar experience of information gathering among many benefits.

This study starts with the questions of “what makes a book what we conceptualize as a book? How have people define books differently across many generations?” There have been certain attributes that induce people to identify a book whenever they see a bound bundle of papers. Despite age, nationality, and other demographical differences, people from past and present have always had reached an agreement in usage and characteristics of a book as media. However, through various technological advancements, such usage and image of a book have had a quite transformation. People who experience technological advantages recently realized that any book can be purchased with one single click with a finger, without having to go to a bookstore or library in person. They also realized that they can read books on the same screens as they use to make documents for work, chat with friends, and read daily newspapers. Some people, especially the disabilities, even take advantage of the fact that they do not actually have to read the tiny letters on every page of a book, because new version of books provide audio version that allow the readers to do other tasks while ‘reading a book’. Although many of the qualities and images of a book that have long-lived in the memories of humans are being preserved and realized in the forms of electronic book these days, the experience of ‘reading a book’ is very different from the past. As books move from bookshelves in our rooms to bookshelves on our palms, the definition and usage of a book to

human beings evolve as well. In fact, a book that we read on screen may need some other name other than a book, because it is evolving as a new type of media with new usage, providing totally different experience. Does the introduction of e-books suggest that paper-books will become a quaint relic of the past, similar to how CD player became effectively replaced with MP3 players? Do paper-books have any relevance in our digital future?

Our analysis begins by reviewing the attributes that are relatable to book media and use those attributes to assess how squarely e-books fall within such analytical framework. Examples of the attributes of book media include audiovisual effect and interactivity.

The second part of this paper then shifts to the functional aspects of e-books from the readers' and writers' perspective and assesses what functions were added or removed during the transition from a traditional paper-based book to its digitalized version. Before books went digitalized, there were contents that could only be accessible in paper-book media, which created varying levels of restriction in public's access to information. Also, the contents of the paper-book media were not shared with other types of media for the most part. However, with the introduction of e-book, it became relatively easier for people to find the same contents on the internet as they used to find only from paper books. Therefore, the informational boundaries across various types of media have become blurred due to dissemination of e-books. This paper also goes one step beyond by inquiring into what functional aspects of e-books are most often utilized and appreciated by both readers and writers.

Lastly, this study examines the different sets of experience stemming from the aforementioned media attributes and functional aspects of the two types of book media, concluding that readers seek different experience from e-books based on their preference and circumstances as readers. For example, readers will choose to buy a paper book if they decide it is worth keeping in their bookshelf, but they may choose a medium that provides quicker access if they are looking for a certain kind of information in shorter time span. Therefore, this study concludes that readers makes rational decisions between the two book media primarily based on their preferences and circumstances, similar to any other types of media and that paper-books and that e-books should, therefore, be treated as separate media.

1-2. Significance of this Study

Electronic books or more commonly known as e-books, are in reality, books that are in digital form. Basically, an e-book is a printed book that is made available in a digital format to be read onscreen, searched across texts, printed out or downloaded to a portable electronic device such as computers, smart phones, PDAs, I-Pads, Kindle, etc (Downes, 2007). These are much more like conventional paper books, except that they are just more advanced and reduced the burden of the heavy weight. Characteristics of e-books include use of multimedia, hyperlinks and other interactive components, search features, the ability to customize appearance or convert text to audio, presumed lower reproduction and distribution costs, and longevity (Downes, 2007; Mattison, 2002; Shirattudin, Hassan, & Landoni, 2003). More detailed definition of e-books is analyzed and provided in the following sections.

Although electronic books, or e-books, had limited success in the early years, the demand for books in this format has grown dramatically, primarily because of the popularity of e-reader devices and as the number of available contents in this format has increased (PwC, 2010). Another important factor in the increasing popularity of the e-reader is its continuous diversification (PwC, 2010). Many e-readers now support basic operating systems, which facilitate email and other simple functions (PwC, 2010). The iPad is the most obvious example of this trend, but even mobile phones can host e-reading software (PwC, 2010).

With these opportunities for e-book industry to expand fast, promoters and publishers of traditional books think that e-books are threatening to replace paper books in future (Darnton, 2009). Majority of experts insist that e-books will never be able to completely and totally replace print books. There still are a large number of readers who cannot imagine a future without paper books as the printed version provides a more pleasing reading experience than the screen (Darnton, 2009).

E-books seem very attractive to many readers, considering their convenience and other advantages that come along with digitalization. With the number of e-book users on the rise all over the world, and with more and more excellent e-book readers springing in the market, it is arguable that this new innovation may become even more popular as the days go by (PwC, 2010). It is also clear that media are no longer entirely treating e-books in a skeptical manner, and users are not perplexed by this unfamiliar technology as they did in the past (PwC, 2010). The fact that users have had quite enough time to get to know about this

technology and actually placed trust in this media opened up the possibility for e-book industry even more.

Considering the fact that e-book industry is on the threshold for the new beginning, it is important to reassess e-reading technology of its developing direction and uses before the idea about what this media is firmly set in among users. Although the purpose of this study is not to delineate the future of e-books, this study intends to analyze what has happened so far and how users are responding to it. This study looks into not only the technology itself but also the reading habits that readers have developed through this relatively short period of time with e-books. Based on various observations, this study intends to argue that paper books and e-books are no longer comparable media. The gap between the two is getting magnified as time passes and as new e-reading technology is being realized. E-book technology is diverging from the paper books and provides totally different uses and experiences to the readers.

1-3. Organization

This study will begin with the discussion of the history of book media, leading to the advent of e-books. This brief introduction will lead directly to the three aspects of differences that this study intends to examine in evaluating the difference between paper books and e-books. These aspects are 1) difference in media attributes; 2) difference in functions; 3) difference in reading experience. For each of these aspects, conceptualization of these aspects will be defined based on related other studies, and the discussions about how these differences are going to be examined will follow, respectively, along with study questions and hypotheses.

Following, the study will introduce the study methods in evaluating differences presented earlier. This study uses both online survey and interviews to verify hypotheses, and the methods for sampling and data analysis will be described, along with sample questions for the survey and interviews.

Actual findings for each aspect of difference will be presented, leading to the discussion of implications of this study and limitations of this study.

Chapter TWO Literature Review

2-1. *Paper Book vs. E-Book*

Humans have enjoyed long history of experience with books although not all men, not even all writers of books, had approved of them before they were widely distributed. Books have invariably brought about some significant changes in human's intellectual confines. Knowledge were passed down across multiple generations in constant form and traveled far beyond the reach of the human voice (Dane, 2003).

The earlier forms of book were invented out of human desire to create lasting records. Stones could be the most ancient form of writing, but wood would be the first medium to take the appearance of a book (Diringer, 1982). Then, in Ancient Egypt, papyrus was used for writing and the books made of papyrus were in the form of a scroll of several sheets pasted together, for a total length of up to 10 meters or even more, and they were rolled out horizontally (Diringer, 1982). The text occupied one side, and was divided into multiple columns (Diringer, 1982). Papyrus was then replaced by parchment which was made of animal skin. Parchment was proved to be easier to conserve over time and was more solid, and allowed one to erase text. However, parchment was very expensive because of the scarcity of material and the time required to produce a document (Diringer, 1982).

Between the 2nd and 4th century, the codex had replaced the scroll (Finkelstein, 2005). Books no longer took the form of a continuous roll, but instead a collection of sheets attached at the back of the others. Not only it became possible to jump to a precise point in the text directly, but the codex was also very easy to be placed on a table, which made possible note-taking while reading (Finkelstein, 2005). Tables of contents and indices also facilitated direct access to information. This form was so effective that it still remains to be the standard book form, over 1500 years after its first appearance. Soon, paper progressively replaced parchment (Diringer, 1982). Cheaper to produce, it allowed greater dissemination of books. Codex can be considered as the earliest version of paper books as we know it since they began to hold qualities and images of books that we see today.

Books were hand-written for a quite a long time. Each book was perceived as a work of art, often featuring beautiful illustrations and elaborate calligraphy. In case of Asia, books were mostly for the monks who used them to perfect their religious education (McDermott, 2006). As texts circulated from one monastery to another, they allowed monks to learn how to

read. But if these copies were sometimes made for the monks themselves, there were also copies made on demand. The task of copying itself included several phases: the preparation of the manuscript in the form of notebooks once the work was complete, the presentation of pages, the copying itself, revision, correction of errors, decoration, and binding (McDermott, 2006). The book therefore required a variety of competencies, which often made a manuscript a collective effort. For that reason, books were real expensive treasures for the wealthy or the elite.

The invention of the printing press by Johannes Gutenberg marks the entry of the book into the industrial age. The book was no longer conceived as a single object, written or reproduced by request. In addition, with the invention of moveable type and the printing press, the laborious hand-copying of texts became obsolete and both the tempo and the scope of the written word increased enormously. Texts could now be distributed so much more quickly and widely that again the style of communication underwent qualitative changes. If the transition from the oral tradition to the written word made communication more reflective and solitary than direct speech. Furthermore, the publication of a book became an enterprise, requiring capital for its realization and a market for its distribution. The cost of each individual book (in a large edition) was lowered enormously, which in turn increased the distribution of books. The publication of a book became an enterprise, with a capital to mass produce and stable market for its distribution. The cost of each individual book was lowered enormously, which allowed for a wide distribution of books. Due to a convenience associated with making lots of copies of books, even specialized and general texts as law, history, and novels developed and were widely produced for the use at universities both domestically and internationally (Febvre& Henri-Jean, 1997).

Numerous bibliographic features, like the positioning and formulation of titles and subtitles, were also affected by this new production method. An art form was lost. However, the qualities that made up the earlier codex form of the book were preserved. A book was put together by binding a bundle of papers full of text to one side, just as the bundle of parchment full of text were tied together on side in the codex form of the book. The availability of mass made books encouraged a whole new age of education, science, the arts, and religion.

It was not until the last decade ago that the notion of a book as a tangible, paper-based medium that has ruled the minds of people for a thousand years started giving way to a novel one: a intangible, digital and electronic form of a book. Through a series of technological developments that occurred in the 1990s, the spread of digital multimedia, which encodes

texts, images, animations, and sounds in a unique and simple form was notable for the book publishing industry (Finkelstein, 2005). The advent of internet, of course, lowered production and distribution costs even further. In fact, a good deal of reference material, designed for direct access instead of sequential reading, as for example encyclopedias, exists less and less in for the form of books and increasingly on the web.

The proportion of U.S. libraries that made e-books available increased almost twofold from 38.3% in 2007 to 67.2% in 2011, according to the American Library Association's Public Library Funding and Technology Access Study. Such increase in demand for e-books paralleled the skyrocketing sales of new reading devices and tablet computers (ALA, 2012).

2-2. *Differences in Media Attributes*

i. Previous Studies

Bolter and Grusin (1999) argue that communication media historically have been subject to a process called 'Remediation.' They do claim this to be a process that has pertained in the West since the time of the Renaissance. The two authors argue that the history of media has been characterized by an attempt in the West to generate communication technologies that erase their presence from the viewer, to create a virtual reality that is indistinguishable from the reality it purports to represent (Bolter and Grusin, 1999). For instance, the painters during the Renaissance adopted conventions such as linear perspective and light shading to govern their representations, and used oil paint in order to erase their brush strokes. They called this process of refashioning "remediation," and they note that earlier media have also refashioned one another: photography remediated painting, film remediated stage production and photography, and television remediated film, vaudeville, and radio. They argue that new visual media achieve their cultural significance precisely by paying homage to, rivaling, and refashioning such earlier media as perspective painting, photography, film, and television (Bolter and Grusin, 1999).

E-books are another example that may be applicable to this concept of remediation (Bolter and Grusin, 1999). Remediation refers to the blending of old and new media, and paper books have blended with internet to 'refashion' itself and achieve another cultural significance. One component of modern remediation is distantiation (Deuze, 2007). This term refers to the individualization and deconstruction of mainstream media⁸. This often happens

simultaneously with remediation, and it results in the borrowing of form coupled with the subversion of content. For instance, the individual, comments on mass news media while imitating techniques used by those same mainstream journalists. Remediation does not refer to a fundamental opposition to the mainstream, so much as the desire of the individual to express themselves (Deuze, 2007). E-book readers, similarly, utilize this more individualized version of paper books, sometimes by imitating techniques used by professional writers and publishers. In order to see that e-books are the result of remediation of paper books, and thus are different media in nature, it is essential to break down each medium's elements and compare their attributes. Media attributes are unique elements that allow users to define certain media. Thus, by analyzing the smallest component of media, the attributes, the difference between e-books and paper books will be clarified.

Discussion in media attributes started with the appearance of internet as difference between the traditional and new internet-applied media were studied. For example, Morris & Ogan (1996) suggested interactivity, synchronicity, connectivity, digitization, and other attributes as the internet-specific attributes distinguishable from that of traditional media. Attributes of various media were evaluated in order to assist researchers in determining the attributes of newly emerging media.

Reardon & Rogers (1998) set forth 10 media attributes emphasizing the characteristics of new media, in making comparison between the traditional media with new media such as internet. 10 media attributes include interpersonality, interactivity, media flow, pass time, source knowledge of the audience, intimacy, feedback, ability to control, synchronicity, facility. Many studies attempted to compare the two different types of media applying these attributes. For instance, Hoffman & Novak (1995) found that television and internet bear difference in media attributes as message speed/pass time, activity, and privacy, and interactivity. A few similar studies were done here in Korea. Park (2003) attempted to make comparison among TV, internet, and cell phones by categorizing each medium's attributes through users' survey. He used interactivity, source knowledge, professionalism, intimacy, message pass time, synchronicity, public/private in nature, convenience in usage, privacy, and activity as the standards for the comparison, and concluded that internet is characterized by high activity and interactivity.

Eveland (2003) came up with slight different approach to Reardon & Rogers (1988) and considered media to be multidimensional in their attributes. That is, instead of focusing on a single attribute such as interactivity (Rafaeli, 1988), the mix of attributes approach

argues that each medium is composed of a wide variety of attributes. Thus, as opposed to a uni-dimensional continuum, Eveland (2003) points out that media should be defined by a continuum existing in multidimensional space. He suggests that media should be classified in terms of interactivity, organization or structure, control, channel, textuality, and content.

A comparison between the print media and online media can be made by applying these benchmark attributes. For example, print media are low in interactivity, because they do not respond to the prior choices made by readers. They only reflect information that is readily contained in limited space. In terms of organization they are only moderately linear. The newspaper and books are not organized so that they must be read from cover to cover. Instead, it they are organized by section/chapters and stories are relatively distinct and thus need not be read in any particular order. However, within a given story or chapter the organization is linear. This moderate level of linearity, in conjunction with other factors, leads traditional print media to be relatively high in terms of user control (Eveland, 2003). The user may control the pace of reading, rereading, or skimming stories, as well as the content and sequence of exposure to various contents. Traditional print media are highly visual and have no audio component. They are, in fact, high in textuality, with most of the space of the paper being taken up with words as opposed to pictures. Content is quite variable.

Conversely, online media share many of the characteristics of print media. In practice, online newspapers and books are only moderate in interactivity due to the frequent lack of chat functions. Similarly, the structure of online newspapers and books are similar to traditional print versions in that within most stories they are linearly organized. For those contents that provide direct hyperlinks between stories, the structure becomes less linear, but this function is not as common as one might expect, given the capabilities of the Web (Lin & Jeffres, 2001). Control is high, as users are able to adjust the pace, sequence, and content of the medium. The inclusion of audio and audiovisual actualities in many online contents leads to a rating of moderate in terms of audio and high in terms of visual. Online newspapers or books are only slightly less textual than printed ones, and this difference is due to the use of audio and audiovisual clips. Content, similar to printed media, is variable across sources and over time.

ii. Attributes Regarding Book Media

As many studies have attempted, this study also intends to suggest attributes that are relatable to book media and make comparison between paper books and e-books, applying these attributes. In selecting these attributes characterizing book media, the attributes discussed in previous studies were compiled. Attributes that are considered most often are regarded as the important aspects of media, so they were all included. Then, attributes that indicate similar aspects and may result in confusion among the participants of the study were garnered and adjusted into one encompassing attribute. For example, attributes that evaluates whether the information is professional or not clashes with content credibility attribute. In order to minimize confusion and make the list of attributes to be succinct, every aspect that have to do with content credibility were compiled under credibility. Intimacy (Hoffman & Novak, 1995; Reardon & Rogers, 1998) and public/private in nature (Park, 2003) variables were converged to individuality variable, and ability to control (Hoffman & Novak, 1995; Reardon & Rogers, 1998) and ability to control contents (Lee & Kim 2011) were converged to controllability for the same reason as well. Finally, attributes that are critical in comparing paper books and e-books, but were neglected in comparing other types of media, such as cost of use, familiarity were included. <Table A-1> lists the attributes that were discussed in other studies of media attributes and <Table A-2> presents the attributes that this study will use in evaluating difference between e-books and paper books. Attributes listed under <Table A-2> are derived from the attributes listed under <Table A-1>, and their meanings are indicated.

<Table A-1>

Media Attributes discussed in Other Studies	
1. Hoffman & Novak (1995)	interpersonality, interactivity, media flow, pass time, source knowledge of the audience, intimacy, feedback, ability to control, synchronicity, facility
2. Reardon & Rogers (1998)	interpersonality, interactivity, media flow, pass time, source knowledge of the audience, intimacy, feedback, ability to control, synchronicity, facility
3. Morris & Ogan (1996)	interactivity, synchronicity, connectivity, digitization
4. Park (2003)	interactivity, source knowledge, professionalism, intimacy, message pass time, synchronicity, public/private in nature, convenience in usage, privacy, and activity

5. Eveland (2003)	interactivity, organization or structure, control, channel, textuality, and content
6. Lee & Kim (2011)	hypertextuality, immediacy, updated contents, intimation of contents, professionalism, credibility, ability to control contents, synchronicity, convenience in operation, cost of use

<Table A-2>

Attributes Regarding Book Media	
A. Multimodality	“I can enjoy audio, image, video through this media”
B. Feedback	“Media responds to my tastes and pattern; communication happens both ways between media and the readers”
C. Interpersonal Communication	“I feel connected to other users of this media and can share information with the others”
D. Information Gathering Speed	“I can seek information I want quick and easy”
E. Controllability	“I can actively manipulate the ways that contents are presented to me or select types of contents I wish to read”
F. Accessibility	“I can access this media anytime, anywhere I want”
G. Ease of Use	“I can operate this media easily; I don’t have trouble using this media”
H. Diversity in Contents	“Contents that I get from this media is diverse and abundant”
I. Individuality	“I feel like this media is private; I do not feel like I am sharing this media with anyone else”
J. Credibility	“I trust the information that this media presents to me”
K. Familiarity	“I feel comfortable with this media”
L. Cost of Use	“It is very cheap to use this media”

Attributes and their definitions that are presented to the participants of this study

iii. Study Questions and Hypotheses

The purpose of this study is to support the initial idea that paper books and e-books are different media by comparing the attributes of the book media. For each attribute chosen for this study, indicated in <Table A-2>, this study will examine that there exists a significant difference between paper books and e-books. Study questions and hypotheses are shown below.

- Study Question 1: How different are paper books and e-books in comparison of book media attributes.

<Table A-3>

Attributes of Book Media and Hypotheses		
Media Attributes	Hypothesis	Expected Outcome
A. Multimodality	Hypothesis 1a	Paper Books < E-books
B. Feedback	Hypothesis 1b	Paper Books < E-books
C. Interpersonal Communication	Hypothesis 1c	Paper Books < E-books
D. Information Gathering Speed	Hypothesis 1d	Paper Books < E-books
E. Controllability	Hypothesis 1e	Paper Books < E-books
F. Accessibility	Hypothesis 1f	Paper Books < E-books
G. Ease of Use	Hypothesis 1g	Paper Books > E-books
H. Diversity in Contents	Hypothesis 1h	Paper Books > E-books
I. Individuality	Hypothesis 1i	Paper Books > E-books
J. Credibility	Hypothesis 1j	Paper Books > E-books
K. Familiarity	Hypothesis 1k	Paper Books > E-books
L. Cost of Use	Hypothesis 1l	Paper Books < E-books

Refer to <Table A-2> for the meaning of each attribute

This study hypothesized that the readers will consider e-books to be greater in value for attributes as multimodality, feedback, interpersonal communication, information gathering speed, controllability, accessibility, and cost of use due to characteristics of an internet and convenience that comes along with it. Conversely, for the rest of the attributes this study expects the value to be greater for paper books. Ease of use, individuality, credibility, familiarity will be higher for paper books, because readers have had longer experience with paper books, and thus, feel more confident and comfortable with it, compared to relatively new medium. Diversity in content is expected to be higher for paper books as well, since they have been around for longer period of time, and it is true that the contents from longer past and/or in low demand may not be available in electronic version. Although, number of e-books are growing fast to catch up paper books, this study assumes that e-books have not outnumbered paper books, considering its history.

2-3. Functional Differences

i. Characteristics of E-books

It is easily noticeable that the new version of a book has preserved the essential qualities of the codex book of the past. E-books tried to conserve the very same image and qualities of the book that the people of the past could even identify as a book. Texts are shown on the background image that resembles a paper, pages are also shown as if the bundle of papers is bound on one side, and the readers even have to make the same motion in order to flip pages. The difference between paper books and e-books surges up as readers realize they can do more than flipping pages and highlighting through the screen. The significance of e-book technology lies in a fact that readers can utilize various functional advantages that technology provides.

There definitely are some functional differences between traditional paper books and e-books. The first conspicuous characteristic of an e-book is its multimedia format (MacManus, 2010; Harness, 2011; Rosso, 2009). Compared to printed books, which only contain text and images, e-books have audio and visual presentation. Such features can be quite comfortable especially to persons who find it boring to just read conventional books. Aside from the above mentioned, a user can also opt to checking out the audio or video version of the e-book that he or she wants. Other forms of e-books even have flash presentations and applications for the readers to interact with the content, like dragging and clicking exercises.

E-books are searchable (MacManus, 2010). E-books usually have standard features such as search buttons, much more like a search engine window from Google, which allows users to search and jump to pages containing the topics or keywords that they are interested in. Compared to traditional books, this will save the readers the time of turning pages and looking for the right chapter. Or, if they forgot a detail about something that they read, all they have to do is to search the keyword, and the book will take them to a page that they have been looking for.

One of the most convenient aspects of e-books for the publishers and writers is its capability of an easier update (Harness, 2011; Rosso, 2009). Compared to printed books which require the readers to buy new ones just to get updated version of the same book, this process is quite simple with e-books. All they have to do is check for new releases and updates on a topic or a book, and just download it. As for the publishers and writers, they do

not have to waste tons of papers to print another ten thousand copies of books after making corrections on the contents. They just have to go on-line and revise mistakes, and the readers have access to updated version of a book right away. There is no need to waste papers, ink or other materials to publish books. Due to this convenience, it is quite true that the role of publishers and editors have been reduced. Writers can make adjustments and release new version of their content without having to go through several edits by professional editors, and they can even upload contents directly on-line without assistance from the publishers. Writers can upload contents freely, as long as they can work out the technology.

Besides the differences that come along with the advancement of technology, e-books are different from paper books in their appearances as well. Since the users can read e-books on computer, smartphones, or various reading devices with a one easy click, e-books do not require shipping cost (Harness, 2011; Rosso, 2009). Having an E-book saves the hassle of ordering the printed book and paying for the shipping of the book. Users also do not have to wait for days for the book to arrive. They can just start reading the material upon the purchase. In another words, all people have to do is go to the web and download the reading materials that they desire. After downloading they can then enjoy their books right away. It is quite surprising how quickly one can purchase and enjoy e-books. With e-books, no waiting is required whatsoever.

E-books weigh less (Harness, 2011; Rosso, 2009). E-book weighs less compared to traditional books that are very heavy and have to carry to school. With the standard e-book's storage capacity of around 8GB, which is equivalent to about 80 printed books, going to and from school or office need not to be that tedious or heavy anymore. Actually, e-books are quite perfect for traveling. They are also portable and take less space (MacManus, 2010). Having an E-book is like having an own private library in users' hands without having the actual book shelves. They can carry it around wherever they go. It is like carrying an entire library with them.

ii. Previous Studies

These differences have been supported by several empirical studies. A comparison of an electronic workbook versus a print workbook was done, and the researchers found that the college freshmen preferred an electronic version (Gutierrez & Wang, 2001). In a pilot study consisting of two college classrooms (i.e. one given electronic book reader devices, and the

other used traditional textbooks), professors and students were interviewed to determine the differences electronic books made in the college classroom (Gibson & Ruotolo, 2003). Easy access and portability were two benefits prominently noted in the interviews. Analogously, Goodwin, Samuelson, and Coker (2008) found that easy access and portability were factors students reported as beneficial when using e-books. Students liked to have anytime, anywhere access to their books (bus stops, commutes, etc.) and the ability to view all texts in class without having to carry numerous heavy books (Ashcroft, & Watts, 2004; Clark, 2009; Kang, Want, & Lin, 2009). Additional benefits to using e-books have been identified throughout research. In a survey of 22,000 college students from England about the usage of e-books in their Higher Education classrooms and libraries, students identified the following advantages of e-books: Online access, convenience, ecofriendly, and easy storage (Nicholas, Rowlands, & Jamali, 2010). Searchability of individual e-books using specific keywords was also noted and has been identified as a benefit of e-books in several other studies (Nicholas, Rowlands, & Jamali, 2010; Armstrong, Nardini, McCracken & Lugg, 2009).

Also, many researchers point out that younger users seem to prefer e-books to print-based learning resources, e-book capabilities will be continually improved, and their costs will likely be lower in the future (Chang & Ley, 2006; Liew, Foo, & Chennupati, 2000; Sathe, Grady, & Giuse, 2002; Strouse, 2004; Temple, Kemp, & Benson, 2006). All these factors suggest that e-books will be more accepted in the future. Despite the present ambivalence, and even a negativity, in the literature about the desirability of e-books as a primary form of instruction, there seems to be little evidence suggesting that the learning outcomes are significantly affected by a choice of either print-based or e-book media. Clark (1983) argued that media are merely the delivery mechanisms for instructional content. He suggested that differences in instructional design and learning activities, applicable to almost any medium, are the fundamental causes of observed learning differences. Any appropriately-designed medium can fulfill the conditions for good-quality instruction.

A few notable empirical studies emphasizing positive aspects of e-books were done in Korea as well. A few made some efforts to prove that e-books are not different from paper books in providing intellectual stimulation to the readers. Even if the experience has changed, many studies support that the change has lead to better reader-book relationship. For instance, in “An Experimental Study on Reading Effect of E-book” by Gum-Sook Hoang (2006), researcher intended to identify reading effect of e-book versus conventional paper book. For this purpose, 8 elementary school students participated in the reading project. The

participants read 'A'(printed book) and 'B'(e-book) literary works and were tested reading comprehension. According to conclusion of the study, there was no difference between printed book and e-book on reading effect. For this reason, a generation of students, known as digital natives, the integration e- books is appealing (Prensky, 2001). For students on a budget, e-books are appealing since they are lower in cost than the traditional paper-based books, while many publishers are finding e-books a more cost effective method of publication. Electronic books have been identified as a current trend in education, and experts in the field have projected increased student and faculty adoption of electronic books within the next two to three years (Becker 2010).

In another study that was conducted a few years later, Hyun-Hee Kim and Da-Hye Kang (2008) investigated the effectiveness of multimedia e-book for children's reading education. This study examined the differences in children's reading comprehension and satisfaction of storybooks according to a type of medium, paper and multimedia e-books. Six different storybooks were used and 85 children participated, which was a larger sample compared to the one mentioned earlier. Each child read a paper book and an e-book, dealing with different contents. The study results showed that overall, the type of medium did not significantly affect the children's reading comprehension of all six storybooks: for two storybooks, some comprehension scores of paper books were higher than those of e-books, on the other hand, some comprehension scores of e-books were higher than those of paper books. Satisfaction scores of paper books are a little bit higher than those of e-books, although resulting in no statistically significant difference between two types.

Even though more empirical studies have to be done in order to be more confident with the potentials of an e-book, studies done so far suggested that the advent of an e-book technology has brought convenience to the readers and suggested that the print book market will change and shift as a result of it. Many advantages of e-book even opened up the possibility of new, innovative, and convenient environment for education.

iii. Study Question and Hypotheses

Functional differences were observed and discussed in many researches and articles, but no study has actually looked into how much readers utilize these functions on e-books. If readers are familiar with e-book functions and actually use them often, then the perceived difference between paper books and e-books will be greater. In other words, as the readers

use e-book-specific functions more often, their experience of e-book reading will be different from that of paper books, and will be more likely to perceive two media to be different. For that reason, this study intends to find out how much readers utilize various e-book functions.

There can be many different e-book functions for each different reading device. Thus, it is necessary to sort out common e-book functions that are mutually existent in all kinds of devices in order to minimize confusion among the readers. For the purpose of this study, 10 most well-known functions are selected and are listed in <Table B>. These 10 selected functions are the ones that are most actively discussed in academic papers, news articles, and advertising blogs.

<Table B>

E-Book Functions	
a.	Change of View Mode (Font Size/ Line Interval/ Font Type)
b.	Highlighting Tool**
c.	Note-taking Tool**
d.	Book Info / Excerpt Sharing Tool (via e-mail, SNS)
e.	Book Mark**
f.	Sound /Audio
g.	Video
h.	Big Memory
i.	Keyword Search/ Dictionary Tool
j.	Readers' Interests and Reading Pattern Detecting Tool

** Functions are the ones that are similarly performed in both types of books

- Study Question 2-1: How much do the readers utilize e-book functions?
 - Hypothesis 2-1a: Functions that are atypical to paper books will have low usage.

- Study Question 2-2: How will the e-book functions influence the readers' presumed difference between paper books and e-books?
 - Hypothesis 2-2a: Functions that are atypical to paper books will lead the readers to believe the presumed difference between paper books and e-books to be big.
 - Hypothesis 2-2b: Functions that are performed similarly on both media will lead the readers to believe paper books and e-books to have high similarity.

2-4. Differences in Reading Experience

i. Correlation between the Reading Experience and Medium Choice

Some people foresee that digital books are here to stay and within a few years readers will look at paper books as relics from the past. They will still exist, but will be expensive and only available for a small group of collectors. Digital books will become more useful, personal, shareable and awesome through a lot of innovation over time. However, there is something that technology can not dare to replace the conventional medium. Technology cannot neglect the history and firm relationship between the reader and the paper book, unless time passes and the generation that is more accustomed to paper books disappears. New generations who are more exposed and have become more comfortable with the digitized text and digitized learning since their childhood, will obtain strong recollections with the e-books from continuous experience and feel more confident in using such medium over paper books. Readers, who love the smell of a new book, love the feel of a book, and love the weight and the texture will continue to save niche for the paper book no matter how much e-books intrude. They will argue that they can never get the same experience from a cold, unfeeling piece of plastic.

It does not require many usages for the readers to realize the difference in experience between e-books and paper books. Readers will get an idea about how and when to use e-books based on usages of early stages. As the experience with e-books accumulates, readers will naturally develop the reading habits that fit into the characteristics of e-books. Considering the characteristic discrepancy between paper books and e-books are prominent, it can be logically derived that there also exists substantial difference in reading habits between the two media. The interactivity, the zooming into graphic elements and the videos actually add up to a different experience.

Certain studies argued that paper-book reading offers advantages to the readers as distinguishable from e-book reading. In his article 'The Case for Books, Past, Present, and Future,' Professor Darnton makes two related arguments about the paper-books' technological and cognitive advantages over e-books. As archive, paper-books are technologically superior to e-books, Darnton (2007) argues, because they will last hundreds of years if properly cared for. Electrons, on the other hand, are unstable and ephemeral. Websites come and go, URLs suffer from link rot, and Google is a publicly traded company

that didn't exist twenty years ago and may not exist twenty years hence, given the vicissitudes of business. In contrast, books have a tangible permanence.

Darnton (2007) also argues that paper-book is also a superior technological choice when it comes to "deep reading" because it is a distraction-free medium. Screen reading is fraught with distractions like the constant temptation to check e-mail or surf the Web. Hyperlinks, which are intended to enhance the reading experience, instead pull the reader away from the text. Consequently, the screen as reading technology has been characterized as "discontinuous and fragmented." In summary, screen reading can be great for skimming lots of text quickly but paper-books are a better choice when it comes to fostering the kind of deep, immersive experience psychologists refer to as "flow." Think how easy it is to become so totally engrossed in a good book that the hours pass without notice. It is because the physical characteristics of a book, the font, page layout, white space, and its tactile qualities, are all designed to contribute to that experience. Perhaps this explains why, the digital revolution notwithstanding, p-book sales remain strong. Indeed, more new print titles will be published.

The quality of experience media matters for the users in defining the role of media and deciding which medium to use. Uses and gratifications theory (Blumler, 1979; Katz, Blumler & Gurevitch, 1974; Rubin, 1984) supports this relationship between the usage and the experience. This theory states that audiences seek out media through a complex set of motives leading to the selection of specific media that satisfy a set of psychological motives. Psychological motives are relatable to the usage experience. Through repeated usages, users of media become aware of how much each media fulfills expected purpose or gratification, influencing their media choices in the future. Research on television viewing has examined the relationship between use and motives such as seeking information, entertainment, social interaction (parasocial, maintenance), and pass time/habit (Greenberg, 1974; Palmgreen & Rayburn, 1979; Rubin, 1979). Likewise, as the readers realize how much each type of books gratifies their motives, these evaluations will influence the medium choices in the future. For that reason, observing difference in experience between paper books and e-books bears its significance in arguing that they are two different media fulfilling different gratifications

ii. E-book as Internet-based Medium

There are many characteristic differences between paper books and e-books as discussed earlier; however, many of these differences come from the fact that e-books are internet-based medium. The Internet has the ability to meet a variety of needs through a multitude of functions resulting in a possible change in medium use (Flanagin, & Metzger, 2001). People can play games, communicate with family and friends, read the latest news and participate in group discussions over the Internet; shifting the computer from a work-based tool with practical functionality to an all-encompassing medium fulfilling a variety of needs. E-books, as internet-based medium, provide almost all of the benefits that internet provides.

Internet has led the e-reading experience to be very different. E-books have thwarted readers' ability to find particular lines by remembering their position on the page, their love of scribbling comments in the margin. On first engagement with the e-book, readers become aware of all kinds of habits that are no longer possible and skills developed over many years are no longer relevant. Precisely speaking, readers cannot easily flick through the pages to see where the present chapter ends, or whether so and so is going to die now or later. In general, the e-book discourages browsing, and though the bar at the bottom of the screen showing the percentage of the book completed lets the readers know more or less where they are up to, they do not have the reassuring sense of the physical weight of the thing, nor the computational pleasures of page numbers.

There are many more aspects of e-books that provide different experience from that of paper books. In fact, a few interesting studies have been done to examine the difference in 'reading effects,' especially the level of comprehension (Choi, 2011; Park, 2011), ability to recollect (Kang, 2008; Park, 2011), ability to criticize (Park, 2011), and ability to reconstruct meaning (Park, 2011). All of the presented studies supported the hypotheses that there are differences in reading effects between paper books and e-books, and one study even pointed out that e-book reading encourages children to develop their curiosity and imagination (Choi, 2011). On the other hand, Hoang (2006) has done experiment with 8 elementary students to see the difference in level of comprehension, but has found no difference between the two types of books, suggesting that the difference is too minimal to scientifically justify. In general, these studies indicate that the outcomes are hard to be generalized due to individual differences in ability to 'understand' the contents and impracticability in defining 'understanding of content.' However, these studies support the idea that the experiences of

reading for both types of books are different in readers' aspects, mainly due to the characteristics of internet that are realized on e-books.

iii. Study Questions and Hypotheses

Direct relationship was observed between the reading experience and the choice of medium, meaning that the quality of experience matters for the readers in defining the media. Readers will consider what their experience was like in deciding which type of book to read. Hence, it is critical to evaluate the difference in experience between e-books and paper books in order to make an argument that these are two different media. This study has to verify that readers read paper books and e-books for different purposes, and exhibit different reading habits. Also, variables indicating the reader's ability to comprehend and recollect may be similar for both types of books, as discussed earlier, those variables are influenced greatly by individual capacities. The effects of reading are independent of how much readers feel the two types of books to be different. In fact, it is the reader's experience with the media that primarily determines the uses and purposes of such media for that reader. Therefore, this study will evaluate the reading experiences and habits, and how they are different for the two types of book media. The study questions and hypotheses are as follows:

In evaluating the effect of reading habits on the reader's choice of book media, this study will focus on six different reading habits, as listed in <Table C-1>. An important consideration in selecting the six reading habits as variables was that the habits have to be survey-appropriate, meaning that they have to be easy enough for the participants to recall in a short period of time and could be readily answered about in multiple-choice format.

<Table C-1>

Reading Habits	
A	Average Number of Books Read per Month
B	Frequency of Reading
C	Average Time Spent for each Reading Occasion
D	Percentage of Books Read Cover to Cover
E	Percentage of Books not Purchased
F	Percentage of Books Owned

The study question for this section analyzes whether and how the reading habits between the readers of paper-books and e-books are different and the six hypotheses deal with the factors that may have differing effects on reading habits of the two reader types. For example, certain readers of e-books place great value in lengthy and undisturbed reading of books. The eye-fatigue caused by flickering lights displayed on e-book monitor may serve as a deterrent to the reader from choosing e-books. (PWC Report)

- Study Question 3-1: How different are the reading habits between the readers of paper books and e-books?
 - Hypothesis 3-1a: Readers of paper books and e-books differ in average number of books read per month.
 - Hypothesis 3-1b: Readers of paper books and e-books differ in frequency of reading.
 - Hypothesis 3-1c: Readers of paper books and e-books differ in average time spent for each reading occasion.
 - Hypothesis 3-1d: Readers of paper books and e-books differ in percentage of books read cover to cover.
 - Hypothesis 3-1e: Readers of paper books and e-books differ in percentage of books not purchased.
 - Hypothesis 3-1f: Readers of paper books and e-books differ in percentage of books owned.

In addition to these reading habits comparison, study will also evaluate the difference between e-book reading experience and paper book reading experience according to the following 10 statements, listed under <Table C-2>. These are general feedback that pertains to reading experience.

<Table C-2>

Feedbacks from Book Reading Experience
1) They are convenient to read
2) I can carry around easily
3) I can usually get desired books easily
4) I can read for a longer duration of time
5) I can concentrate well
6) I can recall contents well
7) I can do intensive reading without being distracted
8) I get to read often
9) I enjoy the experience
10) I love the way they are now

These feedbacks come from previous studies that evaluate the ‘effect of reading’ for different types of books

While reading habits are determined based on general attitudes about the media before the actual experience, these feedbacks deal with how readers feel after the reading experience. In order to analyze the book reading experience from the start to the end, it was considered important to evaluate both the reading habits and the feedbacks that follow the reading experience. Study question and hypotheses for these feedbacks are as follows.

- Study Question 3-2: How will the readers feel differently after reading e-books and paper books?

<Table C-3>

Feedbacks from Book Reading Experience	Hypotheses	Expected Outcome
1) They are convenient to read	H 3-2a	Paper Books > E-books
2) I can carry around easily	H 3-2b	Paper Books < E-books
3) I can usually get desired books easily	H 3-2c	Paper Books < E-books
4) I can read for a longer duration of time	H 3-2d	Paper Books > E-books
5) I can concentrate well	H 3-2e	Paper Books > E-books
6) I can recall contents well	H 3-2f	Paper Books > E-books
7) I can do intensive reading without being distracted	H 3-2g	Paper Books > E-books
8) I get to read often	H 3-2h	Paper Books < E-books
9) I enjoy the experience		
10) I love the way they are now		

These hypotheses are based on previous studies that evaluate the ‘effect of reading’ for different types of books

These hypotheses are derived based on the observed characteristic differences between paper books and e-books. E-books are generally more convenient in accessibility and portability, explaining H 3-2b, H3-2c, and H3-2h. For the rest of the variables, paper books are expected to be higher in value, considering readers' familiarity with paper books. Most of the readers, especially the ones who would be participating in this study, would probably have read paper books throughout their childhood and teenage, and established certain kind of confidence with such medium through repeated use. This study expects that readers would concentrate, recall, and comprehend better when reading paper books than e-books, due to this confidence coming from longer experience.

Chapter THREE Study Method

This study will use both survey and interview to examine the research questions. The first part will have readers of various generations to participate in a survey asking questions about their general experiences with e-books. The survey questions will be designed to empirically test the hypotheses for this study, without requiring any specific knowledge about e-books. Then, the second part involves interviews with the users of e-book who claim to be familiar with it and the experts in publication field. Users of e-books will share their general attitudes toward e-books and will be asked to explain several questions from the survey in words. They will be expected to answer based on their daily routines and as candidly as possible about their personal experiences. An interview with an expert will have major purpose of gaining better understanding of a current publication industry, in terms of trends in sales, technology, and features. Through these interviews with both the general users and experts, this study not only intends to validate the hypotheses examined through a survey, but also tries to point out critical elements of a book that influence choices of the readers and delineate a future of a book industry.

3-1. Survey

An online survey was conducted for various generations of people in order to empirically test the hypotheses of this study. An online survey seemed adequate for this study, considering the fact that people familiar with e-books usually are more technologically-adapted and will tend to have an easy access to internet. Compared to surveys conducted in paper, on-line surveys save money and time, allow for a higher participation level in general, and are absolutely better at attracting participants with an experience with e-book technology. However, an important variable that can affect the outcomes of this study is age. Thus, it will be important to gather data from older generations as well as the younger ones, in order to make comparison and decide what effect it had in the outcomes.

Sampling

In collecting sample for this study, it is important to make sure that the participants of the survey have the access and are capable of utilizing the technology that will permit them to explore with e-books freely. Technology can indicate internet, mobile phone, smart tablet,

or any other reading devices, and it does not matter how many of these technologies the participants have access to. However, every participant of survey should have at least one technology that can be utilized upon his or her wish, and should have high degree of understanding about how to manipulate such technology in searching, purchasing, and reading e-books. Regardless of the number of books a participant reads per year, a person does not have sufficient qualifications to participate in this study's survey, if he or she has never used technological devices to read e-books before. Since this study requires participants to compare their experiences with paper books and e-books, an experience with an e-book is an important qualification in order to protect from biased opinions, hurting the internal validity of the data.

Participants for this study were selected based on the panels from **Macromillembra**, a certified research firm with the biggest Asia panel network. This research firm has built a relationship with over 950,000 panels all over Korea, which is more than enough population for the purpose of this study. Data from 314 participants were collected. Considering the fact that an adaptation rate for an e-book is around 3% in this country and previous studies on the usage of e-books had difficulties in collecting sample size over 200, sample size of 314 seemed to be reasonable for the purpose of this study.

All panels participated in this on-line survey voluntarily. There was no financial reward in participating, which was clarified upon the start of this survey. Once a panel decided to participate in this survey, he or she was asked to sign an agreement that he or she had been notified about the purpose and procedures about this study. The agreement form provided the participants with the brief abstract about this study, general directions about this survey, and information about what he or she could do once they decided to discontinue in progress. Survey did not start, unless panels had proven that they agreed to participate in this study.

On-line survey required participants to provide demographic information, amount of experience they had with e-books, their competence with the technology. Questions that could directly examine the hypotheses about functional differences, differences in experience, and difference in media attributes between paper books and e-books were all included. Then other questions looked like the following (*refer to Appendix A for the entire survey*):

- Identify a genre of a paper book/e-book that you purchase most often;
- Identify a genre of a book/e-book that you read recently and was especially memorable/meaningful;

- Would you buy this book you find memorable/meaningful in the same format as you read before;
- Roughly, what percentage of books did you buy in electronic form (past year);
- On a scale 1(extremely dissatisfied) to 10 (extremely satisfied), how would you rate, in average, your experience with a paper book/e-book;
- Identify how different paper books and e-books feel due to the listed e-book functions;
- Based on your experience with both paper books and e-books, indicate how much you agree with statements that pertain to reading experiences for both types of books;
- On average, how many paper books/e-books do you read per month;

For the collected data, the significance tests for observed differences between paper books and e-books were done, by calculating t-stats and p-values.

5-2. Interview

For this qualitative part of the study, utilized personal interviews were conducted to validate the findings of a survey and to get more detailed information about e-books of today and their prospects. Interviews had two parts.

General User Interview

First part was an interview conducted with general e-book users. Interviewees were selected evenly across all age groups, considering different age groups might have different perspectives about this technology. In order to make sure every age group had been represented, this study classified panels in 4 age groups; 20s and under, 30s, 40s, and 50s and over. Then for each age group, one panel was randomly selected by reference, and they were asked to refer to a friend or someone in their age range who might be qualified and willing to participate in this study. By using snowball sampling method, this study assured that it evenly represented the population and selected the right person with proper knowledge.

Face-to-face interview was considered more adequate than any other formats of

interview for the purpose of this study, because it allowed the researcher to convince interviewees to share their experiences with more comfort and honesty. However, if an interviewee does not feel comfortable talking to a stranger, or finds inconvenient to meet in person, interviews can be conducted on the phone. There were two interviewees who could not find convenient time and location for both the interviewee and the researcher; thus, their interviews were conducted via phone. After the initial interview, any follow-up interviews were done either via phone or emails. Despite the interview method, no interview with general participants took more than 15 minutes, which enabled researcher to keep interviewees focused and undistracted.

Once an interviewee was selected, the interviewer had to notify the interviewees that the entire interview session would be recorded, since every fact they say might provide an important insights for this study. The interview proceeded after the interviewee had agreed. If the participant revealed uneasiness with the recording, the researcher was required to find another participant. The interviewer also notified the interviewees that they were allowed to stop the interview anytime during the interview and could ask to disregard whatever they had said so far in the interview session. Lastly, the interviewees were asked to consent to a prepared agreement form, either in writing or in words. Then the interviewer was ready to go on with questions. The types of questions that were asked during an interview session looked like followings (*refer to the Appendix B to see the entire questionnaire for interview*):

- Under which occasions do you purchase your books in paper/ in electronic formats?
- What genres of books do you tend to buy in electronic format? Why?
- What made you to buy those books in electronic formats over papers?
- Can you share your experience with e-books? How would you rate your experiences?
- What do you think are the strengths/weaknesses associated with e-reading experiences?
- How would you define a book?
- What will be the prospects of e-books?
- What is your stand in a view that e-books will replace paper books in the future?

Expert Interview

The second part of an interview took place with experts in the publication industry and in academics. With these interviews, questions pertained to more detailed facts and opinions about the current market of paper books and e-books, and their prospects in Korea. Expert interviews took place at a prearranged appointment times, so that interviewees were not surprised with a visit and were prepared to discuss. An interview with an expert is quite meaningful, because an expert is the one who can provide the most accurate observations and opinions about the publication industry. The content of this interview will be carefully assessed to find any confirmations or refutations of the findings from a survey. Same procedures as the general user interviews were applied.

Interview Participants

<Table D-1> Interviewees

	General vs. Expert	Gender	Age	Occupation	Experience with E-books	Others
A	G	M	20s & under	Student	2 y	
B	G	M	20s & under	Banker	1 y 3m	
C	G	F	20s & under	PR	9m	
D	G	M	30s	Lawyer	2y 6m	
E	G	M	30s	Businessman	2y	
F	G	F	30s	Sales	1y 6m	
G	G	F	40s	Housewife	1y	
H	G	M	40s	Banker	over 3y	
I	G	F	40s	Businesswoman	over 3y	
J	G	F	50s & over	Housewife	6m	
K	G	M	50s & over	Professor	1y 6m	
L	G	M	50s & over	Businessman	2y	
M	E	M	50s	Vice President	over 3y	Paper book
N	E	M	40s	CEO	over 3y	E-book
O	E	M	20s	Manager	over 3y	E-book

P	E	F	30s	Researcher	over 3y	KISDI
Q	E	M	40s	Researcher	over 3y	KISDI
R	E	M	40s	Researcher	2y	KISDI

*KISDI – Korea Information Society Development Institute

<Table D-2> Interviewees and Interview Methods

Identity	Interview Location	Interview Method (number of interviews)	Date	Time
A	SNU Java City	Face-to-face (1)	05-07-2013	10m
B	Caffe Bene (Cheongdam)	Face-to-face (1)	05-09-2013	9m
C	Starbucks (Itaewon)	Face-to-face (1) Phone (1)	05-12-2013	16m
D	Caffe Bene (Cheongdam)	Face-to-face (1)	05-07-2013	10m
E	Starbucks (Yangjae)	Face-to-face (1)	05-16-2013	11m
F	SNU Social Sciences building lounge	Face-to-face (1)	05-07-2013	7m
G	Coffee Bean (Bangbae)	Face-to-face (1)	05-12-2013	15m
H	Angel-in-Us (Gwanghwamoon)	Face-to-face (1)	05-06-2013	30m
I	-	Phone (1)	05-10-2013	19m
J	Caffe Bene (Cheongdam)	Face-to-face (1)	05-08-2013	11m
K	SNU Social Sciences building lounge	Face-to-face (1)	05-07-2013	8m
L	-	Phone (1)	05-10-2013	9m
M	Paju Office	Face-to-face (1) Phone (2)	05-10-2013	1h 40m
N	Gangnam Office	Face-to-face (1) Email (1)	05-13-2013	35m
O	Gangnam Office	Face-to-face (1) Email (3)	05-13-2013	1h 15m
P	KISDI	Face-to-face (1) Email (1)	05-14-2013	30m
Q	KISDI	Face-to-face (1) Email (1)	05-14-2013	20m
R	KISDI	Face-to-face (1) Email (2)	05-14-2013	1h 10m

Chapter FOUR Findings

4-1. *Difference in Media Attributes*

All media can be classified according to their unique characteristics in media-specific attributes. Hence, it is possible to empirically verify whether two different media have high resemblance by comparing these media attributes. Many media studies have defined media and studied their users by comparing such attributes, as discussed earlier. Among innumerable media attributes, this study singled out 12 attributes that are applicable to book media and attempted to evaluate the difference between paper books and e-books in terms of these media attributes. 12 media attributes that are being considered in this study are presented in <Table A-1>

For each media attribute, participants were provided with statement that could explain the meaning of such attribute, minimizing the factors that could influence internal validity. For “Multimodality,” for instance, had the statement explaining the meaning of this attribute. The rest of the statements are presented along with 12 media attributes in <Table A-2>. On the survey, participants were expected to rate how much they agree with the statement in 5-point Likert scale for both paper books and e-books. Then the differences between the two media for each attribute were observed, as presented in <Table 1-1>.

<Table 1-1> Differences in Media Attributes

Media Attributes	Paper Books	E-Books	Mean Diff	SE	t-ratio	p-value
A. Multimodality	2.2516	3.8917	-1.6401	0.0807	-20.3194	<.0001
B. Feedback	2.5701	3.7198	-1.1497	0.0748	-15.3691	<.0001
C. Interpersonal Communication	2.5541	3.7643	-1.2102	0.0728	-16.6355	<.0001
D. Information Gathering Speed	2.8440	3.9936	-1.1497	0.07813	-14.7147	<.0001
E. Controllability	2.7643	3.7038	-0.9395	0.0745	-12.6064	<.0001
F. Accessibility	2.8694	3.9427	-1.0732	0.08531	-12.5802	<.0001
G. Ease of Use	3.62102	3.6720	-0.051	0.0782	-0.6515	.2576
H. Diversity in Contents	3.4299	3.7038	-0.2739	0.0825	-3.3210	.0005
I. Individuality	3.3822	3.3280	0.0541	0.0677	0.80004	.2121

J. Credibility	3.5541	3.2420	0.3121	0.0494	6.3235	<.0001
K. Familiarity	3.9331	3.2866	0.6465	0.0697	9.2725	<.0001
L. Cost of Use	2.7675	3.6306	-0.8631	0.0721	-11.9679	<.0001

Participants scored on a 5-point scale (1-strongly disagree / 5- strongly agree) for each book-specific media attributes.

For each media attribute, the difference value between the paper books and e-books were calculated and assessed whether this difference is significant through t-stats and p-values. Absolute values of t-stats were bigger than 1.96 and p-values were smaller than 0.05 for all media attributes, except for the ‘Ease of Use’ and ‘Individuality.’ For the users, paper books and e-books are similar in convenience of usage and in how much they feel each media to be private. The discrepancy between the two types of books was not observed through this survey.

For the other attributes, all of them revealed statistically significant differences between paper books and e-books, as indicated on <Table 1-2>. The discrepancy between paper books and e-books were greatest for ‘Multimodality,’ ‘Feedback,’ and ‘Interpersonal Communication’ attributes, in readers’ point of views. Direction of outcomes was in accordance with the expected outcomes, as well. For example, it was hypothesized that the value for the paper books would be greater than the value for e-books and that the difference would be significant for ‘Diversity in Contents’ attribute. The data from survey supported this hypothesis, indicating that the participants believe the contents to be more diverse in e-books than in paper books, with the difference being statistically significant.

<Table 1-2>

Attributes of Book Media and Hypotheses			
Media Attributes	Hyp	Expected Outcome	Result
A. Multimodality	H1a	Paper Books < E-books	Supported
B. Feedback	H1b	Paper Books < E-books	Supported
C. Interpersonal Communication	H1c	Paper Books < E-books	Supported
D. Information Gathering Speed	H1d	Paper Books < E-books	Supported
E. Controllability	H1e	Paper Books < E-books	Supported
F. Accessibility	H1f	Paper Books < E-books	Supported
G. Ease of Use	H1g	Paper Books > E-books	No Difference

H. Diversity in Contents	H1h	Paper Books < E-books	Supported
I. Individuality	H1i	Paper Books > E-books	No Difference
J. Credibility	H1j	Paper Books > E-books	Supported
K. Familiarity	H1k	Paper Books > E-books	Supported
L. Cost of Use	H1l	Paper Books < E-books	Supported

Refer to <Table A-2> for the meaning of each attribute

4-2. Functional Differences

‘Highlighting,’ ‘note-taking,’ and ‘book mark’ tools are functions of paper books that are similarly realized on electronic version of books. They allow readers to perform similar action and fulfill similar purposes. This study hypothesized that such functions that are more familiar to the users are likely to be used more than the functions that are completely new to book reading. More precisely, hypothesis predicts that ‘highlighting tool,’ ‘note-taking tool,’ and the ‘book mark’ will have relatively high usages among the users, considering that users treat such functions as essentials of paper book reading.

Meanwhile, there are functions of e-books that are unique and are not readily associated with paper book reading. These are the functions as ‘change of view,’ ‘book information/excerpt sharing tool,’ ‘sound/audio,’ ‘video,’ ‘big memory,’ ‘keyword search/dictionary tool,’ and ‘readers’ interests and reading pattern detecting tool.’ The reasoning behind selection of these functions comes from various researches and news articles that introduce e-book technology. These functions are widely discussed and emphasized as representative technology of e-books, thus most well-known characteristics of e-books among the users. In selecting these functions, recent news articles and studies were garnered and most often recognized functions were chosen.

In demonstrating the functional difference between paper books and e-books, this study will require the users of e-books to indicate the usage of various e-book functions on survey. If the readers show high usage on the functions that are archetypal to e-books, then it makes logical sense to infer that the readers are fully aware of the difference between the two and enjoying them as different media. For example, if the readers show high usage in ‘book information/excerpt sharing tool,’ then it is clear that readers are behaving disparately from

when they are reading paper books. Thus, high usages in atypical functions of paper books will highlight the difference between the two media, confirming the assumption of this study.

E-book functions and their usages were asked to the participants of internet survey. For selected 10 e-book functions, participants were asked to rate their usage on a scale of 1 to 5, 5 indicating very high usage. The answer distributions for each function are shown in <Table 2-1> below.

<Table 2-1> E-book Functions and Usages

	Lowest Value	25 th Quartile	Median	75 th Quartile	Greatest Value	Mean
1) Change of View Mode (Font Size/ Line Interval/ Font Type)	1	3	4	4	5	3.5127
2) Highlighting Tool**	1	1	2	3	5	2.4650
3) Note-taking Tool**	1	2	3	3	5	2.6083
4) Book Info / Excerpt Sharing Tool (via e-mail, SNS)	1	1.25	3	3	5	2.4968
5) Book Mark**	1	3	4	4	5	3.5350
6) Sound/ Audio	1	1	2	3	5	2.4140
7) Video	1	1.25	2	3	5	2.3471
8) Big Memory (Storage)	1	2	3	4	5	2.8790
9) Keyword Search/ Dictionary Tool	1	2	3	4	5	2.9427
10) Readers' Interests and Reading Pattern Detecting Tool	1	1	2	3	5	2.4363

Participants scored on a 5 point scale (1-never used / 5- always use) for each e-book function.

** Functions that are similarly performed on paper books

For the purpose of this study, usage score that is bigger than 3 will be considered as 'above average' and will qualify as high usage. In order to support the hypotheses of this study, the usage score for the functions that are atypical to paper books should all be higher than 3. If the usage scores for the functions that are similarly performed on paper books are higher than 3, then it will refute the assumption that the readers treat two types of books differently. If the functions that exist in both types of books have high usage in e-books, it

will mean that readers pursue similar reading behaviors for both types of books and thus, recognize difference between the two medium relatively less.

According to the <Table 2-1>, out of 7 functions that are atypical to paper books, only ‘Change of View Mode’ function scored above 3, supporting the hypothesis. ‘Change of View Mode’ had the mean value of 3.5127, suggesting that many users of e-books utilize this fairly new technology actively. It can be inferred that the active users of this function will agree to a statement that e-books and paper books are different medium with different functions.

Among the functions that are similarly utilized on both paper books and e-books, only 1 out of 3 functions scored over 3, and refuted the hypothesis. In order to justify the argument that difference exists between the two media, the users should recognize the similar function differently on two media. If the users use these familiar functions actively, it is likely that the users will recognize the difference between the two media much less. For that reason, hypotheses of this study expect the usages of these functions to be less than 3, and out of three functions only the ‘Book Mark’ function did not support such hypotheses, scoring 3.5350. The active users of ‘Book Mark’ may not recognize the difference between the two types of books as much as the others.

Only a few functions justified the hypotheses about usage, and it may be due to an uncertainty with the technology. Although these 10 functions are widely known as representative functions of e-book technology, users did not have enough time to get adapted to such technology quite yet. Even if the users have had experience with e-books and their reading devices, it may take time to get used to the technology and utilize various functions actively. The amount of experience with the e-books may also alter the outcome of this question. There may be people who have not had experience with the e-books quite much and feel uncomfortable declaring high usage of certain functions.

The survey also asked for satisfaction score of these 10 functions to the participants. This study assumes that users will recognize the difference between the two types of books to be greater, if they have high satisfaction on the functions that are atypical of paper books. For example, if the users show high satisfaction for ‘Sound/Audio’ function, it can be inferred that the users are more likely to use such function more often and thus, are more aware of the difference between the two medium. To verify if this assumption is valid, participants were

asked to score the satisfaction level on a scale of 1 to 5, 5 being most satisfied. The result are shown below on <Table 2-2>

<Table 2-2> E-book Functions and their Satisfaction

Functions	Mean	Std Dev	SE Mean	t-stat	p-value	Omitted Answer(6)
1) Change of View Mode (Font Size/ Line Interval/ Font Type)	4.0505	0.8703	0.0505	10.9000	<.0001	17
2) Highlighting Tool **	3.6797	0.9574	0.0598	3.0029	0.0015	58
3) Note-taking Tool**	3.6628	0.9974	0.0621	2.6216	0.0046	56
4) Book Info / Excerpt Sharing Tool (via e-mail, SNS)	3.6008	0.9681	0.0615	1.6399	0.0512	66
5) Book Mark **	4.0171	0.9396	0.0550	9.4045	<.0001	22
6) Sound/ Audio	3.4431	1.0290	0.0644	-0.8825	0.8108	59
7) Video	3.3360	1.0342	0.0658	-2.4918	0.9933	67
8) Big Memory	3.5880	0.9393	0.0575	1.5311	0.0635	47
9) Keyword Search/ Dictionary Tool	3.7883	0.8638	0.0522	5.5248	<.0001	40
10) Readers' Interests and Reading Pattern Detecting Tool	3.5125	0.9894	0.0639	0.1957	0.4225	74

Participants scored on a 5-point scale (1-very unsatisfied / 5- very satisfied) for each e-book function.

Participants who have never used such functions marked '6-never used' and these answers were omitted as indicated on the last column.

** Functions that are similarly performed on paper books

Null: Mean=3.5 / Alt: Mean > 3.5

Users who have never used such functions were allowed to select (6), which were omitted for the evaluation. It was deemed that asking satisfaction level for those who have never used such functions is unnecessary and may rather cause bias for the evaluation.

Participants who have experienced these 10 functions were asked to score their satisfaction level in a 5-point scale. These answer choices were accumulated, and for each function the mean value, t-stat, and p-value were evaluated as presented on <Table 2-2>.

The hypotheses generally assumes that if the satisfactory level for the e-book specific functions are high, then the users are more likely to use such functions more, differentiating e-books from the paper books. Thus, this study hypothesized that the users of e-books will show high satisfactory level for the functions as 'Change of View Mode,' 'Book Info / Excerpt Sharing Tool,' 'Sound/Audio,' 'Video,' 'Big Memory,' 'Keyword Search/ Dictionary Tool,' and 'Readers' Interests and Reading Pattern Detecting Tool.' To clarify the

evaluation, it is important to ordain the definition of ‘high satisfactory’ level. Participants were provided with rough guideline for the 5-point scale, given the meaning of just score 1 and 5.

Assuming value greater than 3.5 to mean ‘highly satisfied,’ we can set null hypothesis to be “Mean=3.5” and alternative hypothesis to be “Mean>3.5” and test if we can reject null and accept alternative hypothesis at a 5 percent significance level.

Similar to previous evaluation, all the functions are divided into two categories, functions atypical to paper books and functions similar to paper books. Out of 7 functions that are atypical to paper books, only 2 functions had the p-value smaller than 0.05, leading to the rejection of null and acceptance of alternative hypothesis. ‘Change of View Mode’ and ‘Keyword Search /Dictionary Tool’ allowed us to reject null at 5% significance level and accept alternative hypothesis. These two functions clearly showed satisfactory level greater than 3.5, suggesting that the users were highly satisfied with such functions. Rest of the functions atypical to paper books had p-value greater than 0.05 which leaves us to accept null hypothesis of ‘Mean=3.5.’ This suggests that if we look at the entire population, we can get the mean satisfactory level to be around 3.5. Users of the other functions are generally satisfied as well.

Thus, it is clear that participants of this study confirmed the hypotheses about satisfactory level of functions. Users are generally satisfied with the functions that are atypical to the paper books, and will agree to the point of view that paper books and e-books are different media.

Finally, in reevaluating the findings above, survey has asked participants to compare e-books and paper books directly and judge how much they feel these two medium to be different due to these functions of e-books. In other words, after using each function mentioned so far, participants were asked to determine how different the experience with e-books feel from the one with paper books. For 10 functions listed, participants were asked to rate the presumed difference from the paper books on a 5-point scale, 1 being very similar and 5 being very different. For example, if user believes that experience with an e-book feels very different from the experience with a paper book after using ‘Highlighting Tool’ on an e-book, he/she will rate 4 or 5 accordingly. The outcome of a survey looks as presented in <Table 2-3>

<Table 2-3> E-book Functions and Presumed Difference with Paper Books

Functions	Mean	Std Dev	SE Mean	t-stat	p-value	Omitted Answer (6)
1) Change of View Mode (Font Size/ Line Interval/ Font Type)	3.9468	0.9366	0.0540	8.2775	<.0001	13
2) Highlighting Tool**	3.6377	1.0210	0.0627	2.1960	0.0145	49
3) Note-taking Tool**	3.6097	0.9581	0.0584	1.8773	0.0308	45
4) Book Info / Excerpt Sharing Tool (via e-mail, SNS)	4.1484	0.8864	0.0554	11.7045	<.0001	58
5) Book Mark**	3.5132	1.0525	0.0606	0.2187	0.4135	12
6) Sound /Audio	4.1411	0.9567	0.0607	10.5538	<.0001	66
7) Video	3.3360	1.0342	0.0658	12.4189	<.0001	69
8) Big Memory	4.0886	0.9697	0.0589	9.9919	<.0001	43
9) Keyword Search/ Dictionary Tool	4.1801	0.9414	0.0571	11.9154	<.0001	42
10) Readers' Interests and Reading Pattern Detecting Tool	3.8857	0.9470	0.0605	6.3756	<.0001	69

Participants scored on a 5-point scale (1-very similar / 5- very different) for each e-book function.

Participants who have never used such functions marked '6-never used' and these answers were omitted as indicated on the last column.

** Functions that are similarly performed on paper books.

Null: Mean=3.5 / Alt: Mean > 3.5

Users who have never used such functions were allowed to select (6), which were omitted for the evaluation. These questions ask participants to directly compare the experiences with both e-books and paper books, based on one given function. Thus, participants who have experienced these 10 functions were asked to compare their experiences and determine similarity between the two types of books on a 5-point scale. These answer choices were accumulated, and for each function the mean value, t-stat, and p-value were evaluated as presented on <Table 2-3>.

The hypotheses states that presumed difference between two types of books for functions that are atypical of paper books will be high, and the presumed difference for the functions that are similarly performed for both types will be low. In other words, this study hypothesized that the presumed difference between two types of books after using functions as 'Change of View Mode,' 'Book Info / Excerpt Sharing Tool,' 'Sound/Audio,' 'Video,' 'Big Memory,' 'Keyword Search/ Dictionary Tool,' and 'Readers' Interests and Reading

Pattern Detecting Tool' will be higher than the rest of the functions. In fact, it is hypothesized that the users will determine two types of the books to be not as different after using 'Highlighting Tool,' 'Note-taking Tool,' and 'Book Mark,' because these functions are performed similarly on both media. Similar to previous evaluation, it is important to ordain the definition of 'high difference.'

Clearly, as indicated on <Table 2-3>, all of the functions that are present only on e-books had t-stat values greater than 1.645 and p-values less than 0.05, allowing us to reject null and accept alternative at 5 percent significance level. Accepting the alternative hypothesis of "Mean >3.5" indicates that the users consider the experiences with e-books to be very different from the ones with paper books for these functions. On the other hand, functions that are similarly present in both e-books and paper books (marked with **) also rejected null and accepted alternative except for the 'Book Mark' function. Only the 'Book Mark' function justified the hypothesis that users do not feel the difference between the two types of books for the functions that are similarly existent.

In summary, the outcome of this evaluation suggests that users generally consider e-books and paper books to be very different when using functions not available on paper books. Then for the functions that are available on both types of books, this study originally expected that the users would generally feel the two media to be less different. However, such expectation was not justified except for one function. This outcome infers that even if the same exact functions of paper books are realized on screen, the users still feel different about two types of books.

4-3. Difference in Experience

i. Survey

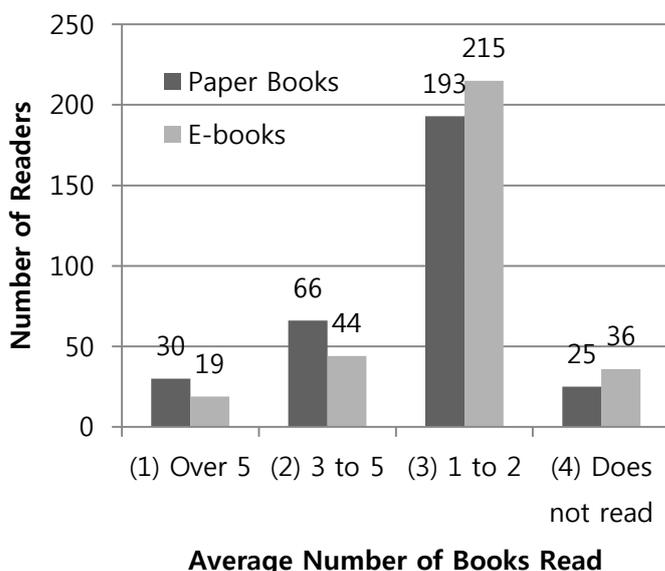
In addition to functional differences, this study emphasizes that paper books and e-books reveal differences in reading experiences to the readers. Precisely speaking, readers are expected to exhibit different reading habits for e-books and paper books, use two media for different purposes, and feel differently after using two media. Reading habits indicate variables as number of books being read per month, frequency of reading, average reading time, number of books that are read cover to cover, percentage of books acquired for free,

and percentage of books that are kept on bookshelves. This study hypothesized that readers will answer differently for e-books and paper books for all of these reading habits.

Survey asked participants to indicate their reading habits for both e-books and paper books. The participants of survey were limited to people who have experienced both e-books and paper books, so comparing their reading habits for these two media are valid. Total of six reading habits were evaluated and the difference between the two media were observed for these habits. To see if a participant answered differently for e-books and paper books, arbitrary values for each answer category were assigned and the numerical difference between the two media were acquired. With this numerical difference, we calculated mean, standard deviation, and t-ratio to evaluate whether the observed difference is statistically significant. The results for the six habits are presented below.

A. Average Number of Books Read per Month

<Graph 3-1>



<Table 3-1>

Difference Value = (E-books)-(Paper Books)	Number of Participants
-3*	0
-2	5
-1	31
0	196
1	68
2	12
3	1
Total Number of Participants	314
Mean Difference	0.1752
Std Dev	0.7301
t-ratio	3.6326

*Participants who read over 5 books via e-books (1) and do not read via paper books (4)

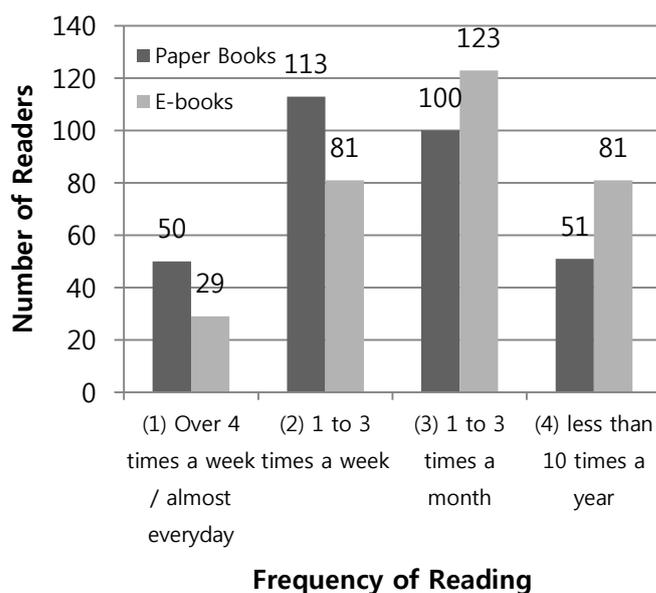
This reading habit variable requires participants to recall how many books they read per one month via e-books and paper books, accordingly. Arbitrary value of 1 was assigned to represent 'Over 5' category, 2 to represent '3 to 5,' 3 to represent '1 to 2,' and 4 to represent 'Does not read' category. Then for each participant, this arbitrary value for paper books was subtracted from the value for e-books to acquire difference value shown on <Table

3-1>. Thus, participants with difference value of 0 means that they read similar number of books via paper books and e-books per month, on average. Participants with difference value that is smaller than 0 are the ones who read more books via e-books on average, and the participants with difference value that is greater than 0 are the ones who read more books via paper books on average. The reason why this study did not just look at the mean value for each type of books and compared them is because the purpose of this study was to see whether there is difference between the two and see whether this difference is significant. Also, if we had just looked at the mean value, we would have neglected how each individual answered differently for each type of book. The unit of evaluation was the difference observed for each individual.

The survey showed that people tend to read more e-books, with a mean difference of 0.1752. Hypothesis assumes that there exists difference between the two media in average number of books read per month. Precisely speaking, e-books were expected to be read more frequently than the paper books due to its convenience in carrying around, high accessibility, and lightweight. Data not only support the hypothesis that the difference value for the two media is significant, but also the expectation that e-books would be read more frequently than paper books.

B. Frequency of Reading

<Graph 3-2>



<Table 3-2>

Difference Value = (E-books)-(Paper Books)	Number of Participants
-3*	2
-2	11
-1	29
0	158
1	72
2	37
3	5
Total Number of Participants	314
Mean Difference	0.3312
Std Dev	1.0120
t-ratio	5.8343

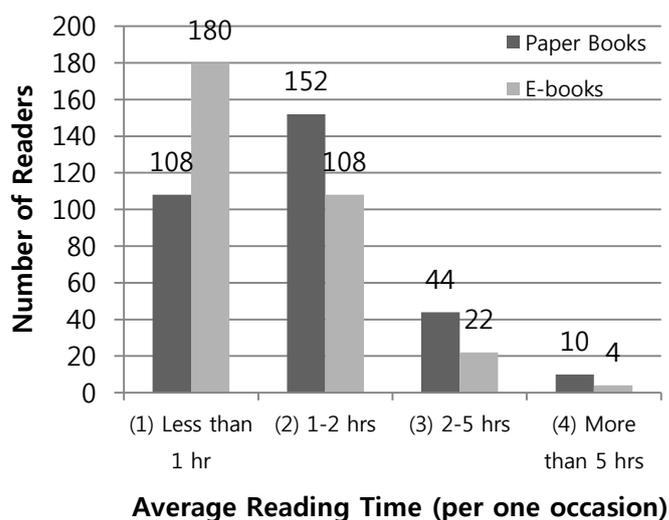
*Participants who read e-books over 4 times a week/almost every day (1) but read paper books less than 10 times a year (4)

As a stretch from the previous variable that examines the frequency of reading via book counts, this variable intends to verify this previous finding by looking at how often readers experience each type of books per week. If participant reads e-books or paper books ‘over 4 times a week/ almost every day,’ arbitrary value of 1 is assigned. Then the value of 2 if a participants reads e-books or paper books ‘1 to 3 times a week,’ 3 for ‘1 to 3 times a month,’ and then 4 if he/she reads ‘less than 10 times a year.’ For all the data, arbitrary values for paper books were subtracted from the arbitrary values for e-books to get the difference value between paper books and e-books for each participant. Difference values less than 0 mean that values for paper books are greater than the ones for e-books, which implies that the participants read more frequently via e-books. On the contrary, participants with difference values greater than 0 are the ones who read more frequently via paper books.

The outcome of survey indicates that people tend to read more frequently via e-books, with mean difference of 0.3312. Hypothesis assumes that there exists difference between the two media in frequency of reading, and that readers will read e-books more often. Both of these assumptions were verified through the analysis.

C. Average Time Spent for each Reading Occasion

<Graph 3-3>



<Table 3-3>

Difference Value = (E-books)-(Paper Books)	Number of Participants
-3*	4
-2	19
-1	77
0	194
1	19
2	1
3	0
Total Number of Participants	314
Mean Difference	-0.3376
Std Dev	0.7491
t-ratio	-6.9113

*Participants who read e-books for less than 1 hour (1) and read paper books for more than 5 hours (4) per occasion, on average

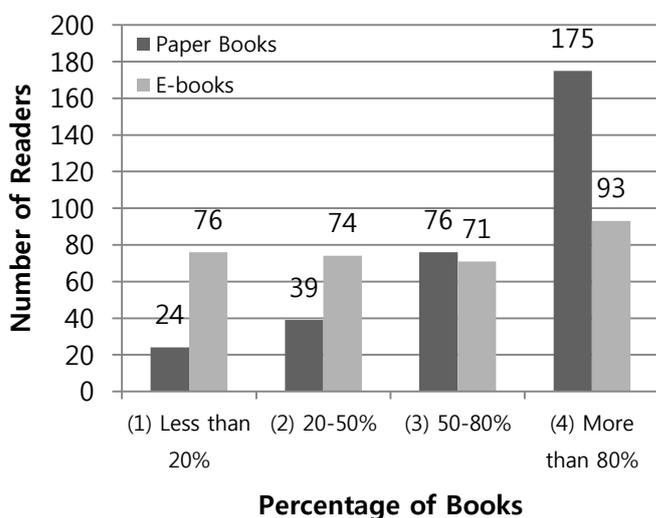
This variable requires participants to recall how much time they spend, on average, in reading both e-books and paper books per occasion. If participant usually spends ‘less than

1 hour' every time he/she reads e-books or paper books, arbitrary value of 1 is assigned. Then the value of 2 if a participant reads e-books or paper books for '1 to 2 hours,' 3 for '2 to 5 hours,' and 4 if he/she reads for 'more than 5 hours,' on average. Similar to previous variables, the difference value between the two types of books were calculated and assessed whether this difference is significant. Participants, with difference values greater than 0, are the ones who spend longer time when reading e-books.

The outcome of survey indicates that people tend to read for lesser amount of time when reading via e-books, with mean difference of -0.3376 . Hypothesis assumes that there exists difference between the two media in average reading time per one occasion and the reading time for e-books will be smaller compared to that of paper books. The rationale behind this hypothesis came from the previous studies, confirming that the reading on screen tends to distract the concentration and reading comprehension. For this variable, the difference between the two types of books was observed and participants indicated that they read for longer period of time when reading via paper books.

D. Percentage of Books Read Cover to Cover

<Graph 3-4>



<Table 3-4>

Difference Value = (E-books)-(Paper Books)	Number of Participants
-3	33
-2	46
-1	67
0	141
1	20
2	4
3	3
Total Number of Participants	314
Mean Difference	-0.7038
Std Dev	1.2044
t-ratio	-11.3644

*Participants who read less than 20% of e-books to its entirety (1) but read more than 80% of paper books to its entirety (4).

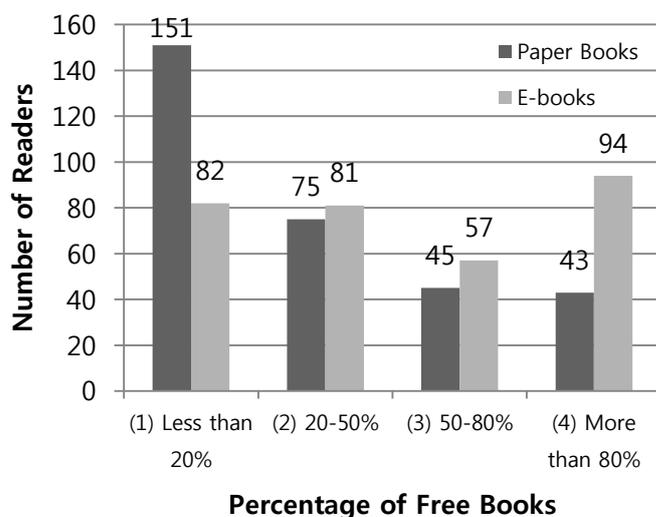
This variable asked participants to indicate whether they tend to read a book from cover to cover or in parts in reading both e-books and paper books per occasion. Upon rough estimation, if a participant usually reads an entire book 'less than 20%' of the times in either

e-books or paper books, arbitrary value of 1 is assigned. Then the value of 2 if a participant reads e-books or paper books to its entirety '20-50%' of the times, 3 if '50-80%' of times, and 4 if he/she reads 'more than 80%' of books from cover to cover. Difference value between paper books and e-books was derived and was tested whether this difference is significant. In assessing this variable, participants with difference values greater than 0 are the ones who read more books to its entirety when reading e-books.

The outcome of survey indicates that people are more likely to read a book from cover to cover when reading via paper books, with mean difference of -0.7038 . Hypothesis assumed that there would be difference between the two media in percentage of books read to entirety, and that the percentage would be higher for paper books. One of the reasoning behind this assumption is that e-book technology allows the readers to look up certain parts of book more easily compared to paper books. Additionally, since it does not require much money and time to publish e-books, they often come in several volumes, divided up in several parts. E-book readers will eventually become unfamiliar with the concept of reading book from 'cover to cover,' as the direct access to desired information becomes more convenient. The outcome of the survey confirmed that the observed difference between the two types of books to be significant and that the readers read higher percentage of paper books from cover to cover.

E. Percentage of Books not Purchased

<Graph 3-5>



<Table 3-5>

Difference Value = (E-books)-(Paper Books)	Number of Participants
-3*	6
-2	10
-1	32
0	133
1	55
2	36
3	42
Total Number of Participants	314
Mean Difference	0.5828
Std Dev	1.3781
t-ratio	8.7972

*Participants who read less than 20% of e-books for free (1) and read more than 80% of paper books for free (4).

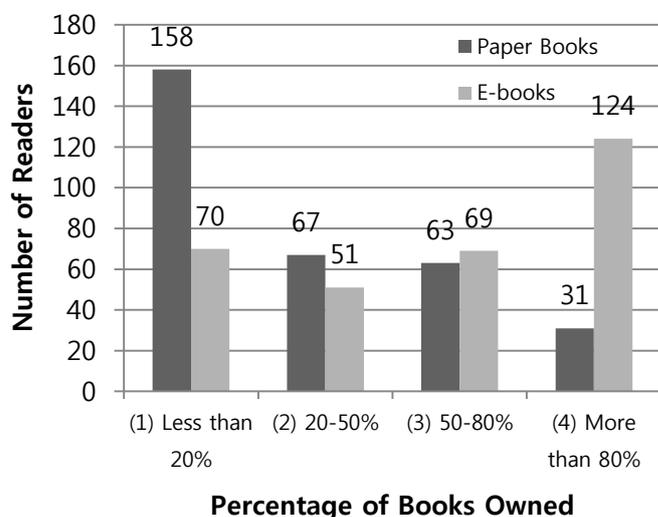
This variable intends to figure out how often readers access both types of books for free, without making monetary purchases. Survey asked participants to indicate percentage of books acquired for free for both types of books. Free paper books are widely available at libraries, and a lot of readers go borrow books for certain amount of time period. Sharing paper books, for that reason, is not uncommon. On the other hand, there are e-books that are available to readers for free. For example, when a reader downloads an e-book store application, it provides new customers with a few sample e-book copies on bookshelves. Besides these free samples, e-books are now easily accessible through online libraries and databases, as well.

If a participant reads roughly 'less than 20%' of e-books or paper books for free, an arbitrary value of 1 is assigned. Then the value of 2 if a participant reads roughly '20-50%' of e-books or paper books for free. Value of 3 is assigned for '50-80%' of e-books or paper books, and 4 readers acquire 'more than 80%' of books for free. Again, the difference between the two types of books was observed, and the participants with difference values greater than 0 are the ones who acquire more e-books for free than paper books.

The outcome of survey indicates that percentage of books acquired for free is greater for e-books than paper books, with mean difference of 0.5828. Hypothesis assumed that there exist differences between the two media in percentage of books readers acquire for free and that this percentage would be higher for e-books. Many e-books are already accessible for free online, especially through e-libraries and e-resource databases. Even if it is possible to borrow paper books from libraries or friends, it can be inconvenient sometimes. The outcome of this study supported the idea that there exists statistically significant difference between paper books and e-books in percentage of books acquired for free and that the percentage is greater for e-books, as expected.

F. Percentage of Books Owned

<Graph 3-6>



<Table 3-6>

Difference Value = (E-books)-(Paper Books)	Number of Participants
-3*	4
-2	12
-1	15
0	121
1	54
2	52
3	56
Total Number of Participants	314
Mean Difference	0.8758
Std Dev	1.4099
t-ratio	13.0700

*Participants who own less than 20% of e-books (1) and own more than 80% of paper books (4).

This final variable examines whether there exists a difference between e-books and paper books in percentage of books owned. One of the most prominent functions of e-books is its incomparably huge memory. It allows users to store numerous contents inside small, portable device, despite their file sizes. Consequently, readers do not have to worry about books taking up too much space in their rooms. Books have become easily possessed media. Hence this major technological innovation, this study hypothesized that readers' inclination to own books in their bookshelves have changed and will appear to be different for the two types of books. In verifying this opinion, survey asked participants to indicate percentage of books owned among the ones being read in past one year, for both e-books and paper books.

If a participant owns roughly 'less than 20%' of e-books or paper books, an arbitrary value of 1 is assigned. Value of 2 is assigned if a participant owns around '20-50%' of e-books or paper books, 3 for '50-80%', and 4 if he/she owns 'more than 80%' of books. Likewise, the difference values between paper books and e-books were calculated for each participant, and participants with the values greater than 0 are the ones who own greater percentage of e-books compared to paper books.

The outcome of survey indicates that percentage of books owned among the ones being read in past one year is greater for e-books than paper books, with mean difference of 0.8758. Hypothesis assumed that there exist difference between the two media in percentage

of books owned in readers' bookshelves and that this percentage would be greater for e-books, due to their convenience in storage and large memory of various reading devices. As expected, not only the difference observed between the two was statistically significant, but also the expectation that the readers store more e-books was supported as well.

The data from survey demonstrated that paper books and e-books reveal statistically significant differences in reading habits. The difference in percentage of books being owned and the difference in percentage of books read from cover to cover had highest t-ratios, exhibiting undebatable difference between two types of books. More precise expectations, regarding which type of book will reveal bigger values for each reading habit variables, were verified as well. Expected use of e-books was higher than that of paper books, except for the 'average time spent for each reading occasion' and 'percentage of books read cover to cover' variables, due to e-books' unique characteristics, as aforementioned. Although it is hard to claim that these observed patterns will definitely be observed with much bigger population, t-values were large enough to support these observations to be significant for the purpose of this study.

In order to observe the difference between e-books and paper books in terms of readers' experiences, this study carried out one more comparison. Survey provided participants with 10 statements pertaining to book reading experience, and participants were expected to indicate how much they agree with these statements for both e-books and paper books on a 5-point scale. For each statement, participants revealed their thoughts and feelings based on general e-books / paper books reading experiences, not pertaining to one specific incident. Participants could give any scores between 1 and 5, based on their immediate judgments. Score of 1 meant 'strongly disagree' and 5 meant 'strongly agree.' The statements and outcomes for both types of books are shown in <Table 3-7> below.

<Table 3-7> Reading Experience for Paper Books and E-books

	Paper Books	E-books	Mean Diff	SE	t-ratio	p-value
1) They are convenient to read	3.9905	3.3595	0.6306	0.0773	8.1583	<.0001
2) I can carry around easily	3.0414	4.1561	-1.1147	0.092	-12.1157	<.0001
3) I can usually get desired books easily	3.5669	3.2484	0.3185	0.0896	3.5518	.0002
4) I can read for a longer duration of time	3.8280	2.6115	1.2166	0.0902	13.4903	<.0001
5) I can concentrate well	3.9490	2.7516	1.1975	0.0741	16.1583	<.0001
6) I can recall contents well	3.8248	2.9204	0.9045	0.0713	12.6916	<.0001
7) I can do intensive reading without being distracted	3.9905	2.9459	1.0446	0.0730	14.3144	<.0001
8) I get to read often	3.7229	3.4140	0.3089	0.0765	4.0386	<.0001
9) I enjoy the experience	3.7548	3.4108	0.3439	0.0639	5.3857	<.0001
10) I love the way they are now	3.7166	3.0733	0.6433	0.0736	8.7434	<.0001

Participants answered on a 5 point scale (1-strongly disagree/ 5- strongly agree) for each statement.

Same statements were presented for both paper books and e-books

Same exact statements and 5-point Likert scales were given for both paper books and e-books, allowing the participants to make comparisons between the two media.

Marked value for e-books was subtracted from the value of paper books for each individual to get the difference value between the two. Then for each question, mean differences were calculated along with t-ratio, p-value and the distribution. If the absolute value of t-ratio is bigger than 1.96 and p-value is less than 0.05, we consider the difference to be significant at 5 percent level.

This study hypothesized that there would be differences in experiences between paper books and e-books. According to the outcomes listed in <Table 3-7>, all of ten statements had the absolute t-ratio that is larger than 1.96 and p-value less than 0.05, supporting the hypotheses at 5 percent significance level. The difference between the two media was greatest for the concentration variable, with t-ratio of 16.1583. Participants indicated that they concentrate significantly better when reading paper books compared to e-books. The fact that readers are more familiar and confident with paper books might explain this outcome. The smallest difference was observed in accessibility variable, with t-ratio of

3.5518. Participants indicated that they have experienced similar amount of difficulty in getting desired materials through both media.

ii. Interview

The major purpose of general user interviews was to validate the findings about the difference in experience between paper books and e-books. The experience itself is difficult to examine through online surveys, because it is just impossible to connote all the participants' experiences in a few answer choices. Thus, in order to get a better idea about how participants actually feel about each type of books, personal interviews are the imperatives in accepting the arguments of this study. Participants are more likely to share personal opinions when asked in person; thus, they tend to be more explanatory and precise in description, as well. In fact, a lot of interesting perspectives about paper books and e-books were discussed over the course of several interviews.

a. Participants Satisfied with E-book Reading Experience

Readers who are satisfied with e-reading experience generally point out e-books' easy accessibility, lightweight, high portability, and eco-friendliness. Out of 12 general user interviewees, 6 expressed their strong penchant for e-books.

Participant B: 1) "...e-books are the best. You can't get any book you want if you go for paper, but in the internet you can even get books in different languages."

2) "E-books are eco-friendly, I doubt anyone care about the whole tradition paper book thing. E-books are more efficient."

3) "Oh, and there is another advantage of e-books. E-books take up less space. You practically don't need any space to store them. You don't need a library or a room for them. You can store hundreds and thousands of e-books on your computer or reading device."

Participant C: "...book is inherently opposed to multi-tasking. There is very little that can be done while reading a book (apart from the act of reading itself) and the book never seeks

to distract its reader. So, to me, the book is a single-function device, a technology crafted and honed in order to provide the best possible reading experience. If we wanted to create a technology that would do reading well and do nothing else, I don't know that we could do better than the book. The e-book on the other hand, tends toward distraction. It distracts me a lot. The devices we use to read our e-books are rarely single-function or, perhaps more correctly, are tending away from single-function. I heard that they are created to do many things well, which means that the focus is not only on the reading experience but on gaming, browsing, searching. The iPad has reading as just one of many functions and a relatively minor one at that. ...They beep, they buzz, they disengage in a thousand ways, in my opinion.”

Participant D: “They're easily readable. Most readers offer zoom functions, letter resizing, and so forth. They're easily portable. You can carry multiple books on one device. They're much more environmentally friendly. You don't have to kill a few trees for each book, and let's not even talk about the ink. Recycling only goes so far.”

Participant E: “It is possible to purchase an e-book 24 hours a day, every day of the year, from the comfort of my own house or office. I can purchase and download an e-book, even if I am away on a vacation. All I need is a laptop, tablet, smartphone, or a reading device, and wireless Internet connection.”

Participant H: “Digital books are extremely portable and do not become worn with time. And, they are compact and can be shared with anyone you desire.”

Participant J: “In my opinion, e-books are convenient, because they are delivered almost instantaneously. You can purchase, download and start reading them within minutes, without leaving your chair. You don't have to go to a bookstore to buy them, neither wait for them for days, weeks and sometimes more to arrive in the mail... When you need certain information, you can get it immediately, by downloading an e-book.”

b. Participants Showing Indifference

These interviewees pointed out both advantages and disadvantages of e-books in describing their experiences. They said they ‘mix and match’ in choice of medium, depending on genre of books, occasion, and other external factors. These users indicated that they are willing to use whatever medium that is available to them at that moment.

Participant A: “Personally, I mix and match. I have an old Palm pilot and an ipod touch, and read novels, websites, blogs, and so forth on that. The selection of novels isn't very broad, but as I read public domain books most of the time, this doesn't really matter as I can simply download them. I do still love paper books though. They don't need batteries, and I can read them just about anywhere. Time will tell whether e-books are a viable alternative. At the moment, the whole thing is still in it's infancy, and a decent solution has yet to appear.

Participant I: “I don't have preference. I am comfortable with any type of book. I usually choose one that is most readily available to me, at that point of time... I know there are pros and cons for both types of books, but I usually adopt myself to these factors.”

c. Participants Satisfied with Paper Book Experience

Interviewees who expressed strong penchant for paper books pointed out the fact that e-books do not provide same nostalgic feelings. These generally are people who had experienced paper books longer than any other generations.

Participant F: “...if you end up losing your e-book, you'll lose EVERYTHING on it: what a waste of money. And it's not like you're going to read that many stories in your daily routine anyway. A real book can handle a drop, whereas an e-book, drop it and boom. Well there's a hundred (or however much you pay for those things) bucks well spent”

Participant G: “As a lifelong reader I prefer reading paperback books. However I hate taking my paperbacks on vacations or car trips as most of my paperbacks were given to me by my father and are thirty or so years old. I don't want to run the risk of them being lost, stolen or damaged so I bought a Kindle 3 so I can read my favorite books yet leave the originals at home where they're safer.”

Participant K: “On my laptop is a folder called “ebooks” into which are bundled all DRM-free epub, PDFs, and the occasional that've come my way from purchase, review, or rarely, shamefully, torrenting. These are difficult to arrange by read/unread, topic, subgenre, or indeed along any axis other than author and/or title. It's impossible to take them all in at a glance. It thus becomes easy to forget you *have* a copy of a specific title... To be honest, it's not always comfortable. For one thing, it can be hard to sit back and *relax* while reading on a screen. For another, without the physical guide of the shape in my hands, I find it easy to

lose my place in a window of text. And without the shape and heft of the pages in my hand telling me, I find it difficult to judge pacing. Leaving quite aside the fact that my laptop's desktop is an environment replete with distractions..."

Participant L: 1) "I am someone who only preferred the tactility of holding a book. I like turning the pages and being able to see how much of a book I had already read or had left to read. I like being able to see what books others are reading as well. For example, I saw a man reading a Haruki Murakami book on the bus a few weeks ago, and I knew instantly that we were kindred spirits."

2) "Perhaps, I am simply nostalgic. After all, I was one of the last generations to grow up with printed books only, and I reminisce fondly on the memories of my family's extensive book collections while growing up. At a restaurant, I recently saw two children—at most 5 and 6 years old—each with their very own iPad. For them, they may never experience growing up with paper books. And I believe that they are the ideal audience for this study: People who don't already have a special connection or attachment to printed books. For the rest of us, the results don't matter so much. We may fool around with the Kindle once in a while, but we will never leave our first love of turning pages in a beloved book."

Chapter FIVE Discussion

5-1. Discussing Results

So far, this study has evaluated the difference between the paper books and e-books in terms of 1) media attributes, 2) functions, and 3) reading experiences through online survey and interviews. As suggested from these differences, this study concludes that e-books are not just paperless format of paper books, but they are brand ‘new’ type of media that provides totally different usages and fulfilling different purposes. Metaphorically speaking, comparing paper books to e-books is like comparing mechanical watches to digital watches, or manual cars to automatic cars. No one doubts the convenience, reach, and flexibility of the e-books, but it will never convincingly replicate the experience of a paper book, nor does it need to. E-book is a fundamentally new medium, looking for ways to establish its identity to the users, stretching out from its inherent identity as ‘books realized on screen.’

This study looks at three aspects of difference; difference in media attributes, difference in functions, and difference in reading experiences. Firstly, the evaluation of media attributes is important in defining the role and characteristics of media. Many studies have defined media as radio, TV, internet, cellphones, according to these attributes and differentiated them from others. Secondly, all media have their own functions that are available to the users, and these functions need to be analyzed in order to figure out their usages, especially in terms of what gratifications these media fulfill for the users. Lastly, the evaluation of experience consolidates the observations from the other analyses and applies them to the users directly. By analyzing these three aspects, this study was able to examine differences between paper books and e-books from both media-side and user-side.

1) Difference in Media Attributes

The difference between paper books and e-books were observed with respect to 12 book-specific attributes; audiovisual effect, interactivity, interpersonal communication, information gathering speed, controllability, accessibility, convenience in operation diversity in contents, individuality, credibility, familiarity, and cost of use. Through online surveys, participants made direct comparison between the two types of books for each of these attributes. All of the attributes demonstrated statistically significant difference, except for ‘convenience in operation’ and ‘individuality’ attributes. It is indicated that users do not

usually acknowledge the difference between paper books and e-books in terms of how easily they can use each type of books and how much they consider these media to be private. The fact that no difference was found in 'ease of use' attribute can be further explained by the recent trend of readers' increased familiarity with the new technology. Then, no difference in 'individuality' explains how private book media itself is to the readers, despite the fact that it gets more convenient to share information with others.

As previous studies have derived similarities and differences among different types of media according to these attributes, this study concludes that paper books and e-books have high discrepancy as media due to observed differences from survey. If we stretch this analysis even further, we can infer that e-books, in fact, show higher resemblance with internet-based media such as internet portals and social network services with respect to these attributes. Precisely speaking, these internet-based media are also valued high in attributes as 'feedback,' 'interpersonal communication,' 'information gathering speed,' and 'multimodality.' Although actual values will be needed in order to prove higher similarity between e-books and other internet-based media, it can be reasonably inferred from the basic characteristics known amongst these media. For example, users utilize e-books to search information as much as they do with other information search engines available on the internet. It is not necessary to read the entire book or chapter to find a sentence or keyword. In other words, while paper books present information in bigger chunks, e-books break down information into pieces when presented to the readers, allowing readers to reach directly to the information that they are looking for with minimum amount of information to filter through. Due to this characteristic that is also the characteristic of internet-based media such as internet portals and SNSs, e-books are observed to be more similar to these media than to paper books in terms of media attributes. This inference can be empirically tested through further studies.

2) Difference in Functions

Ten functional differences between paper books and e-books were deducted from the discussions from earlier studies and news articles. These functions were 'Change of View Mode,' 'Highlighting Tool,' 'Note-taking Tool,' 'Book Info/Excerpt Sharing Tool,' 'Book Mark,' 'Sound/Audio,' 'Video,' 'Big Memory,' 'Keyword Search/Dictionary Tool,' and 'Readers' Interests and Reading Pattern Detecting Tool.' Firstly, the frequency of use for all of these functions was evaluated, assuming that as the usage of the functions atypical to paper

books increase, the presumed discrepancy between the two types of books will increase, as well. Only the 'Change of View Mode' and 'Book Mark' function had high usages. Then, the satisfaction level of each of these 10 functions was evaluated. The hypotheses assumed that if the satisfactory levels for the e-book specific functions are high, then the users are more likely to use such functions more, distinguishing e-books from paper books. It was found that users are generally satisfied with the functions that are atypical to the paper books, and will agree to the viewpoint that paper books and e-books are different media.

Final confirmation of functional difference between paper books and e-books was carried through survey by asking participants to answer how differently they feel the two media to be due to each function listed above. The outcome of this study confirmed that as e-books technologically evolve, users will consider the two types of books to be more different.

E-books are a relatively new development, and are far from realizing their vast potential for changing the way people read. New and innovative functions of e-books are incessantly being developed. Most of the advantages of electronic books, such as the fact that they save paper, will continue to offer benefits as the technology evolves. Many of the disadvantages, such as the lack of a unified platform for downloading content, will probably become less problematic as the industry develops. As these new functions get added to e-reading experience, the presumed difference between paper books and e-books will grow bigger for the users.

3) Difference in Reading Experience

Finally, reading experience of both paper books and e-books were analyzed through online surveys and interviews. In comparing the reading experience between two types of books, six reading habits were selected and the difference was evaluated. All six reading habits not only exhibited statistically significant difference between the two types of books, but they had supported the initial assumptions regarding which type of books would have bigger value. The study hypothesized that the values for e-books to be higher in 'average number of books read per month,' 'frequency of reading,' 'percentage of books not purchased,' and 'percentage of books owned' than paper books, due to its convenience in portability, high accessibility, convenience in purchase and big memory to store books invisibly. Although it will require bigger sample size in order to generalize the results with confidence, data assured that reading experience of both types of books are different due to unique characteristics of e-books.

The other evaluation consisted of 10 statements pertaining to book reading experience, and the readers were supposed to indicate how much they agree with each statement when using paper books/e-books. All 10 statements verified difference in experience between paper books and e-books, and the observed difference was greatest for the 'concentration' variable.

Additionally, face-to-face interviews were conducted to collect qualitative data that supports the difference in reading experience between paper books and e-books. Surveys have critical limitations in collecting meaningful data for this variable, because 'reading experience' requires more words and answer choices in describing it. Participants shared their 'reading experiences' during interview sessions, and majority of interviewees had strong penchant for e-books and usually enjoy e-reading experiences.

5-2. Implications of the Study

Despite observed differences between paper books and e-books, e-books are still often regarded as the 'paperless version' of a paper book. The potentials of e-books are not being recognized among the smart users since they resort to imitating an old medium. Designers have tried incredibly hard to mimic the page-turns and sound effects of a real book. But, why do e-books have to stay similar to paper books? Certainly, there are endless possibilities for e-books to make reading more accessible and immersive than ever, but as long as e-books try to be paper books, they will remain stuck in an uncanny valley of disappointment.

The full potential of e-books lies in its digital nature. Distribution costs are zero. The paradigm of a "book" – a chunk of a few hundred pages of writing, is no longer necessary to be cost effective. Authors can distribute serialized portions of stories on a regular basis, and reach millions of readers instantly. All the things that made the internet culture to grow can be leveraged by writers of e-books. Authors, no longer dependent on publishers, are afforded previously unheard of flexibility with story-telling.

Although it is true that e-books are still in the process of defining itself as media, this study wishes to suggest that e-books will need another name in order to construct more adequate identity. E-book needs to break free from the book paradigms and realize its potential as a fully digital medium. However, comparisons

will be made alongside paper books, as long as e-books have 'books' as part of its name, and such expectation may degrade potentials of e-books. Even today, e-book technology is continuously being upgraded and challenging its boundaries as media. Thus, e-books will evolve and converge under the name of 'e-contents,' eventually.

5-3. Limitations of the Current Study

A few aspects of this study needs to be considered before generalizing the outcomes. Firstly, the survey asked the participants to indicate whether they have experienced e-books at least once or not. They were not asked in details about how much experience each participant has with e-books, or even whether they are still using such technology today. The attitude toward e-books and paper books may be different depending on how much experience one has had with each type of book. Although, it was possible to figure out how much each participant is familiar with the e-book technology in interviews, the individual differences in experience with e-books could not be considered on the evaluations of surveys. In fact, it is extremely hard to just consider individuals with similar amount experience with e-reading technology. Therefore, there may be biases in generalizing the outcome of this study to general population.

E-reading experience may also be different depending on which e-reading device each participant had used. E-Readers such as Kindle, for example, permit lengthy and undisturbed reading of e-Books; the eyes are not fatigued when they look at the screen, as is the case with LED displays with background lighting. In addition, a long battery operating time of up to several weeks and a low weight may also result in positive assessments. Another reason why consideration of e-reading device may be important is due to the fact that certain devices less convenient for special interest literature, newspapers, and magazines. These publications often require readers to skip between pages and chapters and search the text for words and phrases. Today's e-reading devices perform poorly in these areas. PCs and tablets, on the other hand, offer many advantages for reading special interest literature. Although the participants of survey were asked to check the type of e-reading device that they use the most, the data were not broken down according to these differences in actual evaluations. Thus, further research remains to be conducted as to whether e-book readers' experience varies depending on the type of electronic reading device used by the readers (*e.g.*,

e-readers, PCs, tablets and smartphone) and what advantages or disadvantages each e-reading devices offer to the readers.

Lastly, the fact that the evaluations did not consider age variable may be pointed as weaknesses of this study. Experience with media tends to have high correlation with age variable. Older generation of users tend to develop different attitudes toward new media from that of younger generations. It will also be interesting to make another observation in deeper level and see how each age group reacted differently about this e-reading technology through further studies.

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<Appendix A - Survey>

안녕하세요.

본 조사에 대한 여러분들의 응답은 우리나라 독자들의 전자책에 대한 인식과 활용에 대한 유용한 정보를 제공함으로써 전자출판 산업의 발전에 기여할 수 있을 것입니다. 조사 대상인 웹기반 전자책은, 인터넷 연결을 통해 컴퓨터/휴대전화/PDA/전용단말기 화면상에서 읽거나 검색하며, 프린트나 다운로드할 수 있는 저작물을 뜻합니다.

다소 번거로운 점이 있더라도 성심껏 끝까지 답변해 주시기를 부탁드립니다.

조사결과는 익명성이 보장되며, 통계적 목적 외에는 사용되지 않을 것입니다. 감사합니다.

1. 전자책을 읽어본 적이 있습니까?

- (1) 예 Yes -> 2번부터 차례대로 답하세요
(2) 아니오 No -> I. 종이책 읽기 경험 (2번-12번) 문항만 답하세요.

I. 종이책 읽기 경험

2. 한 달에 읽는 종이책(잡지류 제외)은 평균 몇 권입니까?

- (1) 5권 이상 (2) 3-5권 (3) 1-2권 (4) 읽지 않음

3. 종이책을 얼마나 자주 읽으십니까?

- (1) 매일 또는 주 4회 이상 (2) 1주에 1-3회 정도
(3) 1달에 1-3회 정도 (4) 1년에 10회 이내

4. 평균적으로 종이책을 읽는 시간은 얼마입니까? (1회)

- (1) 1시간 미만 (2) 1-2시간 (3) 2-5시간 (4) 5시간 이상

5. 종이책을 읽는 방법은 주로 무엇입니까?

- (1) 책 전체를 (거의) 다 읽는다.
(2) 선택하여 일부분만 읽는다.
(3) 연속적 독서(필요한 부분을 찾아 여러 부분을 읽는)를 한다.
(4) 책 전체를 대강 훑어본다.
(5) 기타 ()

6. 최근 1년간 읽은 종이책들 중에서 처음부터 끝까지 전부 읽은 책의 비율은 얼마입니까?

- (1) 20% 미만 (2) 20% 이상 - 50% 미만
(3) 50% 이상 - 80% 미만 (4) 80% 이상

7. 최근 1년간 읽은 종이책 중 무료로 접한 책의 비율은 얼마입니까?

- (1) 20% 미만
- (2) 20% 이상 - 50% 미만
- (3) 50% 이상 - 80% 미만
- (4) 80% 이상

8. 최근 1년간 직접 서점을 방문하지 않고, 인터넷 구매를 한 종이책의 비율은 얼마입니까?

- (1) 20% 미만
- (2) 20% 이상 - 50% 미만
- (3) 50% 이상 - 80% 미만
- (4) 80% 이상

9. 다음 중 주로 어떤 목적으로 종이책을 접하십니까? (3가지까지 선택 가능)

- (1) 보고서/글 작성 준비
- (2) 학업/업무적으로 과제해결 및 정보 습득
- (3) 전공분야 외 지식 축적
- (4) 여가 독서
- (5) 일상생활 문제 해결
- (6) 타인의 추천
- (7) 개인적 호기심
- (8) 즐거움
- (9) 기타 ()

10. 종이책으로 가장 많이 구매하게 되는 장르 최대 3가지를 선택하세요.

- (1) 가족/인간관계
- (2) 경제/경영
- (3) 문학 (소설/추리소설/고전 등)
- (4) 인문/사회
- (5) 문화/예술
- (6) 철학/종교
- (7) 취미/건강/여행/리빙
- (8) 자격증/참고서
- (9) 외국어
- (10) 코믹/카툰
- (11) 컴퓨터
- (12) 사전류
- (13) 기타 ()

11. 최근 1년간 읽은 종이책 중 소장하게 된 책의 비율은 무엇입니까?

- (1) 거의 대부분 소장 (80% 이상)
- (2) 절반 이상 소장 (50%-80%)
- (3) 몇 권만 소장 (20%-50%)
- (4) 거의 소장 안함 (20% 미만)

12. 종이책을 읽고 소장하게 되는 이유는 무엇입니까? (중복 선택 가능)

- (1) 다음에 또 필요해서
- (2) 버리기 아까워서
- (3) 가족/친구 등 다른 사람들에게도 필요하거나 권할 수 있는 책이라서
- (4) 책을 모아놓으면 보기 좋아서 / 기분 좋아서
- (5) 처분하기 용이하지 않아서
- (6) 책이 마음에 들어서 / 소장가치가 있어서
- (7) 자료 수집 / 정리를 위해

(8) 기타 ()

II. 전자책 읽기 경험

13. 전자책을 읽는데 가장 많이 사용하는 기기는 무엇입니까?

- (1) PC/노트북 (2) 스마트폰 (3) 태블릿 PC/PDA
(4) 전자책전용 단말기 (5) 기타 ()

14. 첫 전자책 경험 동기 (중복 선택 가능)

- (1) 타인의 추천으로
(2) 서점이나 도서관에 갈 시간이 없어서 / 시간이 절약 되서
(3) 호기심
(4) 편리할 것 같아서
(5) 굳이 종이책으로 구매할 필요성을 못 느껴서
(6) 인터넷, 신문, TV 등 광고를 접하고
(7) 스마트기기의 구입으로 인해 자연스럽게 (설치되어 있었던 무료책 경우도 가능)
(8) 전용리더기의 구입으로 자연스럽게
(9) 종이책으로 존재하지 않아서
(10) 기타

15. 한 달에 읽는 전자책(잡지류 제외)은 평균 몇 권입니까?

- (1) 5권 이상 (2) 3-5권 (3) 1-2권 (4) 읽지 않음

16. 전자책은 얼마나 자주 이용하십니까?

- (1) 매일 또는 주 4회 이상 (2) 1주에 1-3회 정도
(3) 1달에 1-3회 정도 (4) 1년에 10회 이내

17. 평균적으로 전자책을 읽는 시간은 얼마입니까? (1회)

- (1) 1시간 미만 (2) 1-2시간 (3) 2-5시간 (4) 5시간 이상

18. 전자책을 읽는 방법은 주로 무엇입니까?

- (1) 책 전체를 (거의) 다 읽는다.
(2) 선택하여 일부분만 읽는다.
(3) 연속적 독서(필요한 부분을 찾아 여러 부분을 읽는)를 한다.
(4) 책 전체를 대강 훑어본다.
(5) 기타 ()

19. 최근 1년간 처음부터 끝까지 전부 읽은 전자책의 비율은 얼마입니까?

- (1) 20% 미만 (2) 20% 이상 - 50% 미만

(3) 50% 이상 – 80% 미만 (4) 80% 이상

20. 최근 1년간 읽은 전자책 중 무료로 접한 책의 비율은 얼마입니까?

- (1) 20% 미만 (2) 20% 이상 – 50% 미만
(3) 50% 이상 – 80% 미만 (4) 80% 이상

21. 다음 중 주로 어떤 목적으로 전자책을 접하십니까? (3가지까지 선택 가능)

- (1) 보고서/글 작성 준비
(2) 학업/업무적으로 과제해결 및 정보 습득
(3) 전공분야 외 지식 축적
(4) 여가 독서
(5) 일상생활 문제 해결
(6) 타인의 추천
(7) 개인적 호기심
(8) 즐거움
(9) 기타 ()

22. 전자책으로 가장 많이 구매하게 되는 장르 최대 3가지를 선택하세요.

- (1) 가족/인간관계 (2) 경제/경영
(3) 문학 (소설/추리소설/고전 등) (4) 인문/사회
(5) 문화/예술 (6) 철학/종교
(7) 취미/건강/여행/리빙 (8) 자격증/참고서
(9) 외국어 (10) 코믹/카툰
(11) 컴퓨터 (12) 사전류
(13) 기타 ()

23. 최근 1년간 접한 전자책 중 PC/휴대전화/전자책 단말기 등에 소장하고 있는 책의 비율은 무엇입니까?

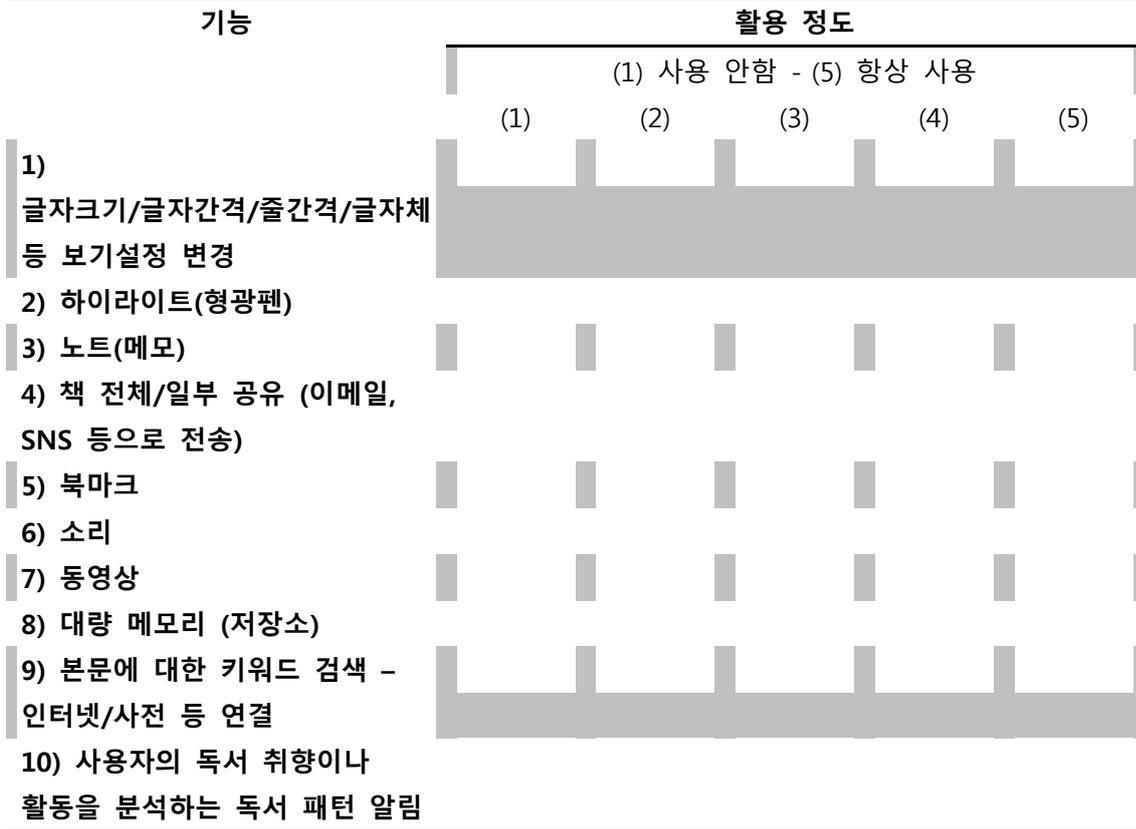
- (1) 거의 대부분 소장 (80% 이상) (2) 절반 이상 소장 (50%-80%)
(3) 몇 권만 소장 (20%-50%) (4) 거의 소장 안함 (20% 미만)

24. 전자책을 읽고 소장하게 되는 이유는 무엇입니까? (중복 선택 가능)

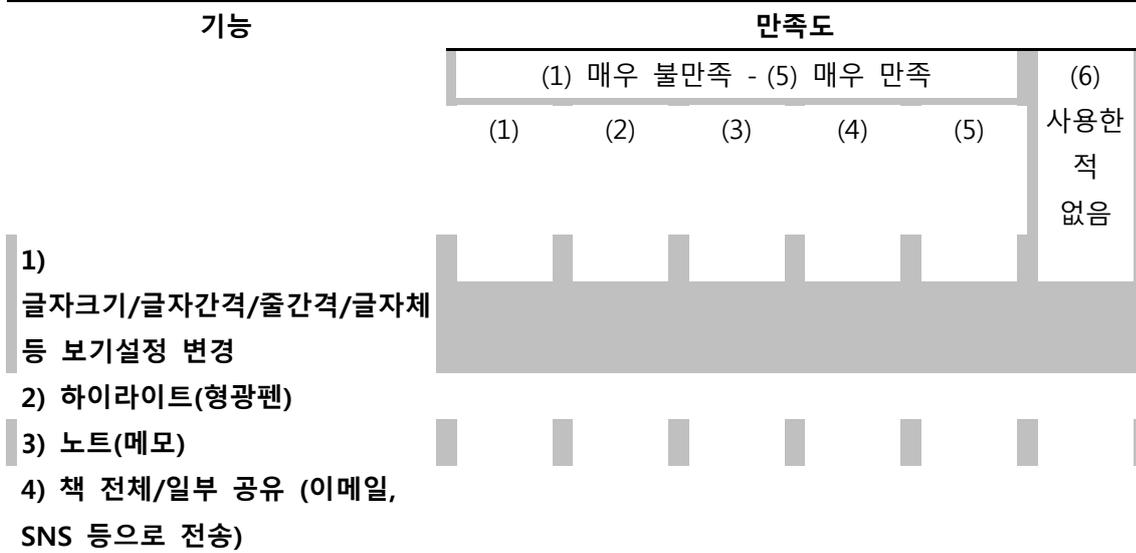
- (1) 다음에 또 읽어야 해서
(2) 버리기 아까워서
(3) 가족/친구 등 다른 사람들에게도 필요하거나 권할 수 있는 책이라서
(4) 책을 모아놓으면 보기 좋아서 /기분 좋아서
(5) 처분하기 용이하지 않아서
(6) 책이 마음에 들어서 / 소장하고 싶어서

- (7) 자료 수집 / 정리를 위해
- (8) 기타 ()

25. 다음은 전자책의 대표적인 기능들입니다. 이 기능들을 얼마나 활용하십니까?



26. 다음 전자책 기능들에 대한 만족도를 표시해 주십시오.



5) 북마크						
6) 소리						
7) 동영상						
8) 대량 메모리 (저장소)						
9) 본문에 대한 키워드 검색 - 인터넷/사전 등 연결						
10) 사용자의 독서 취향이나 활동을 분석하는 독서 패턴 알림						

III. 종이책과 전자책 경험의 차이

27. 화면상의 저작물을 프린트하여 읽는 경우 그 이유는 무엇입니까?

- (1) 페이지가 여러 장일 경우, 화면상으로 읽기가 불편하다.
- (2) 단말기의 낮은 해상도로 시각적으로 불편하다.
- (3) 내용 이해를 명확하게 하기 위해서
- (4) 종이에 인쇄한 텍스트가 읽기에 편하다.
- (5) 나중에 편한 장소나 시간에 읽으려고
- (6) 기타 ()

28. 아래에 기술된 다양한 기능들로 인해 전자책이 종이책과 얼마나 다르게 느껴지십니까?

기능	종이책과 차이					
	(1) 매우 다름 - (5) 매우 비슷					(6) 사용한 적 없음
	(1)	(2)	(3)	(4)	(5)	
1) 글자크기/글자간격/줄간격/글자체 등 보기설정 변경						
2) 하이라이트(형광펜)						
3) 노트(메모)						
4) 책 전체/일부 공유 (이메일, SNS 등으로 전송)						
5) 북마크						
6) 소리						
7) 동영상						
8) 대량 메모리 (저장소)						

9) 본문에 대한 키워드 검색 - 인터넷/사전 등 연결						
10) 사용자의 독서 취향이나 활동을 분석하는 독서 패턴 알림						

29. 종이책읽기 경험에 대한 일반적인 느낌을 토대로 답해주세요.

	종이책				
	(1) 매우 그렇다 - (5) 전혀 아니다				
	(1)	(2)	(3)	(4)	(5)
1) 읽기 편리하다.					
2) 들고 다니기 쉽다.					
3) 원하는 내용의 책을 구하기 쉽다.					
4) 오랜 시간동안 읽어도 문제가 없다.					
5) 집중이 잘된다.					
6) 내용이 기억에 오래 남는다.					
7) 정독하는 데에 전혀 문제가 없다.					
8) 자주 접하게 된다.					
9) 경험이 즐겁다.					
10) 현재의 모습 그대로 만족한다.					

30. 전자책읽기 경험에 대한 일반적인 느낌을 토대로 답해주세요.

	전자책				
	(1) 매우 그렇다 - (5) 전혀 아니다				
	(1)	(2)	(3)	(4)	(5)
1) 읽기 편리하다.					
2) 들고 다니기 쉽다.					
3) 원하는 내용의 책을 구하기 쉽다.					
4) 오랜 시간동안 읽어도 문제가 없다.					
5) 집중이 잘된다.					

6) 내용이 기억에 오래 남는다.					
7) 정독하는 데에 전혀 문제가 없다.					
8) 자주 접하게 된다.					
9) 경험이 즐겁다.					
10) 현재의 모습 그대로 만족한다.					

31. 최근에 읽은 종이책 중 가장 기억에 남는 책의 장르는 무엇이었나요?

- | | |
|-----------------------|-------------|
| (1) 가족/인간관계 | (2) 경제/경영 |
| (3) 문학 (소설/추리소설/고전 등) | (4) 인문/사회 |
| (5) 문화/예술 | (6) 철학/종교 |
| (7) 취미/건강/여행/리빙 | (8) 자격증/참고서 |
| (9) 외국어 | (10) 코믹/카툰 |
| (11) 컴퓨터 | (12) 사전류 |
| (13) 기타 () | |

32. 동일 서적에 대해 선택의 여지가 있다면, 역시 종이책을 선호하시겠습니까?

- (1) 예, 종이책으로 읽겠습니다.
(2) 아니오, 전자책으로 읽겠습니다.
(3) 둘 다 무방합니다.

33. 최근에 읽은 전자책 중 가장 기억에 남는 책의 장르는 무엇이었나요?

- | | |
|-----------------------|-------------|
| (1) 가족/인간관계 | (2) 경제/경영 |
| (3) 문학 (소설/추리소설/고전 등) | (4) 인문/사회 |
| (5) 문화/예술 | (6) 철학/종교 |
| (7) 취미/건강/여행/리빙 | (8) 자격증/참고서 |
| (9) 외국어 | (10) 코믹/카툰 |
| (11) 컴퓨터 | (12) 사전류 |
| (13) 기타 () | |

34. 동일 서적에 대해 선택의 여지가 있다면, 역시 전자책을 선호하시겠습니까?

- (1) 예, 전자책으로 읽겠습니다.
(2) 아니오, 종이책으로 읽겠습니다.
(3) 둘 다 무방합니다.

IV. 미디어 경험 비교

35. 다음 질문들에 대해 1-5점 사이 점수를 매겨주세요.

미디어 속성	미디어	절대 동의하지 - 매우 않는다 (1) 동의한다(5)				
		(1)	(2)	(3)	(4)	(5)
A. 시청각 효과: "미디어를 통해 영상, 이미지, 소리 등 시청각적 요소들을 모두 즐길 수 있다"	전자책					
	종이책					
B. 상호작용성: "정보나 메시지의 전달이 일방향적 이 아니라, 미디어와 양방향적으로 교류한다"	전자책					
	종이책					
C. 대인 커뮤니케이션의 정도: "미디어를 사용하면서 타인과 연결 되 있음을 느끼고, 정보 공유가 가능하다"	전자책					
	종이책					
D. 정보습득의 속도: "구체적으로 원하는 정보를 빠르고 쉽게 검색해낼 수 있다"	전자책					
	종이책					
E. 통제 가능성: "미디어 상에 정보가 보여지는 방식이나 내용 등을 능동적으로 선택 할 수 있다"	전자책					
	종이책					
F. 접근성: "미디어를 시간이나 장소에 구애받 지 않고 빠르고 쉽게 이용하거나 구할 수 있다"	전자책					
	종이책					
G. 조작 편의성: "미디어를 다루는 방법이나 사용법 이 편리하다"	전자책					
	종이책					
H. 콘텐츠 다양성: "미디어가 제공하는 정보의 내용이 나 양이 다양하고 풍부하다"	전자책					
	종이책					
I. 개인성	전자책					

“이용자가 제공하는 정보 외의 개인적인 성격이나 취향이 드러나지 않는 사적인 미디어다”	종이책					
J. 신뢰성: “미디어가 제공하는 내용을 전적으로 신뢰한다”	전자책					
	종이책					
K. 친밀성: “미디어가 익숙하고 편하다”	전자책					
	종이책					
L. 이용비용: “미디어를 이용할 때 비용이 매우 적게 든다”	전자책					
	종이책					

36. 귀하의 연령대는 무엇입니까?

- (1) 20대 &이하 (2) 30대 (3) 40대 (4) 50대 &이상

37. 귀하의 직업은 무엇입니까?

- (1) 학생 (2) 교사직/연구직 (3) 전문직 (4) 정치인
(5) 사무직 (6) 서비스직 (7) 기술직 (8) 판매직
(9) 기타 ()

<Appendix B – Interview Questions>

I. General Interview:

1. 전자책 이용은 얼마나 자주 하십니까?
2. 주로 어떤 장르를 읽으십니까? 종이책으로 읽는 장르와 얼마나 다릅니까? 이유는?
3. 어떤 기기를 통해, 어떤 상황에서 전자책을 읽으십니까?
4. 종이책과 전자책의 가장 큰 차이점은 무엇이라고 생각하십니까?
5. 최근에 읽은 책 중 가장 감명깊게 읽은 책이 있나요 비슷한 류의 책을 전자책으로 읽겠습니까, 종이책으로 읽겠습니까?
6. 경험: 전자책의 장점/단점은 무엇입니까?
7. 종이책이 사라질 것이라고 생각하십니까?
8. 전자책의 미래는

II. Expert Interview

A. 전자책 시장

- ☞ 우리나라 전자책 adoption rate/ sales 의 미래는 어떻게 보십니까? 종이책 시장의 규모에 맞먹으려면 얼마나 많은 시간이 걸립니까?
- ☞ 어떠한 도서들/장르들이 전자책으로서 인기가 많은가요? 전자책으로 출판할 때, 인기가 많은 종류의 책들에 대한 차별화는 두시나요?
- ☞ 우리나라 전자책 시장에 contents가 부족한 이유는 무엇입니까?
- ☞ 전자책의 활성화로 인해 수익 구조는 어떻게 변화하였습니까? (작가, 출판사, 저작권료 등등)
- ☞ 출판사/유통사의 입장에서는 종이책을 파는 것과 전자책을 파는 것 중 어떤 것이 더 이익입니까?
- ☞ 전자책의 보급에 대한 작가들의 태도는 어떠합니까?
- ☞ 전자책으로 인해 작가들의 전문성이 중요시되지 않는다는 주장에 대해 어떻게 생각하십니까?
- ☞

B. 전자책의 활성화

- ☞ 전자책의 어떠한 기능들의 발전이 전자책 보급에 가장 큰 영향력을 미칩니까? 종이책에는 없는 기능
- ☞ 전자책의 어떠한 요소들이 소비자들에게 가장 강하게 어필합니까?
- ☞ 유통하는 대형 서점들이 전자책 sales를 높이기 위해 어떠한 marketing을 합니까?
- ☞ 미래에 전자책의 어떠한 기능들이 보완되고 개발될 것이라고 보십니까?

C. 논문관련

- ☞ 전자책이 종이책에 절대 replace될 수 없다고 생각하십니까? 그 이유는?

☞ 종이책이라는 미디어의 고유한 성질들이 많이 사라졌다는 주장에 동의하십니까?

☞ 종이책과 전자책은 엄연히 다른 미디어라는 주장에 동의하십니까? 그 이유는?

☞ 인터넷 기반의 다른 미디어(포털, SNS)와 얼마나 큰 차이점을 지니고 있습니까? 앞으로 얼마나 더 유사성을 띄게 되겠습니까?

국문초록

종이 책과 전자 책의 미디어 속성적, 기능적, 독서 경험적 차이 비교연구

이 연구는 전통적인 미디어와 그 미디어가 진화된 뉴미디어 간의 차이를 연구한 논문이다. 그 중에서도 대표적인 인쇄매체인 책을 연구하였는데, 종이 책과 전자 책의 차이점을 세 가지 차원에서 비교분석 하였다. 이 세 가지 측면은 속성적 차이, 기능적 차이, 경험적 차이이다. 기존의 미디어 연구들이 다양한 미디어의 기능과 효용성 등을 정의할 때 그 미디어들의 고유한 속성들을 분석하는 것을 참고하여, 종이 책과 전자 책의 속성들을 살펴보게 되었다. 미디어적 속성들을 통해 이 두 미디어가 어떻게 다르게 정의될 수 있는지를 비교해 보았고, 종이 책과 전자 책의 기능적 차이는 미디어들 자체에서 볼 수 있는 차이점, 경험적 차이는 그 이용자들의 측면에서 구분될 수 있는 차이점이라고 고려되어 총 3가지 측면을 분석하였다.

이 세가지 측면들의 비교를 통해, 이 연구의 궁극적인 목적은 종이 책과 전자 책의 차이점을 검증하고 전자 책의 정체성, 앞으로 이용자들에게 어떤 역할을 하는 미디어로서 발전되어야 하는지 등을 제시함에 있었다. 온라인 서베이와 인터뷰를 통해 분석이 이루어 졌는데, 전자 책과 종이 책이 서로 속성적, 기능적, 경험적으로 모두 유의미한 차이를 보이는 다른 매체임을 검증하고자 하였다. 구체적으로 이 연구는 12가지 미디어 속성을 도출하여 종이 책과 전자 책에 적용시켜보았는데, 그 결과 '조작 편의성'과 '개인성' 속성들을 제외한 모든 속성들에서 유의미한 차이가 있음이 검증되었다. 기능적 차이점 또한, 전자 책에만 탑재된 특유의 기능들의 사용도나 만족도가 높으면 높을수록 독자들이 느끼는 두 매체간 차이점이 더욱 크게 나타날 것이라고 추측하며, 서베이를 전자 책 기능들을 통해 느끼는 전자 책과 종이 책의

차이점이 유의미하다는 것을 검증하였고, 따라서 앞으로 기능들이 더욱 발전되면 발전될수록 느끼는 차이점은 더 커질 것이라 예상하였다. 마지막으로 경험적 차이는 독자들 입장에서 가장 중요하게 고려되는 측면이며 연구도 다양하게 이루어지고 있다. 읽기 경험을 다시 2가지 차원으로 구분하여 분석했는데, 이전 경험들에 기반한 매체 선택에 영향을 미치게 되는 독자들의 읽기 습관들, 그리고 매체 선택 후 느끼는 전자 책과 종이 책의 경험후기로 구분하여 비교하였다. 서베이와 인터뷰를 통해 독자들의 의견들을 최대한 많이 담아 전자 책과 종이 책의 경험의 차이가 유의미하다는 것을 보이고자 하였다

따라서 이 연구는 전자 책은 종이 책의 연장선상에서만 판단이 될 수 없고, 이는 오히려 전자 책의 가능성과 미래를 제한할 수 있다고 보았다. 종이 책은 종이 책 특유의 역사가 있고, 전자 책의 발전이 얼마나 정교해지느냐와 무관하게 독자들에게는 절대로 대체될 수 없는 매체임이 분명하다고 보았다. 그러한 점에서, 전자 책이 종이 책의 책넘기는 방식, 보여지는 방식, 북마크하는 방식들이 스크린에 그대로 재현하는 것이 혁명이 아니라, 전자 책은 전자 책 나름대로의 인터넷이라는 매체적 특성을 살려 이용자들에게 다양한 이용과 충족을 선사해주는 새로운 매체로서의 정체성을 확립시켜야 한다고 주장하고 있다.

주요어: 종이책, 전자책, 미디어 속성, 전자책 기능, 독서경험
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