

PRINTED BOOKS VERSUS E-BOOK FORMATS: A STUDY USING
NICHE GRATIFICATION THEORY

by

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ABSTRACT

The study evaluates how college students interact with different book formats. It addresses factors such as time and location to measure reading activity across printed books, e-readers, tablet devices and computer e-books. A survey of 603 college students measured factors within Niche Gratification Theory and provides a hierarchy of market strength that explains how the formats are being used. Printed books were found to have the best market strength, following by e-readers, tablet devices and computer e-books. The study also presents potential benefits of reading in each of those formats, offering reasons that students may enjoy or appreciate a format for specific purposes, such as using printed textbooks to study and take notes or an e-reader for relaxation. Results should inform the publishing industry on the status of e-books. Suggestions are given for adapting formats in light of the reading habits found here. Results suggest publishers should not make an immediate jump to e-books but should instead ease them into the marketplace slowly, as more people begin to use digital reading devices.

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CHAPTER I

INTRODUCTION

Recent technological developments related to e-readers and tablet devices such as the iPad, Kindle and Nook have changed the trade publishing industry. Publishers are now using those devices in hopes of reaching the audiences they had once captivated with print formats. Titles are still available in print, but an increasing number are now also available in digital format, which has caused a shift in the way many people purchase books. E-books have become a global phenomenon, with reading devices available in numerous countries around the world (Weinstein, 2010). This sudden boom of production and sales has caused some confusion as to the standards of how publishers should deal with this opportunity. There is a disparity between the cost of e-books and printed books. After the initial cost of the reading device, consumers can usually buy e-books for a lower price than printed books. An article from The Wall Street Journal describes the cost disparity for publishers. An e-book that is sold for half the cost of a printed book will typically return more to the publisher (Trachtenberg, 2011). Additionally, the devices are usually smaller and thinner than printed books and have the advantage of holding many titles in one digital space.

The experience of reading an e-book can be different from that of reading a printed book. Readers have different expectations between the two formats. A study conducted by the Pew Research Center found that people believe printed books to be

better for reading with children and sharing books with others, while e-books are better for reading in bed, having a wide selection of books to choose from, reading while traveling or commuting, and being able to get a book quickly (Rainie, Zickuhr, Purcell, Madden & Brenner, 2012). The platforms can vary in how the pages are presented, level of interaction with the text and outside sources and motivations for wanting to experience a book in a certain format. The goal of this study is to analyze the motivations and expectations of e-book users in choosing the platform on which to read a book.

The results of this study will be directly applicable to publishers. Findings about which factors influence consumers' choice of formats should help their marketing strategies, and allow them to directly target certain types of books to groups or people who may be more likely to read them on a certain platform. By having a better understanding of their customers' needs in reading books, as well as how different formats overlap in the qualities they offer customers, publishers should be more prepared to cater to those needs and maximize their profits. Consumers will be able to use the information to better understand the positive and negative aspects of reading books in printed or digital form. This study focuses especially on the college-age reader, and draws conclusions about marketing to these readers for both fiction and non-fiction books.

CHAPTER II

LITERATURE REVIEW

Industry and academic assessment of the emergence of e-books

An increasing number of academic articles and industry reports have focused on e-books, as they develop into a reputable and popular media form, and as it becomes more evident that they are not just a fad, but are rather a long-lasting and increasingly widespread technology.

In an essay from *Publishing Research Quarterly*, Carreiro (2010) discussed the fact that e-books have changed the publishing industry, but not necessarily for the worse. She noted that publishers have acknowledged the change and are striving to address it in the most efficient way. She guessed that the price of e-readers will decrease, making e-books cheaper and more accessible for more people, in turn making more money for publishers. Carreiro predicted that the traditional supply chain of book publishing – the system that moves books from suppliers to customers – will become shorter and faster, resulting in reduced costs, increased revenue and a better environment.

Yet a number of studies of e-readers indicated continuing preferences for printed books, or for the feel of printed books. Shin (2011) addressed concerns about personal connectivity to e-books. Shin used both Uses and Gratifications theory and Expectation Confirmation Theory and found that a number of gratifications, defined as aspects of satisfaction, were important determinants for continued use of e-books. In particular,

perceived usefulness, intention to continue use, and familiarity with the device were important indicators of gratification. Shin's study also found that users prefer e-readers that feel like paper books but still have many advanced technological features. This reflects the current state of the publishing industry as a desired blend of technology and familiarity.

Another study evaluated people's awareness, interest and intention to use e-books (Jung, 2012). It found that younger, more educated and higher income consumers showed higher levels of awareness, interest and use of e-books. The findings suggested that users are familiar and comfortable with the Internet were more likely to adopt e-books technologies. The study also found that those with a higher level of personal innovativeness were faster to develop a positive attitude about the technology, and the perceived innovation attributes of the device were the selling point that encouraged consumers to adopt the technology and buy the product. The conclusions said that while the technology may be perceived as new, consumers recognize that the content, that is, an e-book, is the same as when presented in printed form.

College students' use of printed books and e-books have also been examined. In a survey of students, Foasberg (2011) found that 23.5 percent said that they read e-books, and of those, only 3.7 percent reported that they used an e-reader as their preferred device. The others were familiar with e-books in other forms, such as computer or cell phone downloads. Price was found to be an inhibiting factor for those students who did not have plans to buy an e-reader device. About 42 percent of the students reported doing two-thirds or more of their reading on an e-reader. The study found that students who use e-readers typically use them for leisure reading, and those who read e-books on other

formats were more likely to use them for academic books. The most popular purchase locations from which students reported buying e-books were stores specific to popular e-readers, like Amazon, Barnes & Noble, and Sony's ReaderStore. The study adds important information about the desire for and use of e-readers and other forms of e-books, particularly within the realm of college students, who are often early adopters of new technology. Most of the student participants within the study reported that portability, convenience, storage and special functions were either valuable or very valuable aspects of an e-reader. It is worth noting that of those who used e-readers, over one-third agreed or completely agreed that they preferred printed books. This shows that students as a whole generally use e-books as supplementary formats.

A study by Woody, Daniel & Baker (2010) revealed that when given the option, 90 percent of undergraduate students chose a physical textbook rather than a digital version of the same book. The students who participated in the study reported that they were more likely to read captions, look at charts, read section summaries and answer study questions in printed books. These results show a need to examine the uses of academic books in relation to the advent of e-readers and tablet devices.

One study of e-books provided different reading devices to students and evaluated their use and learning from the e-textbooks over several semesters (Weisberg, 2011). In the beginning of the experiment, students were not very receptive to the devices and were mostly unfamiliar with their purpose. They used their printed textbooks for most studying and suggested that perhaps the devices were not ready to be factors in formal education. Toward the end of the experiment, e-books had gained popularity, and several students began that semester with knowledge of e-books or having owned their own e-book

device. Further results showed that most students still considered e-books to be supplementary materials, but their popularity has grown over time.

An analysis of e-textbooks and their future forms shows that some course materials are not really textbooks, but instead, interactive platforms that may contain the same information but are enhanced with extra content (McFadden, 2012). These learning formats reflect the most popular types of printed textbooks, which have many graphs, quizzes and other exercises. The adaptation of those printed books into digital course materials lends itself to a form that reads less like a book and more like a segments of information, followed by a series of interactive questions. The adaptation of textbooks into this form is predicted to be slow but eventual.

The popular and trade press have also explored digital readers, and these reports suggest digital books are gaining popularity. *The New York Times* reported that sales of tablet devices and e-readers soared over the holiday season in 2011 (Bosman, 2012) and that the number of adults who owned such devices nearly doubled between mid-December 2011 and early January 2012. Book publishers showed a large jump in sales of digital books after Christmas in both 2010 and 2011. These statistics show that e-books are on the rise as reading devices become more technologically advanced. In 2011, Barnes & Noble introduced the Nook Tablet, Amazon released the Kindle Fire, and Apple unveiled the iPad 2 (Bosman, 2011; Pogue, 2011; Wortham & Streitfeld, 2011). This market competition and the fact that e-readers and tablets have recently been hot ticket items over holiday seasons increase the need to understand book consumers and what they expect from those devices.

In a recent edition of the Neiman Reports that focused on e-books, Kennedy

(2011) discussed his use of digital book technology to aid sales of his book *Little People*, a story about raising a daughter with dwarfism (Kennedy, 2011). The book was published in 2003, and several years after its initial production, the book had sold about 1,600 copies. Kennedy bought the rights to the book and published it online, where people could read it for free in its entirety. In 2010, thanks to digital book technology, Kennedy was able to revive and reprint *Little People* at the Harvard Book Store in Cambridge, Mass., where they printed new copies in seven minutes each. Kennedy left the free copy available online, and now people are able to read it on devices like the Kindle, Nook and iPad. The book, which he did not expect to be a big seller, is now available in both printed and e-book formats, and Kennedy was able to make some money off the revival of his project.

Another Neiman article discussed Owni.fr, a French news website that began selling e-books that related to, and were sometimes composed of, their most popular articles (Cocco, 2011). Some popular e-books on the OwniShop included titles about journalism, the Internet, Wikileaks and rugby, which were popular trending topics when the company released the e-book for sale on its website. The journalists at Owni were committed to writing e-books about their specialized topics, and the company readied itself for increased sales as France's interest in e-books increased. This report suggested the popularity of e-books, as individual companies that did not specialize in books were beginning to jump on the digital-book bandwagon.

Castro (2011) discussed the advantage of frequent updating in e-books, particularly for non-fiction texts such as her book about HTML. She said she was not ready to print a new edition of her book when Apple unveiled the iPad, but she wanted to

release some information about fixed layout EPUBS, the format used to produce Apple iBooks. Her solution was to create a mini-guide to EPUBS and sell them on her personal website's bookstore, rather than spending the time to update her entire book to include that information. Castro has since created several more mini-guides to technology and web production, and she finds that she enjoys selling the pieces separately and that it gives her more freedom with the timeline of her book's production. The ability that e-books have to be changed at a faster pace benefits readers, authors and publishers.

Theory

Literature suggests advantages and disadvantages to digital books, as well as mixed levels of popularity. A number of studies show that the printed form is still popular, while other studies show that new adopters seek digital readers because they have more technological features. This study is an attempt to understand these trends better. The study uses Niche Gratification Theory as a framework for the comparison of the usage of printed books and various formats of e-books, as well as the needs, motivations and expectations for usage of these formats. The theory stems from Uses and Gratifications Theory, but the two theories are different in their key principles and practices: Niche Gratification Theory primarily explains the "ecology" of competing media products for economic purposes, whereas Uses and Gratifications outlines specific needs and uses as a first step toward explaining media effects on audiences. Niche Gratification Theory should help explain the differences in book formats and will provide some answers to the publishing industry on how to best reach certain audiences.

Uses and Gratification approach

Niche Gratification Theory is informed by the Uses and Gratifications approach, and so this approach will be discussed in a brief, general way here. The Uses and Gratifications approach comes out of classical effects research. The creation of Uses and Gratifications answered a need to explain motivations for use, and functions of, the mass media. It was thought that media's limited effects on audiences could be better discerned by more thoroughly understanding the purposes individuals had in using media (McQuail, 2011). Most relevant to Niche Gratification Theory, the Uses and Gratifications approach suggests that people purposefully search out certain types of media to fulfill specific needs. Uses and Gratifications researchers also analyze what people do with different media formats (Pietilä, 2005), and the results of studies using this approach explain how media can be better used for public understanding.

Early on, Uses and Gratifications researchers found that the audience has an active role in selecting media for their own advantages and that they hold the reins on usage, as opposed to the media entities themselves (Katz, Haas, & Gurevitch, 1973). The media uses were categorized into five purposes: (1) cognitive — the need for information, knowledge and understanding; (2) affective — the need to strengthen aesthetic, pleasurable and emotional experiences; (3) personal — strengthening credibility, confidence, stability and status; (4) social — strengthening contact with family, friends and the world; and (5) tension release — the weakening of contact with self and one's social roles. The five categories highlight two broad types of needs: personal and social. This is explained by the fact that generally, people use the media for self-gain or to increase their social standing as viewed by others.

Uses and Gratifications studies usually provide lists of gratifications from each type of format being studied, under the assumption that each format has unique and characteristic contents, attributes and exposure situations (Katz, Blumler, & Gurevitch, 1973). Early on, Uses and Gratifications research mainly involved merely categorizing different media and explaining what functions each best served. The theory evolved when researchers began attempting to describe why a format was better at serving certain functions than others. Researchers began to recognize that a format might serve many different types of needs in addition to its main purpose. Not only does Uses and Gratifications explain that people select media to accomplish needs, but it also suggest people use media to address wants or interests. Researchers also found that predispositions are another factor in media selection. Predispositions about media are formed from social interaction, personality and availability of the media (Rubin, 2009). These realizations represented steps forward in Uses and Gratifications research, but critics of the approach have still charged that these studies too rarely use knowledge about usage to explain effects from media (McQuail, 2011).

The approach is typically applied in studies that analyze one specific media format and how it is used by the audience. A great variety of media have been studied from publications, radio and TV to newer forms of media. One recent study evaluated demographics of usage and motivations related to MP3 players (Zeng, 2011), and another study applied the approach and developed motivations for blog usage, based on a survey (Kaye, 2010).

Niche Gratification Theory

Like Uses and Gratifications, Niche Gratification Theory assumes that media formats may answer different needs, and Niche Gratifications studies attempt to describe which characteristics best serve certain purposes. Unlike Uses and Gratifications, however, the purpose is mostly to delineate the economic landscape among multiple media formats or devices, and the approach adopts an ecological framework that is drawn from the study of the biological environment. Using a framework based on the idea of unique and overlapping ecological “niches,” the theory suggests that readers would be likely to use e-book formats to meet different needs or desires than that for which they use printed books. This approach should reveal audience motivations and uses for each format, which should then be applicable to future practices and decisions by publication firms. By having a better understanding of the ways e-readers, tablets devices, computer e-books and printed books gratify needs, publishing companies should be able to home in on the differences and on the overlap among these formats, and aim their marketing strategies to fit the audience’s needs and uses. Niche Gratification Theory will be used in this study to evaluate the competition among e-readers, tablet devices, computer e-books and printed books, including share of the audience and reader intentions when choosing between the formats.

Niche Gratification Theory can be used to explain the motivations that consumers apply in choosing among book formats. It also examines how each format meets the needs of the user. According to the theory, there is competition between newer and older media forms. The newer formats present a challenge to already established products, and formats that use older technology fight for their place in the market. With a limited

audience available, the formats each struggle to meet a certain customer necessity or desire, and to remain in use (Ramirez, Dimmick, Feaster, & Shu-Fang, 2008).

The theory is often used as a comparative method of analysis among two or more media formats instead of evaluating one media format. For example, Niche Gratification Theory has been used to explain the effects of the Internet on the audience for traditional news media, in both broadcast and print. Studies have evaluated which aspects of each format were contributing to the competition (Dimmick, Chen, & Li, 2004). As another example, a study used Niche Gratification Theory to compare free and paid daily newspapers in Korea (Keunyeong & Yoontaek, 2007).

Components of Niche Gratification Theory

To understand the meaning behind Niche Gratification Theory, one must understand the meaning of the word *niche*. Dimmick defines a format's niche as "its position in the resource space denoting its interactions with the environment," (2003). Therefore, the term "niche market" is a specific target audience to which a population is focused, with "resources" referring to the media needs and gratifications of the audience (which are the resources that this thesis is focused on) as well as the financial resources that tend to follow. The niche market for e-readers, tablet devices, computer e-books and printed books can have a wide-ranging audience, from students who are required to read textbooks, to people who read novels every day for entertainment, to every person in between who reads books frequently or infrequently.

Niche Gratification Theory is based on market competition between newer and older forms of technologies. The theory assumes that the market is strong enough to

support competition among the formats that are being studied, even if it constrains the abilities of some formats and does not ultimately support all forms. Those being studied in this case are e-readers, tablet devices, computer e-books and printed books (Dimmick, 2003). This assumption is necessary to maintain the purpose and integrity of the study, but it also reflects the current state of the market, because e-readers and tablet devices are still much newer devices in comparison to printed books, and the publishing industry is unsure where market trends will go next.

The theory also assumes that not only is the market strong enough to maintain competition, but that there is actual competition among the platforms being studied (Dimmick, 2003). When two or more platforms share similar resources, a rivalry forms, and the platforms become competition for one another. Dimmick explains that when one unit uses resources, it lowers the availability of those resources for its competition and makes it harder for the competitor to survive in the market.

Aside from competition in the niche market, Niche Gratification Theory is composed of other important factors, including gratifications, gratification opportunities, advertising practices, niche breadth, niche overlap, competitive superiority and competitive displacement. Each of these factors is explained below.

The word *gratification* refers to the ability to fulfill a need or desire. Gratifications are preceded by expectations, which are aspects that users are hoping to fulfill from using a media product. Accomplished gratifications are obtained from use of the media (Dimmick, 2003). Fulfilled gratifications indicate satisfaction with the product and the consumer's use of it and also the utility and ease of use that the consumer experiences with the product. Gratifications can be addressed by both printed books and

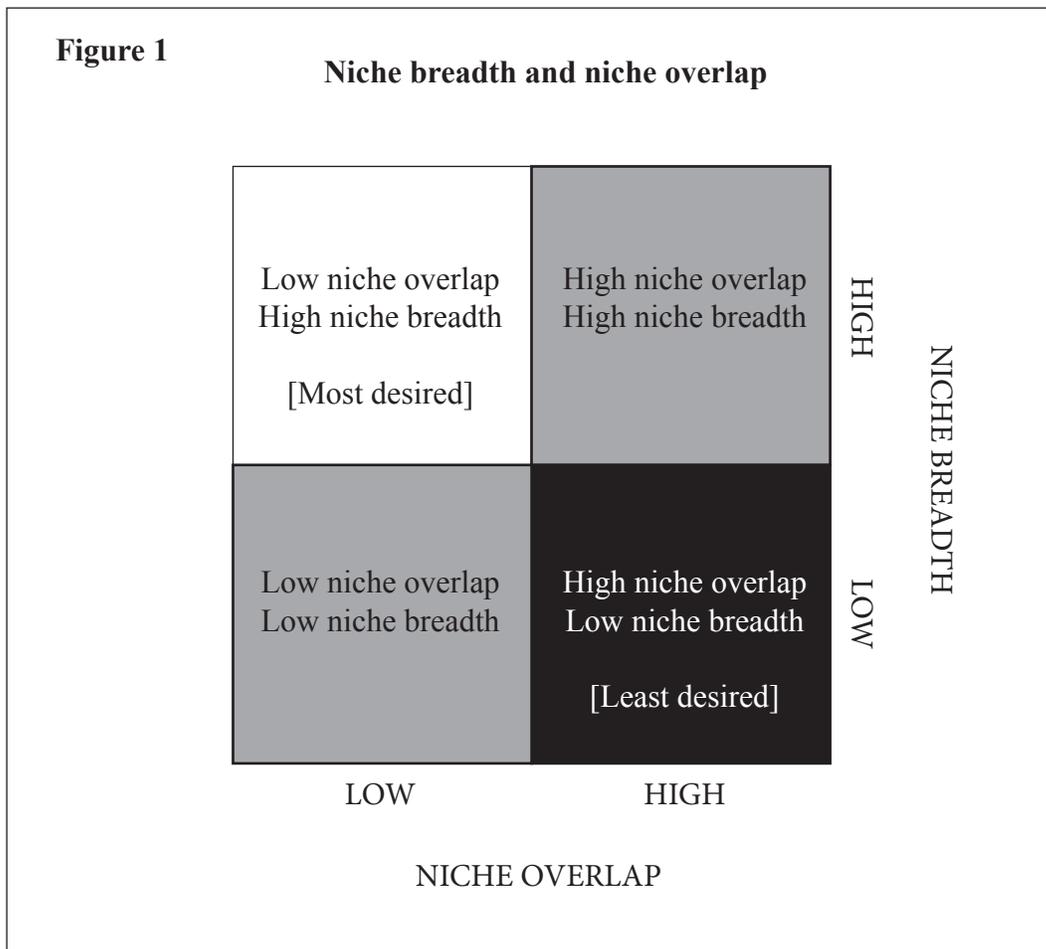
e-books, but some gratifications may be better addressed by a specific format, like an e-reader with e-ink technology that results in less eye strain, or a tablet device with optional applications and Internet access.

Niche breadth is the area of a niche (Dimmick, 1999), and it can be described as specialist or generalist. A specialist niche breadth focuses on a narrow range of areas, and a generalist niche breadth has a wider range of areas. Generally, the media in a generalist niche do not have as much expertise in individual areas (Dimmick, 2006). The specialist may have more knowledge of a certain area but has fewer resources, and the generalist has more resources but less knowledge about their inner workings. Dimmick explains that radio has a specialist niche breadth in local advertising, and national broadcast television has a generalist approach to advertising. He speculates that national broadcast television may have a better chance for survival in the event of an environmental change in advertiser availability because of its varied selection of advertisers, while local radio stations have fewer advertisers available. The same may be true of gratifications of books and digital books. Platforms that offer a wider selection of features and answer more needs would seem more likely to survive an environmental change in the book industry.

Niche overlap refers to the sharing of resources, including gratifications, among competitive media (Dimmick, 2006). Media that use the same or similar resources are described as ecologically similar. Media formats that use resources in the same way are highly competitive, and those that do not use the same resources are not as competitive. Niche overlap measures that amount of competition among media formats due to availability and diversity of resources or lack thereof.

In this study, measurement of niche breadth depicts how many gratifications

(which is a resource) can be fulfilled by each media format, and niche overlap is the number or percentage of gratifications that the two formats share. Formats that have many gratifications – a high niche breadth – and very few shared gratifications – a low niche overlap – should have a stronger position in market competition, and should be more successful in the economic ecosystem (Figure 1). Conversely, formats with a low niche breadth and a high niche overlap are not as distinct from other formats and will probably not perform well economically.



Competitive superiority refers to a format’s ability to address more gratifications more thoroughly than another format (Dimmick, 2003). A format with higher superiority

caters more to the audience and is more successful at meeting more of its needs. Rogers (1995) described five attributes of innovations that will play into adoption of newer media and this new media having competitive superiority. They are profitability, low cost, time saving, effort saving and immediacy of reward. Those five factors highlight features that make a media format more effective or more popular than another format.

The availability of a product to be used at different times and places is referred to as *gratification opportunity*. This includes factors like available free time and location of the product, and higher amounts of gratification opportunity expand the possibility that the consumer will be able to use the product and be satisfied by it (Dimmick, 2003). Dimmick explained that gratification opportunities are derived from the individual and household time budgets as well as the scheduling restraints and content of the format (Dimmick, 1999). In the present study, the higher the availability of the printed book or e-book, in stores or online, the more likely that format is to be used. Consumers who have more free time are also more likely to use those formats. Formats that have a higher ease of usability, such as portability, high content capability and ability to use it any place, are likely to have higher gratification opportunity.

Advertising dollars are another factor in Niche Gratification Theory, though this thesis does not focus on these kinds of resources. Dimmick (2003) says consumers spend time listening to and viewing advertisements, which is a selling point for mass media providers. The more consumers see an advertisement for a certain product or platform, the more they will have the advertising information readily available when they consider making a purchase. Consumers who have plenty of time and money to use a product are more likely to purchase it. On the contrary, having very little time and money to spend on

a product will likely decrease the odds of a sale. Consumers may not be willing to invest in an e-reader or tablet device if they rarely read books or have very little time to read books.

Competitive superiority may lead to *competitive displacement*, a partial overtake of the market, or *competitive exclusion*, a complete overtake of the market. The latter is rare in the media (Dimmick, 1999). Displacement describes a situation in which a newer media emerges and might overtake the older media, such as television causing a decline in newspaper sales (Dimmick, 2003). If the amount of shared resources increases, the likelihood of competitive displacement will decrease, but with more competition and fewer resources, it is possible that one media format will overtake another. Competitive displacement will be measured in the study, and will be based on whether consumers are beginning to choose e-books rather than printed books.

When the market is large enough and has enough resources to support multiple platforms that have a low niche overlap, it is less likely that there will be competitive displacement. Also, media platforms with a high niche breadth and high competitive superiority are more likely to displace other format choices within the market.

Past research on Niche Gratification Theory

One early study of niche gratifications analyzed the use of monthly printed magazines versus the Internet (Randle, 2003). The study addressed the issue that magazines blame the Internet for their decline in sales over recent years. Magazine publishers are currently looking for ways to use the Internet to their advantage to stimulate attention to their print editions rather than lose their audience to the Internet.

Publishers are trying to find ways to incorporate the Internet into their magazines to build a larger audience to whom they can direct both online and print advertisements. Randle compared the two media types using a survey to find out about niche gratification, niche overlap and displacement. The survey contained 50 questions in three sections about (1) the platform, (2) their gratifications and (3) demographics. The 35 questions on gratifications gave respondents a 5-point Likert scale in which to evaluate how well the format fulfills certain needs or desires. Of the 1,250 surveys administered to subscribers of a monthly special interest magazine, a total of 388 completed questionnaires were returned. The study found that the Internet has a greater capacity for gratifications than magazines (Randle, 2003). The Internet ranked highest on ability to get quick information (a cognitive classification), ability to pinpoint exact information (cognitive) and ability to live out a fantasy (tension release). Magazines ranked highly in ability to get quick information (cognitive), ability to help pass time (tension release) and ability to help the reader relax and feel good (tension release). Additionally, the Internet was more useful in performing tasks, and magazines were more useful for self-oriented activities. Seventeen percent of respondents reported that their magazine use had declined since beginning to use the Internet, and 13 percent reported the opposite, that their magazine use had increased. About 70 percent stated that their use of magazines had remained about the same. This suggests that while a small amount of displacement is happening between magazines and Internet content, the relationship is largely complementary. The results of the questions regarding niche superiority suggest that the Internet has the potential to overtake magazines in the arenas of learning and problem solving, but magazines reigned in the personal, self-reflective areas.

A study by Dimmick, Chen, & Li (2004) set the tone for future Niche Gratification studies. They said the introduction of the Internet into modern society changed the way many people access and process news and other information, and because of the rapid growth and global capacity of the Internet, the researchers wanted to examine its place among traditional news media. They also wanted to determine whether it had the ability to displace older forms of media. The speed, cost and interactivity of the Internet set it apart from some of the other media available, while some factors of its use, like ability to display information, overlap with those media. They surmised that competition between two or more media formats can lead to a change of the placement of advertising dollars (Dimmick, Chen, & Li, 2004). Because most media formats are largely supported by advertisements, the theory fit well with the examination of the Internet and already-existing media formats. A very high level of competition may lead to displacement or reduction of other media formats, which could have an important impact on the field of communication and the consumers who look daily to media outlets for accurate and updated information.

To examine the comparison the Internet and traditional media formats, the researchers surveyed 211 residents of Columbus, Ohio, about their use of the Internet for news information and about the helpfulness of Internet news and other media formats. The results of the survey showed that the Internet has a large displacement effect on television and newspapers, with the effect being especially high on broadcast television (Dimmick, Chen, & Li, 2004). The study also found that the Internet has a very high niche breadth, meaning that it addresses many different gratifications, including choices in news coverage, ability to get news on a flexible schedule (a cognitive classification)

and ability to get updated news (cognitive). The researchers found that there is a high level of niche overlap between the Internet and cable television, followed by broadcast television, newspaper and radio. The Internet was found to be competitively superior to broadcast television, newspaper and radio, with the findings on cable television being inconclusive. In regards to the displacement effect being caused by the superiority measure, about 69 percent of the respondents who said they watched television news less often after beginning to use the Internet also rated the Internet superior to television. Around 70 percent of the respondents said the same thing about the relationship between the Internet and newspapers, which suggests reasons for the decline in use of television broadcasts and newspapers as a daily news resource.

Another study examined and compared the uses of instant messaging, email, cellular phones and landline telephones (Ramirez, Dimmick, Feaster, & Shu-Fang, 2008). The study was inspired by the increase in instant message use and its similarities to both phone use and email use. Because instant messages are a virtual exchange, they have the potential to displace email users, and the back and forth action of having a conversation over instant messaging is similar to phone use. Both landline telephones and cellular phones were included in the study so that the displacement of both could be examined.

The researchers examined niche breadth, niche overlap and competitive superiority to evaluate the success of each format (Ramirez, Dimmick, Feaster, & Shu-Fang, 2008). To further distinguish between the four formats, they examined two factors that may influence the choice to use each format. The first factor was cue richness, or how well a format allows the communication of nonverbal and contextual cues. Examples are tone, volume and pitch, which are easily transferrable over telephone

communication but not as discernible over virtual communication. The second factor was synchronicity, the ability to provide feedback immediately. Instant messaging and telephone use, both cellular and landline, provide synchronicity, but email does not.

The research began with a preliminary study to learn more about gratifications gained from using instant messaging, email, cellular phones and landline telephones (Ramirez, Dimmick, Feaster, & Shu-Fang, 2008). For the primary study, 255 participants answered questions in three sections about demographics and use of the media, displacement effects and media competition. The results showed that instant messaging has a displacement effect on landline phones and emails but not on cellular phones. It was also proven that each format had a substantial niche breadth, and the four formats have a great amount of niche overlap. Finally, the results of the study point to a hierarchy with cellular phones having the most superiority, followed by instant messaging, email and landline phones.

A more recent study applied Niche Gratification Theory to individual consumers (Feaster, 2009). Most previous studies had examined niche gratification as it applied to society and large groups of people. Feaster theorized that media use is based on individual choices and is not part of a set of actions by society in general. He applied the term “repertoire niche” to describe the media formats that each individual knows and uses to get information. Those formats are individually chosen based on personal choices, not those made by society. Repertoire niches had previously been studied on a larger level, but in being applied to Niche Gratification Theory, the researchers said they helped to explain differences in interpersonal media uses and the competition between those formats to meet the needs of the consumers.

To conduct the study, Feaster (2009) used the data collected from a study done by Ramirez, Dimmick, Feaster, & Shu-Fang in 2008 on instant messaging, email, cellular phones and landline telephones. He was able to modify the formulas previously used to calculate niche breadth, niche overlap and competitive superiority so that they applied to the personal level and showed how individuals personally used certain formats of news media, and how the formats competed for the person's attention and time. Results showed that applications of repertoire uses to niche breadth, niche overlap and competitive superiority can predict some uses of media formats (Feaster, 2009). The findings showed that individuals who describe a higher repertoire niche breadth for a certain format will use that format more frequently. The results also explained that when a person evaluates a higher repertoire competitive superiority for a certain format over a different format, they will be more likely to use the format frequently with a higher repertoire competitive superiority. That was found to be true for all formats except the use of cell phones over landline phones, email over cell phones, and cell phones over instant messaging. The results of this study did not match exactly the results from the previous study when the data were examined at the societal level (Ramirez, Dimmick, Feaster, & Shu-Fang, 2008). In Feaster's study, higher repertoire niche overlap showed less use of a superior format as compared to an inferior one when the two were compared. The reverse was true as well. When a format was found to be lower than another on the chain of the media hierarchy, the format's use was higher. The results show that not all individuals use the media in the same way, and the actions of one group cannot always be generalized to the actions of a larger group.

One of the most recent Niche Gratification studies examined the “interstices” – or

gaps of time between scheduled activities – and how they were filled by different types of news media (Dimmick, Feaster, & Hoplamazian, 2011). The inspiration for the study was the increase in mobile technology that gives consumers access to news during times in which they may not otherwise be accessing any news at all. Because the new technologies had become so fast and sophisticated, they had many features that the older platforms could not support. The study's authors, Dimmick, Feaster, & Hoplamazian (2011), explained that because of new devices like cellular phones that have internet access, news consumption has expanded beyond the traditionally scheduled times and places like reading the newspaper during breakfast or watching the evening television news at home. People are now able to access updated news information at times they would not typically consume news, like walking to pick up the dry cleaning, waiting on the bill during lunch, or between appointments. In addition, the portability of these devices allows users to take the news anywhere, including vacations, to a friend's house and at the gas pump. The extra few minutes between scheduled blocks of time, combined with the accessibility of the news, allow users to consume a great deal more of information than they would if they stuck to their previous information intake habits.

The study compared use of different media outlets by recording actions of the consumer (Dimmick, Feaster, & Hoplamazian, 2011). Participants used a diary to keep records of when they accessed news, sports and weather, what devices they used, what information they consumed and their location at the time. A total of 208 people completed the study. The results showed that mobile media is indeed popular, but it had not completely excluded other formats yet (Dimmick, Feaster, & Hoplamazian, 2011). Traditional media were still used on a regular basis, but mobile media found a niche in

the interstices of time between scheduled blocks of the consumer's day. Mobile media were found to be the most popular, but television swept the market for news access later in the day. As expected, mobile media platforms were most popular when participants were on the go, and the radio had competitive superiority over other platforms for time spent in the car. Computer devices were found to be superior during times when participants were at work, and television was the most popular in the home and at active locations. Television had superiority over other platforms for weather content, and newspapers had superiority for sports content.

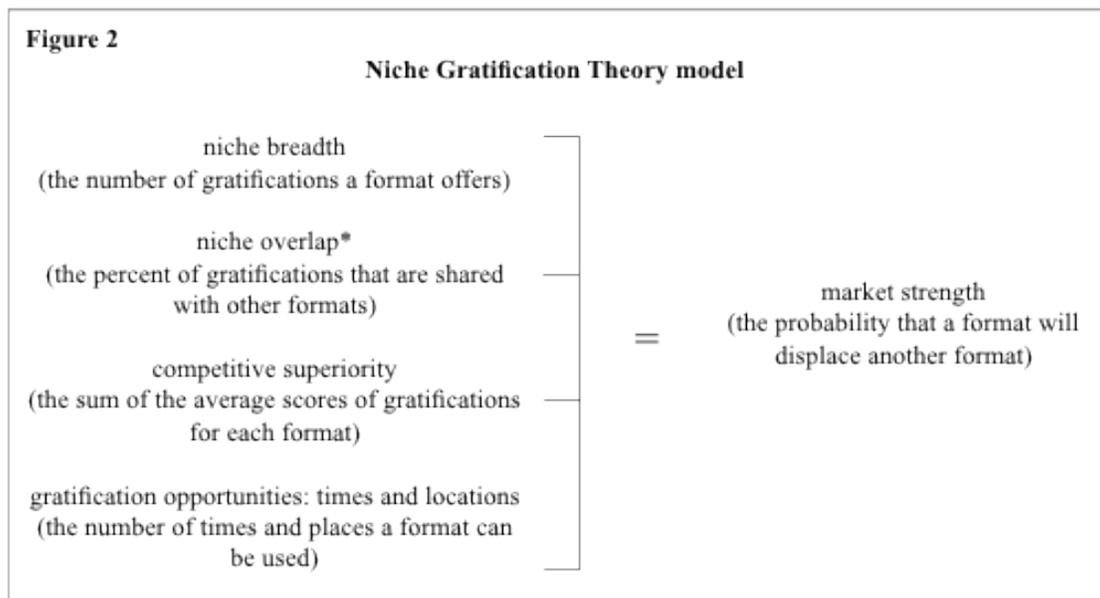
The niche gratification research presented here shows that digital technologies are often in competition with print media and broadcast media, because of their ability to provide content at any time and place. Internet-based and mobile media seem to provide a wider range of gratifications than traditional media. One of the studies suggested that digital media may have a different set of gratification opportunities than traditional media, and this finding may apply to e-books and printed books, as digital titles may be more accessible when people have small amounts of time. It may be more realistic to carry an e-reader or tablet device than a printed book, especially if the book is of substantial length. On the other hand, if each format has a set of most appropriate times and places, then the digital versions may not displace the traditional ones.

Model

This study uses Niche Gratification Theory and its conceptual components – niche superiority, niche breadth, niche overlap, gratification opportunities, competitive superiority and competitive displacement – to evaluate the strength and likely staying

power of printed books and e-book formats in the competitive marketplace. The combination of niche breadth of each format in addition to the niche overlap among formats and competitive superiority of a certain format will predict a hierarchy of book platforms that should be useful to publishers as they reach more of their audience and meet the needs of readers. In addition to those concepts, a higher number of gratification opportunities will result in better odds that one format will displace another, because it will be more available in various times and places.

The independent variables are niche superiority, niche breadth, niche overlap and gratification opportunities for time and location. *Competitive superiority* is defined as the degree to which a format is found to provide more gratifications and provide them more thoroughly than other formats. This will be achieved by averaging the gratification scores for each format, based on individual gratifications. Niche breadth is defined here as the breadth of gratification, or the number of gratifications a platform offers users. Niche overlap is the percent of gratifications that a platform shares with another platform. Those factors, combined with a format's gratification opportunities, will indicate the market strength of each format, shown as the dependent variable in the illustrated model below, which was created for this study (Figure 2).



*Niche overlap was calculated inversely as “lack of niche overlap,” as less overlap should increase market strength.

The study uses a survey instrument to ask questions about users’ motivations and usage of e-readers, tablet devices, computer e-books and printed books. The survey will compare the reasons that people use different types of books, the factors that each format addresses and the logistics of book usage, such as time spent reading with different formats. If a format is found to have a higher niche breadth, a lower niche overlap, and high superiority when compared to another format, then it will be assumed to have competitive strength in the market, and it will be assumed that it is more likely to displace other media in the marketplace. Also, a format that has more gratification opportunities will increase the impact of low overlap, high breadth and high superiority, giving the format even more advantage.

In focusing on college students, it is hoped some more specific conclusions may be drawn about use of books in an educational environment, including use of non-fiction or fiction books for class.

The study will attempt to answer the following research questions and hypothesis:

RQ1: What are the gratifications for printed books, e-readers, tablet devices and computer e-books?

RQ2: What is the niche breadth for each of the populations of printed books, e-readers, tablet devices and computer e-books?

RQ3: What is the niche overlap for each of the populations of printed books, e-readers, tablet devices and computer e-books?

RQ4: What is the ranking for each of the populations of printed books, e-readers, tablet devices and computer e-books by degree of competitive superiority?

RQ5: What is the gratification opportunity for each of the populations of printed books, e-readers, tablet devices and computer e-books?

RQ6: What is the competitive displacement of printed books by each of the populations of e-readers, tablet devices and computer e-books?

H1: The more advantageous the market strength of a digital format, the more likely the format will competitively displace traditional printed books.

Additionally, the study will evaluate certain personal characteristics of the respondents in relation to reading and different book formats. Most notably, the survey presents a question that asks respondents to evaluate how much they enjoy reading books in their spare time. The responses will help the researchers gauge whether the degree of reading enjoyment could correlate with perceived gratifications of the device on which respondents choose to read, as well as the likely strength of these formats in the market.

Other categories, such as students' gender, GPA and socioeconomic status, along with the degree to which they enjoy reading, will be evaluated to determine if those demographics have an effect on respondents' amount of reading or chosen device.

RQ7: How does use of reading formats correlate with variation in individual personal characteristics?

CHAPTER III

METHODS

Research questions and hypotheses about niche gratifications, superiority and displacement were addressed by conducting a survey study of University of Alabama students' use of different formats of books. The survey was administered online in September and October 2012, and results were analyzed in November.

Selection of gratifications

Before this survey, an informal in-person survey of users of e-readers and tablet devices was conducted. These preliminary survey questions helped to establish the most important aspects of those devices and how the readers define their book-reading habits. Specifically, the preliminary questions informed the actual survey questions that were asked of respondents about their “gratifications” for using the four different types of media. This way of selecting gratifications has been used in earlier niche gratification studies (e.g., Ramirez, Dimmick, Feaster, & Shu-Fang, 2008).

These preliminary, informal studies were conducted to the point of redundancy using a convenience sample. Two questions were asked: (1) For what reasons or needs do you use printed books? and (2) For what reasons or needs do you use digital books? The collected responses informed the final list of 12 total needs and uses.

Prior literature also helped the researcher make these choices. Niche Gratification

Theory has roots in Uses and Gratifications, and so the basic five categories of gratifications were used as a broad, though not entirely determining, guide for devising the specific gratification measures in the survey. These five categories are: (1) cognitive — the need for information, knowledge and understanding; (2) affective — the need to strengthen aesthetic, pleasurable and emotional experiences; (3) personal — strengthening credibility, confidence, stability and status; (4) social — strengthening contact with family, friends and the world; and (5) tension release — the weakening of contact with self and one’s social roles (Katz, Haas, & Gurevitch, 1973). Some of the gratifications, like *ease of book purchase*, *easy reading experience*, *mental processing*, *leisure or relaxation* and *helpfulness with academic or research needs*, are more obviously consistent with these categories (See Table 1). *Portability* and *ease of storing* are affective in the sense that a book or device that is easy to carry and store increases the pleasure of that experience. Others are less consistent. *Ability to skip around* within a book and *similarity to a printed book* are roughly consistent with the affective category, because a more familiar, less frustrating reading experience is more pleasurable. *Ability to connect to outside sources* has a social aspect but also a cognitive aspect because one can gain information. The potential *extra features* of a book format are also seen as affective because some of those features, like book reviews or interactive links are likely to increase reading pleasure – yet there is also a personal element to these choices. *Low cost* and *durability* relate to economic assessment, and do not fit as well with these five categories. However, they were cited often in the informal interviews, and so were included as gratifications on the survey. Because of the lack of technological insight of Uses and Gratifications, Niche Gratification Theory was deemed to be a more appropriate

framework for the study.

Table 1. Gratifications and traditional Uses and Gratifications categories

Potential benefit	Uses and Gratifications categories
Low cost	---- (economic)
Ease of book purchase	Affective
Makes the reading experience easy	Affective
Helpful for mentally processing the information that is read	Cognitive
Portability, easy to take with you	Affective
Durability	---- (economic)
Easy to store	Affective
Ability to skip around within the book	Affective
Easy to connect to outside sources of information	Social/Cognitive
Offers extra features	Personal/affective
Similarity to a printed book	Affective
Leisure or relaxation	Tension release
Helps with academic or research needs	Cognitive

The survey

These responses helped inform an online survey instrument used to collect responses regarding printed books and e-books: specifically, e-readers, tablet devices, computer e-books and printed books. A survey is best for assessing perceptions of media use, which are based on the respondents’ personal assessments and not observations of their behavior, and therefore surveys were appropriate for the present study. Other studies using Niche Gratification Theory and those examining the use of e-books have also used surveys.

The sample

The population for the survey was a convenience sample of college students at a

major Southern university. These are mostly young people and so they are likely to be familiar with the technology of an emerging market. College students frequently use new technologies in completing assignments, so they would more likely be comfortable with the devices and familiar enough with them to answer the questions (Smith, Caruso, & EDUCAUSE, 2010). Students also use books for educational purposes, and their perceptions of digital books have implications for society's education in general. Finally, publishers will also be highly interested in the perceptions, needs and gratifications of young users, as these represent customers of the future.

After the researcher obtained IRB approval, professors at the university who were teaching large lecture classes in fall 2012 were approached in August 2012 and asked if they would encourage their students to participate in the survey in exchange for extra credit in the course. Other courses with a required research component were also recruited. The classes were Introduction to Mass Communications; Introduction to Public Relations; Journalism Issues, Practices and Ethics; Mechanics of Writing; and News Writing and Reporting.

Administering the survey

The survey was first pretested on several undergraduate college students, and after suggestions, several questions were reworded. The survey was hosted online by Survey Monkey, and a link to it was emailed to the students in those classes in September 2012. The online survey began with a student information sheet and proceeded to a welcome and overview, and then to the questions. After making the online survey available to students from September 11 to October 10, a total of 603 students responded to the

survey.

The survey measured the perceived gratifications for each of the four media types (gratifications were used to calculate niche breadth, overlap and superiority), gratification opportunities for each media type, and the perceived likelihood that e-readers, tablet devices and computer e-books would displace printed books (See Appendix A). The survey also asked about ownership and general use of these devices, and in addition the survey asked demographic questions. An open-ended question also asked about potential gratifications not covered in the list provided.

Variable measures

- Niche breadth/Niche overlap/Competitive Superiority

Likert scale questions on a scale of 1 to 5 asked respondents about different gratifications for using the four different types of media. The structure of the wording of survey questions was adapted from a study by Ramirez, Dimmick, Feaster & Lin (2008). Some gratifications were adopted from this and other niche gratification studies, and some were adopted because of the preliminary questioning.

Niche breadth was computed by recoding gratification measures as dichotomous variables (1 = scores of 4 or 5; 0 = scores below 4), adding the number of gratifications that score as “4” or “5” (the two values above neutral) for each format. This meant that only the affirmatively rated scores are included. The measures were then averaged across the cases to obtain comprehensive measures of breadth across all gratifications for each reading format. Averages across cases for each gratification were also obtained.

Niche overlap was computed as the percent of gratifications scoring “4” or “5”

(the scores indicating niche breadth) that are also scored as “4” or “5” on the same gratifications for the other reading formats. Niche overlap was calculated for each gratification for each possible pair of reading formats (Print book/E-reader; E-reader/Tablet, etc.), and an overall overlap score was also calculated for each reading format. This overall score was an average percentage of all gratification overlaps across all possible pairwise combinations of reading devices.

Competitive superiority was computed by averaging the (1 to 5) scores of all gratifications for each format. The highest score means the highest degree of competitive superiority.

- *Gratification opportunities*

A question was asked for each format about frequency of use at different times during the day, using a 5-point Likert-type scale with 1=Never, 2=Rarely, 3=Sometimes, 4=Frequently and 5=Very frequently. Time periods were recoded into dichotomous variables, such that “4” (Frequently) and “5” (Very frequently) were recoded as 1, and below 4 was recoded a 0. They were then added together for each media type to get an overall “time opportunity” score for each reading format.

A second question was asked for each format about frequency of use in different places, using a 5-point Likert-type scale with 1=Never, 2=Rarely, 3=Sometimes, 4=Frequently and 5=Very frequently. Locations were recoded into dichotomous variables, such that “4” (Frequently) and “5” (Very frequently) were coded as 1, and below 4 was coded as 0. They were then added together for each media type to get an overall “location opportunity” score for each reading format.

- *Competitive displacement*

A question was asked about the degree to which users think they read printed media more or less since using one of the three digital forms of book media. A 5-point scale reflects three anchors, consistent with the wording of the item (1=less reading, 2=a little less, 3=same amount, 4=a little more and 5=more reading). This score was computed for each of the three digital reading formats.

To compute the variable “market strength” (from the hypothesis, H1), niche breadth, the inverse of the average percentage of overlap (subtracted from 100 to get the percent that did *not* overlap, as this indicates market strength), the average number for competitive superiority, the average score for competitive displacement and the average number for time and location gratification opportunities were turned into standardized scores and added together. The resulting number was the market strength factor, or the predicting number for the marketplace hierarchy.

Means and standard deviations for all variables are reported in the Findings section.

Demographics and information for extra credit

The final questions on the survey asked about demographics and personal characteristics, which provided information for answering Research Question 7. Factors included level of enjoyment of reading (“How much do you enjoy reading in your spare time?” 1 = Not at all, 5 = A great deal), age (year born), year in college, GPA (in six increments of .50, ranging from <2.0 to 4.0), declared and undeclared major of study, gender, race, ethnicity and socio-economic status by estimated family income (Below middle class, middle class, middle class to upper middle class, upper middle class to

upper class). Only the factors for level of enjoyment of reading, GPA, gender and socio-economic status (estimated income) were analyzed and reported in the final data. Data on ethnicity and race were thought not to be relevant for the current study but could be used for other studies, and there was not enough variability in age to use in the analysis.

Means and standard deviations for all variables are reported in the Findings section.

Respondents were also asked for name, campus identification number, class name and instructor name so they could get extra credit for their class. This was followed by a page thanking the respondents for their participation.

CHAPTER IV

FINDINGS

General descriptive findings

After the survey responses were collected, they were analyzed using SPSS software. Prior to providing findings on the research questions and the hypothesis, descriptive data are provided on ownership and use, and on the sample itself.

Percent of ownership of e-readers and tablet devices was relatively low. Responses indicate that 21.6% of the 603 respondents own an e-reader, and 32.9% own a tablet device. Only 3.3% of respondents owned e-readers for more than two years, and 4.5% owned tablet devices for more than two years. Of the 99.5% who owned computers, the majority (73.3%) had owned them for more than two years.

Printed books were found to be the most frequently used formats for both fiction and nonfiction. For fiction, 39.3% of respondents said they use printed books very frequently. E-readers followed at 4.3%, then tablet devices at 2.8% and computer e-books at 1.9%. “Never” was a popular answer for readers of fiction in tablet devices (69.4%), e-readers (66.7%) and computer e-books (59.8%), while 5.7% of respondents never read fiction from printed books.

Nonfiction books followed a similar pattern, with 36.2% of respondents noting that they use printed books very frequently in nonfiction. Computer e-books (5.2%), tablet devices (1.9%) and e-readers (1.4%) followed. “Never” was the most popular

answer for nonfiction in e-readers (73.3%), followed by tablet devices (67.4%), computer e-books (43%) and printed books (6.9%).

A question was asked for three of the formats — e-readers, tablet devices and computers – about the respondent’s typical amount of usage. This question was only answered by those who had used these devices. 34.6% of respondents said they had read an e-reader book very frequently, frequently, sometimes or rarely; 35.7% had used tablet devices for reading very frequently, frequently, sometimes or rarely; and 53.3% had read computer e-books very frequently, frequently, sometimes or rarely. The section on tablet devices included a question that asked respondents, “When you use a tablet device, how frequently are you reading a book on it?” 18.5% answered “frequently” or “very frequently.”

The majority of respondents were ages 18, 19 and 20 ($M=20.63$, $SD=1.35$) and were college freshmen, sophomores and juniors. The typical GPA was in the 3.0 to 3.49 range (36.0 % of the sample). Of the respondents, 21.5% were male, and 78.5% were female. In the racial category, 84.0% of respondents were white, 9.3% were black, 3.6% were Asian-American, and 1.2% were American Indian or Alaskan Native. 1.9% of respondents selected an “Other” category. Ethnicity was presented as separate from race, and 4.2% responded that they were Hispanic.

Research questions and hypothesis

The overall results for the “market strength” factor of each format are shown in Table 2. The scores in these tables represent means created by averaging across all cases. Breadth and competitive superiority scores are also averaged across all gratifications.

Overlap scores are averaged across all scores of gratification overlap with the three other reading formats. Gratification Opportunities scores are averaged across all time categories and location categories. All of these factors were converted to standardized scores and then summed, and so scores in the Market Strength column are standardized scores (or z scores). Negative z-scores indicate lower scores and therefore less market strength.

The data in Table 2 show that printed books are the strongest competitor among the different formats in the book marketplace. They score highest among other formats in overlap, time opportunities and location opportunities, which resulted in their strong market strength score. E-readers scored the highest in breadth and superiority, placing them in second place in relation to market strength. Tablet devices scored similarly to e-readers, placing them in third, while computer e-books were a distant fourth, scoring low in breadth and location opportunities, with a low market strength (indicated by the negative z-score).

Table 2. Means of breadth, overlap, competitive superiority, time opportunities and location opportunities, resulting in market strength

	Breadth	Overlap*	Competitive superiority	Time opportunities	Location opportunities	Market strength
Books	5.45	19.4	3.33	2.67	2.46	3.82
E-readers	6.55	26.1	3.42	2.16	2.06	0.28
Tablet devices	6.37	26.8	3.40	2.16	2.04	-0.38
Computer e-books	4.84	23.2	3.11	2.21	1.85	-3.82

*To calculate market strength, overlap percentages were subtracted from 100, and all variables were transformed to z scores.

RQ1: What are the gratifications for printed books, e-readers, tablet devices and computer e-books?

Preliminary survey research was done in order to identify possible gratifications for reading books in different formats (see the Methods section). The research produced

13 gratifications that were used in the survey:

- low cost
- ease of book purchase
- makes the reading experience easier
- helpful for mentally processing the information that is read
- portability
- durability
- easy to store
- ability to skip around within the book
- easy to connect to outside sources of information
- offers extra features
- similarity to a printed book
- leisure or relaxation
- helps with academic or research needs.

Most of these specific gratifications fit best with the cognitive and affective gratifications from Uses and Gratifications research. *Ease of purchase, portability, easy to store, easy to skip around, and similarity to a printed book* fit best with the affective category, while *helps for mentally processing* and *helps with academic research* most obviously fit with the cognitive category.

RQ2: What is the niche breadth for each of the populations of printed books, e-readers, tablet devices and computer e-books?

Niche breadth, the number of gratifications that a format can fulfill (the “breadth” of gratifications), was measured through questions that asked respondents to rate potential gratifications of a format on a scale of 1 (not at all helpful) to 5 (very helpful). The responses were coded as dichotomous variables, with gratifications that were indicated as a positive level of helpfulness (4 or 5, above “neutral”) coded as 1, and responses 1 through 3 (from “no helpfulness” to “neutral”), coded as 0. Those gratifications were then added together, and then this summed variable was averaged across all cases, which was an overall breadth calculation for each format, with a possible score of 12 for printed books and 13 for the other formats. E-readers and tablet devices were found to have the most breadth. The gratification for similarity to a printed book was excluded for questions that asked about printed book usage. The means and standard deviations for each reading format across all gratifications are shown in Table 3.

Table 3. Means of responses for niche breadth

	Mean	SD	N
Printed books	5.45	3.46	603
E-readers	6.55	3.97	204
Tablet devices	6.37	4.25	211
Computer e-books	4.84	3.63	313

RQ3: What is the niche overlap for each of the populations of printed books, e-readers, tablet devices and computer e-books?

Niche overlap, the number of gratifications that are shared among formats, was calculated using the questions in which respondents rated potential gratifications. Using the dichotomous variables that were coded for niche breadth (1=helps satisfy need, 0=does not help), the responses were added together for each paired combination of reading formats, for each gratification. Scores of “2” indicated overlap (the sum of two scores of “1” on the same gratification for two different readers). Then, for each summed

gratification, a percentage of gratification overlap between the two types of readers was calculated. A higher percentage indicated a higher degree of niche overlap between two formats. When percentages of overlap were averaged across all gratifications, the highest degree of overall overlap was found between e-readers and tablet devices ($M=32.2\%$). A comparison of tablet devices and computers revealed the second-highest overlap level ($M=27.5\%$). When percentages for overlap with each of the other three reading formats were averaged, it was found that tablet devices have the most overlap with all other reading formats ($M=26.8\%$), followed closely by e-readers ($M=26.1\%$). Printed books were found to have the lowest overlap with other formats, suggesting printed books still have their own niche.

The gratification of *low cost* was found to have low overlap across the reading formats, while gratifications such as *ease of purchase* and *easy to store* had much higher overlaps. This suggests a disparity between costs of these book formats, and an opportunity for publishers to strategize over cost rather than some other functions of book formats, such as ease of storage. Printed books were found to have the least amount of overlap with other formats in the gratifications of *extra features* and *connect to outside sources*, suggesting that printed books do not offer those gratifications nearly as well as other book formats. The complete results for gratification overlap are shown in Table 4.

Table 4. Percent of respondents reporting overlap between formats

	1. Low cost	2. Ease of purchase	3. Ease of reading	4. Mental processing	5. Portability	6. Durability	7. Easy to store	8. Ability to skip around
BK – ER (N = 205)	3.9	21.4	30.6	19.9	35.4	20.5	21.8	17.6
BK – TAB (N = 212)	3.8	18.8	29.6	20.7	24.9	18.3	18.3	23.5
BK – COMP (N = 314)	9.8	19.4	18.4	15.0	12.7	13.3	20.0	20.3
ER – BOOK (N = 205)	3.9	21.4	30.6	19.9	35.4	20.5	21.8	17.6
ER – TAB (N = 89)	14.4	42.2	31.1	22.2	45.6	31.1	45.6	25.6
ER – COMP (N = 112)	19.5	38.1	23.9	17.7	14.2	24.8	30.1	15.9
TAB – BOOK (N = 212)	3.8	18.8	29.6	20.7	24.9	18.3	18.3	23.5
TAB – ER (N = 89)	14.4	42.2	31.1	22.2	45.6	31.1	45.6	25.6
TAB – COMP (N = 134)	12.6	35.6	23.7	17.8	17.0	34.8	28.1	20.7
COMP – BK (N = 314)	9.8	19.4	18.4	15.0	12.7	13.3	20.0	20.3
COMP – ER (N = 112)	19.5	38.1	23.9	17.7	14.2	24.8	30.1	15.9
COMP – TAB (N = 134)	12.6	35.6	23.7	17.8	17.0	34.8	28.1	20.7

Table 4, continued

	9. Connect to outside sources	10. Extra features	11. Similarity to a printed book	12. Leisure or relaxation	13. Academic/ research needs	Overlap mean for all gratifications	Format mean
BK – ER (N = 205)	10.2	6.3	--	38.3	23.3	20.8	19.4
BK – TAB (N = 212)	12.2	7.0	--	36.2	33.5	20.6	
BK – COMP (N = 314)	13.0	6.7	--	14.3	38.7	16.8	
ER – BOOK (N = 205)	10.2	6.3	--	38.3	23.3	20.8	26.1
ER – TAB (N = 89)	35.6	43.3	19.1	32.2	30.0	32.2	
ER – COMP (N = 112)	39.8	43.8	11.5	21.2	28.3	25.3	
TAB – BOOK (N = 212)	12.2	7.0	--	36.2	33.5	20.6	26.8
TAB – ER (N = 89)	35.6	43.3	19.1	32.2	30.0	32.2	
TAB – COMP (N = 134)	45.9	48.5	13.4	22.2	36.6	27.5	
COMP – BK (N = 314)	13.0	6.7	--	14.3	38.7	16.8	23.2
COMP – ER (N = 112)	39.8	43.8	19.1	32.2	30.0	25.3	
COMP – TAB (N = 134)	45.9	48.5	13.4	22.2	36.6	27.5	

RQ4: What is the ranking for each of the populations of printed books, e-readers, tablet devices and computer e-books by degree of competitive superiority?

Competitive superiority, a medium’s ability to provide gratifications more thoroughly than another medium, was measured by the same gratification questions on a scale of 1 to 5. The gratifications for each format were then averaged. E-readers were found to have the highest level of competitive superiority ($M=3.42$). Tablet devices were a close second ($M=3.40$), followed by printed books ($M=3.33$) and computer e-books ($M=3.11$). E-readers were found to have particularly high scores for “portability” ($M=4.01$) and “easy to store” ($M=3.93$). Printed books had especially low scores for “ability to connect to outside sources” ($M=2.70$) and “extra features” ($M=2.16$), while

other formats scored much higher in those gratifications.

The complete results are shown in Table 5. Higher scores on *mental processing*, *skipping around* and *academic needs* suggest respondents think printed books are most helpful during actual reading. Tablets and e-readers seem to help the most for non-reading aspects: *ease of purchase*, *portability* and *storage*, for example. They also score high on the gratifications of *connect to outside sources* and *extra features* (as do computer e-books), gratifications that supplement the reading experience.

Table 5. Means of responses for competitive superiority

	1. Low cost		2. Ease of purchase		3. Ease of reading		4. Mental processing		5. Portability		6. Durability		7. Easy to store	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Printed books (N=590)	2.75	1.13	3.10	1.19	3.90	1.04	3.91	1.06	3.40	1.21	3.40	1.12	3.18	1.21
E-readers (N=202)	2.73	1.30	3.79	1.22	3.51	1.22	3.09	1.13	4.01	1.14	3.52	1.15	3.93	1.16
Tablet devices (N=211)	2.43	1.30	3.55	1.30	3.39	1.21	3.02	1.19	3.82	1.21	3.44	1.22	3.77	1.21
Computer e-books (N=312)	2.98	1.25	3.46	1.17	2.84	1.19	2.73	1.14	2.75	1.18	3.28	1.10	3.24	1.21

	8. Ability to skip around		9. Connect to outside sources		10. Extra features		11. Similarity to a printed book		12. Leisure or relaxation		13. Academic/ research needs		Overall format mean
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean
Printed books (N=590)	3.82	1.19	2.70	1.21	2.16	1.16	--	--	3.73	1.15	3.87	1.05	3.33
E-readers (N=202)	2.90	1.30	3.52	1.16	3.68	1.21	3.13	1.20	3.53	1.13	3.12	1.14	3.42
Tablet devices (N=211)	3.12	1.27	3.73	1.24	3.79	1.26	2.97	1.17	3.53	1.20	3.59	1.19	3.40
Computer e-books (N=312)	2.95	1.15	3.66	1.17	3.64	1.14	2.58	1.13	2.71	1.19	3.60	1.16	3.11

RQ5: What is the gratification opportunity for each of the populations of printed books, e-readers, tablet devices and computer e-books?

Gratification opportunity, the likelihood of a device being used at different times and places, was measured by a question regarding time and one regarding places for each reading format. The time question had seven options for time periods, ranging from the time period between 5 a.m. and 8 a.m. to the time period between 11 p.m. and 5 a.m. The

location question had 13 options, based on the preliminary research and also on locations used in previous niche gratification studies. Each time and location option was measured using a 5-point scale, ranging from “1=Never” to 5=Very frequently.”

Printed books led the scores for both time opportunities ($M=2.67$) and location opportunities ($M=2.46$). This suggests that printed books are more likely to be carried to different places and used at many different hours of the day. It may also mean that these respondents are more accustomed to carrying books to varying locations at varying times. Printed books also had the highest individual mean among all formats and all times, within its 8 p.m. to 11 p.m. time frame ($M=3.39$), and this may fit with student study habits. Printed books had a substantially higher score for time opportunities than the other formats in 5 of the 7 given time frames.

Looking at location opportunities, printed books scored much higher than other formats for the “in class,” “at school outside of class” and “at the place you live” options. Scores for all formats were relatively low in the “at work,” “walking somewhere,” “in a restaurant, cafe or bar,” “at the gym,” “at a friend’s home” and “in a store” gratifications. The complete results are shown in Tables 6 and 7.

Table 6. Means of responses for time opportunities

	5 a.m. to 8 a.m.		8 a.m. to 11 a.m.		11 a.m. to 2 p.m.		2 p.m. to 5 p.m.		5 p.m. to 8 p.m.		8 p.m. to 11 p.m.		11 p.m. to 5 a.m.		Overall format mean
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean
Printed books ($N=584$)	1.55	0.88	2.43	1.10	2.77	1.08	2.98	1.08	3.14	1.16	3.39	1.21	2.42	1.29	2.67
E-readers ($N=201$)	1.52	0.88	1.78	0.99	2.10	1.14	2.31	1.22	2.58	1.27	2.63	1.29	2.22	1.35	2.16
Tablet devices ($N=209$)	1.48	0.84	1.93	1.09	2.21	1.17	2.40	1.22	2.57	1.27	2.52	1.32	1.99	1.23	2.16
Computer e-books ($N=308$)	1.53	0.85	2.02	1.04	2.29	1.13	2.46	1.13	2.59	1.16	2.54	1.22	2.01	1.16	2.21

Table 7. Means of responses for location opportunities

	1. In class		2. At school outside of class		3. At the place you live (dorm, apartment, house, etc.)		4. At work		5. Walking somewhere		6. Sitting outside		7. Waiting somewhere (such as a doctor's office)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Printed books (N=588)	3.65	1.18	3.50	1.17	3.75	1.08	1.87	1.17	1.51	0.86	2.55	1.19	2.54	1.19
E-readers (N=203)	1.90	1.15	2.33	1.29	2.80	1.40	1.74	1.07	1.55	0.95	2.20	1.30	2.23	1.29
Tablet devices (N=210)	2.03	1.26	2.33	1.35	2.79	1.40	1.72	1.11	1.64	1.02	2.08	1.27	2.10	1.26
Computer e-books (N=312)	2.34	1.17	2.61	1.20	2.84	1.14	1.63	1.01	1.37	0.77	1.70	1.00	1.55	0.97

	8. In a restaurant, cafe or bar		9. At the gym		10. At the home of your parents, parent or guardian		11. At a friend's home		12. In a store		13. In transit via car, airplane, train, subway or bus		Overall format mean
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean
Printed books (N=588)	1.77	1.05	1.39	0.81	3.14	1.29	1.99	1.11	1.54	0.93	2.76	1.30	2.46
E-readers (N=203)	1.81	1.20	1.67	1.13	2.69	1.38	1.89	1.06	1.53	0.89	2.39	1.37	2.06
Tablet devices (N=210)	1.78	1.13	1.56	1.05	2.58	1.35	1.97	1.18	1.59	0.97	2.32	1.40	2.04
Computer e-books (N=312)	1.59	0.98	1.32	0.74	2.31	1.22	1.83	1.09	1.35	0.76	1.63	1.04	1.85

RQ6: What is the competitive displacement of printed books by each of the populations of e-readers, tablet devices and personal computer e-books?

Competitive displacement was measured by a question that evaluated respondents' change in reading habits of printed books, newspapers and magazines since the users began reading with e-readers, tablet devices and computers (1= Less printed media consumption, 5 = More printed media consumption). It was found that respondents said tablet devices were most likely to displace their printed materials ($M=3.33$), followed by e-readers ($M=3.21$) and computer e-books ($M=3.15$). Among all printed media, newspapers were found to be the most likely to be replaced ($M=3.39$). The complete results are shown in Table 8.

Table 8. Perceived likelihood that other reading formats will displace printed reading materials

	E-readers		Tablet devices		Computer e-books		Mean displacement of printed materials
	Mean	SD	Mean	SD	Mean	SD	
Books	3.21	1.08	3.29	1.11	3.05	1.05	3.18
Newspapers	3.35	1.00	3.51	1.09	3.30	1.08	3.39
Magazines	3.06	0.92	3.20	1.07	3.09	1.02	3.12
Mean displacement	3.21		3.33		3.15		

H1: The more advantageous the market strength of a digital format, the more likely the format will competitively displace traditional printed books.

Market strength, a format's ability to displace other formats in the market, was calculated using a summative formula (See Table 2). Niche breadth, lack of niche overlap (percent of overlap subtracted from 100%), location opportunities, time opportunities and competitive superiority were changed into standardized scores and then added together to create a hierarchy of reading formats. Negative scores mean weaker market strength, so strength is ranked from highest positive number (strongest) down to highest negative number (weakest). Printed books were found to be the strongest in the marketplace ($M=3.82$), followed by e-readers ($M=0.28$), tablet devices ($M=-0.38$) and computer e-books ($M=-3.82$). A bivariate correlation analysis showed a moderately strong correlation between market strength of e-readers and their ability to displace printed formats ($r=0.26$). Tablet devices had a weak correlation with print format displacement ($r=0.10$), and there was no significant correlation for computer e-books.

RQ7: How does use of reading formats correlate with variation in individual personal characteristics?

Bivariate correlations were used in order to analyze market strength and

displacement potential, in terms of the level of enjoyment of reading, GPA, socio-economic level, and gender. These tests found a strong correlation between enjoyment of reading and the market strength of printed books ($r=0.43$). That suggests that enjoyment of reading corresponds with how strong printed books are in the market. The same test was done for each format, and these tests produced a moderately strong correlation between enjoyment of reading and market strength of e-readers ($r=0.33$). Because both of those formats are dedicated specifically to books, these findings suggest that heavy readers like simpler formats with fewer extra features. There were no substantial relationships between enjoyment and market strength of tablets or computer e-books.

GPA was found to have weak or no correlations between market strength and displacement potential for all formats. The highest correlation between GPA and market strength was for printed books ($r=0.17$). The highest correlation with GPA and potential for seeing a format as displacing printed books was for tablet devices ($r=0.13$).

Estimated socio-economic level was also assessed as a potential factor in assessment of reading formats, as reading devices can be expensive. Somewhat surprisingly, socio-economic level was not strongly correlated with use of any particular reading format. The highest bivariate correlation was between socio-economic level and potential for tablet devices to displace print books ($r=0.14$). Not surprisingly, the lowest correlation was between socio-economic level and market strength of computer e-books ($r=0.02$). This suggests that income is a relatively minor factor in people's decisions to use computer e-books, perhaps because computers and internet connection are now more widely available to people at all socio-economic levels. Weak correlations with estimated socio-economic level may be due partly to the sample not varying greatly in income, with

relatively few of the respondents (3.7 percent) saying they had low income.

An independent samples t-test was used to compare gender with market strength and displacement potential. In a comparison of gender and market strength of printed books, women were more likely to consider printed books to be strong contenders in the market, $t(158.73) = -2.46, p < .05$. None of the other differences came out as significant.

A bivariate correlation was also conducted to investigate the usage rate of the book formats in comparison to enjoyment of reading, GPA, family income and gender. The calculation found a moderately strong correlation between reading usage of e-readers and enjoyment of reading ($r=0.28$). A slight correlation ($r=0.11$) was found for family income and reading usage of tablet devices, which suggests that families with more available income are more likely to read on a tablet device. A slight reverse correlation was found for reading usage of computer e-books and GPA, suggesting that those who read on computers tend to have lower GPAs.

Open-ended responses

One open-ended question asked students what reading format they prefer and why. Of the 568 total responses, 365 gave particular reasons, and these were categorized into four responses: (1) familiarity of format, (2) easy to buy, carry or use the format, (3) tangibility of format and (4) ability to modify, search or use technology within a format.

Tangibility was the most popular, with 150 respondents indicating that to be a reason. Quite a number of the respondents mentioned enjoying the physical sensation of printed books, like the feel of turning the pages and the smell of the books. One comment read, "I like having an actual book in my hand that I hold and keep forever." This hints at

a “realness” aspect that users prefer about printed books. They also showed signs of liking the control they think books offer. One respondent wrote, “I prefer books. I enjoy holding a book and turning the pages myself.” Many others preferred paper simply to be able to write in the text:

“I prefer printed books. I hate the new technology age in which textbooks are being pushed out. I have always and will always better retain information from a tangible textbook I can write in and highlight.”

Another common thread within the tangibility category was the dislike of reading from a screen, often causing eyestrain and sometimes reducing the ability to intake knowledge. One commenter wrote, “I’d prefer old-fashioned printed copies. It’s easier on my vision and feels like you’re learning something.”

Familiarity was the second most popular category, with 114 responses. Some commenters noted that they were most comfortable with physical books. One wrote, “I prefer printed books, because it’s what I grew up with and I find it comforting. E-books aren’t concrete.” Another popular reason within the familiarity category was printed books’ familiar ability to show the reader’s progress. One respondent wrote, “When I am on an iPad or computer it doesn’t really show my progress in reading.”

The category for ease of use (70 responses) generally described e-readers and tablet devices. Of those surveyed, important aspects included ability to quickly purchase a book and the limited amount of space required to store those books. One respondent wrote:

“I prefer an e-reader device because I read quite frequently and fast. It is more convenient for me, to be able to purchase/download books immediately rather than having to drive to the store to buy one. It’s also nice because I can have an abundant amount of books on the device and it takes up very little space, as opposed to having printed versions of the books.”

Another person added that he or she likes the instant gratification aspect of e-books. He or she said, “It’s easy to just download the book you want right then and start reading it right away. The books are also cheaper.” Several respondents mentioned the fact that e-books are generally cheaper, but the price of the device was not a frequent topic.

Technological aspects (31) placed last but were still mentioned by many of the respondents. A popular topic was the fact that e-books are often housed in compact devices that allow users to perform more activities than simply reading a book. One respondent wrote:

I prefer my iPad to read books, magazines and newspapers on because everything is right there when you need it. You are never in fear of losing something and nothing can get lost. It is sleek, and a lot easier to do a lot more things versus reading a print book.”

Others like the ability to manipulate the text. They commented on things like

being able to change text size and the capability to use a search function within the device. Connectivity to further knowledge was another common thread, with points like the ability to look up definitions and the speed of that function.

One respondent summed up e-books as if they present the best of both worlds. “I prefer e-readers, because their displays, which use e-ink, are the easiest digital screens on the eyes. Also, they are more affordable than tablets or computers.”

In sum, these responses suggest that most respondents prefer paper formats, and many indicated that they like to take notes in their books. The desire for familiarity also suggested a preference for paper books and easily processed information, while digital formats, particularly e-readers and tablet devices were referenced less frequently, among those who valued ease and technological flexibility.

Reflections on Uses and Gratifications

Uses and Gratifications Theory, from which Niche Gratification Theory stems, divides gratifications into five categories: (1) cognitive, (2) affective, (3) personal, (4) social and (5) tension release. The 13 survey gratifications were correlated with these original categories where applicable and evaluated based on the categories of Uses and Gratifications classifications. Printed books were found to be most useful in the cognitive category, as applied to mental processing (36.4%) and academic or research needs (33.9%). They were also useful in tension release (Leisure or relaxation, 31.5%). E-readers were successful in the affective category, with high scores for ease of purchase (37.6%), ease of reading (27.8%), portability (43.9%) and ease of storage (40.8%). Tablet devices had moderately high scores across several categories, but they were especially

high in affective categories, such as ease of book purchase (31.6%), portability (37.6%) and ease of storage (35.7%). These results seem to mean that the respondents who read printed books do so to learn or maybe to relax – but either way, the reading experience is of high importance. However, users of e-readers and tablets find the format and other features that are outside the reading experience to be most emotionally and aesthetically pleasing, and digital formats are geared more toward convenience rather than the reading process itself. Digital readers also appear to have some gratifications that are not in line with the way Uses and Gratifications has been applied, and their technological edge required a newer method of study.

CHAPTER V

CONCLUSIONS

This study sought to measure students' usage of printed books and e-books and to evaluate findings for book publishers and book consumers. Gratifications, or potential uses, of different book formats were measured and analyzed to answer research questions and address the hypothesis. A formula was created to evaluate the formats, and it offered a hierarchy that explains the market strength of each format.

Analysis of formats

According to the survey results, ownership and use of digital readers is relatively low, as is book reading on tablets. According to information from the Pew Research Center, 18% of Americans own an e-reader, and 25% own a tablet device (Brenner, 2012). The results from this study indicated slightly higher numbers, possibly due to the age or economic status of respondents. While niche breadth was strongest for e-readers and tablet devices, that measurement could have been skewed somewhat by the particular gratifications that were addressed in the study, some of which emphasized technological features. The low overlap of printed books with other formats suggests that printed books have their own healthy niche. Combined with the market strength of printed books, the results suggest that makers of e-readers should continue to try to create them in the form of books so that they may evoke the same feel and familiarity of printed books.

E-readers and tablet devices have a strong gratification overlap and have many of the same capabilities. It seems likely that continued innovation of these devices will go hand-in-hand with their ongoing mutual competition. Shared gratifications like *ease of purchase, ease of storage* and *portability*, suggest they are evaluated as devices more than reading platforms. E-readers performed better than tablet devices in the niche breadth, competitive superiority and location opportunities categories, though just barely. Tablet devices performed better in the niche overlap category, and the two formats scored the same number for time opportunities. It seems as though e-readers may be more useful for reading books, while tablet devices are an all-in-one device for reading as well as performing other functions. The results from Table 5 also indicate that e-readers are generally more useful for reading, as they scored higher than tablet devices in categories such as *ease of purchase, ease of reading, mental processing, portability* and *easy to store*. Tablet devices were useful for connectivity, scoring higher than e-readers in categories such as *ability to skip around, connect to outside sources* and *extra features*. Tablet devices also scored higher than e-readers in the *academic/research needs* category. That could be explained by the fact that the survey participants were college students who may need to access the Internet via a tablet device to complete schoolwork. The perceived usefulness of and preference for tablet devices for academic reasons could be an area of focus for publishers, despite the fact that respondents indicated a preference for printed books and e-readers that closely mimic printed books. Because the formats are so similar in their features and use, there is a great opportunity to promote the small differences, like e-ink and Internet access, or to compete by changing the prices or advertising practices for these formats.

Printed books have a stronger connection to the actual reading experience. Printed books ranked highest in the categories of *mental processing*, *ability to skip around*, *leisure or relaxation*, and *academic needs*. Computer e-books generally ranked last, as they have only some of the same capabilities as e-readers and tablet devices while not meeting the same standards of “reading” gratifications as printed books.

Printed books seem to be the most flexible in times and locations, and computer e-books also rated fairly well in this category, particularly for “in class” and “at school outside of class.” However, that could be a result of the fact that those surveyed were college students who have easy access to lab computers on campus or who may frequently carry their own laptops to class. Furthermore, e-readers and tablet devices are more likely to be used in social atmospheres, where other students will be around, like walking somewhere, at the gym, in a café or in a store. This could be a connection to portability of tablet devices, which allows users to carry more than one book at a time without adding extra weight.

Theoretical implications

Niche Gratification Theory was applied in evaluating the responses and provided a number of variables, including niche breadth, niche overlap, competitive superiority, gratification opportunities and competitive displacement. These variables played a vital role in the evaluation of the different book formats. A format’s availability in different times and places played an especially large role in the reasons that it was a strong competitor.

Niche Gratification Theory suggests that consumers seek certain formats to fulfill

specific needs and that formats in the marketplace are in competition with one another to fill those roles. The results of the hierarchy calculation show that printed books have the highest market strength, followed by e-readers, tablet devices and computer e-books. These findings suggest that consumers are reading e-books, but many still prefer printed books or formats that are most similar to printed books. The theory suggests that each format has a specific niche and requires the continuation of that niche, lest it succumb to competition from other formats. It appears that printed books continue to hold their traditional niche, while tablets and e-readers are expanding into new niches rather than invading the traditional “reading” niche of printed books. These new niches are based on gratifications that are outside the reading process, such as *connecting to the outside* and offering *extra digital features*, and easy *portability* and *storage*.

Open-ended responses help shed some light. It seems as though printed books have a niche of familiarity and concreteness that other formats cannot provide at this point. Printed books are easier for people to “control” as they use them, and they lack complications presented by modern technology. E-readers may be a kind of bridge between print and digital readers: They support at least some print familiarity, through the use of e-ink, but also helpful technological aspects like compactness and the ease of buying a book without needing to leave one’s current location. E-readers also showed a moderate correlation with enjoyment of reading. Tablet devices seem less “familiar” to respondents than e-readers, but they offer many of the technological advantages found in e-readers. What tablet devices lack in screen quality for extended reading, they make up for in connectivity and extra features. Their connection to the Internet, and therefore, to a nearly infinite source of information and entertainment, make them a competitor by

starting a new niche area.

Computer e-books also have this connection, but the device itself is hindered by the fact that it takes up more space and is heavier (and therefore less portable) than an e-reader or tablet device. It also fails to offer the familiarity of print. The screen quality is comparable to a tablet device, which may hinder the length of time that users can spend using a computer to read e-books. However, the fact that most of the sample had owned a computer for more than two years may play a part in the continued competition of computer e-books. When the device has already been purchased and the books are less expensive, computer e-books could be an easy alternative, especially to students who may buy textbooks in that format.

Implications for publishers

The results of the study suggest that printed books should still be positioned in a good place for the consumer marketplace. While e-readers and tablet devices are gaining popularity and expanding into new niches, results from this survey of young readers suggest there is reason to be hopeful about the future of printed books. Furthermore, results here indicate that the choice between e-readers and tablet devices may be based on aspects that are less related to the actual experience of *reading* books. Of those surveyed, most heavy readers indicated that they chose e-readers as a convenience to easily buy and store books without the distractions that come with tablet devices. Those who preferred tablet devices often wanted the connectivity to look up definitions and do further research on whatever they were reading, as well as the ability to perform entertainment functions, all within one device. Computer e-books seem to be a last resort for those who wish to

buy cheaper e-books and do not own a device specified for doing so. These findings suggest that publishers should continue the practice of releasing both printed books and e-books, while continuing to investigate the habits of their readers, as it has yet to be determined what will happen if e-books gain popularity and strength.

Implications for consumers

Despite what advertising companies and the producers of book devices may wish to portray, printed books are still heavily consumed, even by young readers, according to this sample. The consumers of the future are quick to adopt new technologies, but they have been slow to fully embrace the idea of e-books, particularly when it comes to textbooks, as prior research has shown too (Woody, Daniel & Baker, 2010). It is expected that consumers will continue to buy a mixture of printed books and e-books, for various reasons. E-book sales increased from 0.6% of overall sales in 2008 to 6.4% in 2010 (Tonkery, 2011). Some experts are predicting that e-books will account for 50 percent of trade book sales by 2015, but most believe that academic books will be slower in that race (Herther, 2012). This may explain the differences between the results of the study and the fast-paced growth of overall e-book sales. Regardless, results here indicate a continued preference for the experience of reading in print, even for young readers.

It is a traditional practice of publishing houses to first publish a book in hardback form, then wait several months to release a paperback version. For those who choose paperback versions for economic reasons, an e-book makes sense, as it is usually released around the time of the hardback book and is generally cheaper because it does not include the cost of ink, paper, shipping and the manpower needed to physically produce a book

and move it from one place to another.

According to this study, consumers can expect to see continued competition between the makers of e-readers and tablet devices, as there is significant overlap of gratifications between them. Advertising for tablet devices does not usually focus on e-books, but that could change in the future if readers become more accustomed to e-books, particularly as the current generation of college students gets older and a new generation moves in to take its place.

Limitations

The study was limited to the available number of respondents and their history with different formats of e-books. Many respondents had no e-book history, and only those with experience of the formats could answer the questions within that section. Because the sample was composed of college students, it is possible that their opinions skewed the results toward a preference for printed books. College students are more likely than many other populations to have grown up socialized to book reading. Also, college students use many printed textbooks, and many of the respondents remarked that they like to take notes, highlight and save pages for later in order to fully comprehend the information. This process of learning in a hands-on manner could be a reason that this sample of respondents preferred printed books overall.

The sample was also limited to a small age range. This segment of the population represents a highly targeted group that will continue to be customers for some time, and so studying this group is beneficial. However, it is likely that the opinions of this particular group, which has a particular age and fairly similar socio-economic

background, differ from those of the general book-consuming population. Another limitation was the particular gratifications studied. These came from a preliminary survey analysis, which helps validate their choice, but other gratifications could exist. Finally, niche gratification research may also analyze financial resources that are available, and this study did not analyze these. This would be a helpful future study.

Suggestions for future research

The open-ended responses indicated a concern for eyestrain, which could be added to the gratification list in future studies. Many respondents indicated that they liked the feeling of turning a page, so future analyses could delve into the differences between turning a physical page, swiping a screen and clicking a button to move forward through a book. The ability to see progress and the amount of remaining text was also mentioned in the open-ended responses. So these findings show that a “sensory” gratification of some kind could be studied in future research.

Because e-books are still a new and growing technology, the publishing industry has yet to fully evaluate exactly how consumers are using these new formats. While there has been some research on e-books in relation to Uses and Gratifications, Niche Gratification Theory has largely been left out of the evaluation. In the future, more thorough analyses on e-books across different age groups would produce a better image of the status of the book publishing industry in relation to electronic formats. Additionally, future research could evaluate separately the use of fiction and nonfiction books in digital format, which is particularly important for the age group studied here, given the frequent use of textbooks. This expansion of this research would be valuable

not only for looking toward the future, but also to look back on after an effective e-book pattern has been put into place and embraced by consumers. This process can also be applied to other forms of reading, like magazines and newspapers that are making the transformation to digital forms. While publishers and consumers do not know exactly what the future holds for digital publishing, this study provides a snapshot in time of the current state of the market, according to this sample.

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APPENDIX A: SURVEY INSTRUMENT

Participant information

You are being asked to participate in a research study designed to examine college students' use of printed books and e-books. The study is titled, "Printed Books versus e-Book Formats: A Study Using Niche Gratification Theory." The study is being conducted by Christi Cowan, a graduate student in the Journalism Department at the College of Communication and Information Sciences at UA. The research is being supervised by Dr. Wilson Lowrey in the Department of Journalism.

I am interested in measuring your thoughts and feelings about different book formats and how you typically use them. The study involves taking one online survey on the computer, and it may be taken anywhere with Internet access and a browser. The online survey should take approximately 20 minutes to complete.

Keep the following in mind as you decide whether or not to take part in the study:

- Your participation in this study is voluntary. You may refuse to answer any questions if you prefer not to answer them. You may decline to participate without penalty. If you participate, you may withdraw from the study at any time without penalty or loss of benefits to which you are entitled. If you withdraw from the study your information will be destroyed by deleting your data from the computer file immediately.
- Your identity and the information you provide will be kept confidential. Data will be stored securely and will be made available only to the lead investigator (myself) and my faculty advisor.
- Participating in this study will not cost you anything aside from your time.
- Your decision to participate or not participate in this survey study will NOT affect your grade in the course.
- Your instructor may offer extra credit for participating in this research. However, the option to offer extra credit is entirely up to your instructor and he/she may decide to not offer any credit at all. There will be no penalty for you in this course if you decide not to participate.
- If your instructor offers extra credit for your participation, your name and CWID will be required in order to grant you the extra credit, and this information initially will be linked to your survey responses. However, at no point will your name or CWID be published or disclosed. After data are collected for this study, survey data will be downloaded to an online (only) spreadsheet. The online data file will be deleted after downloading the file to the investigator's computer (which is always kept in a computer in a private office that is locked when not being used). At that time, data will be de-identified by deleting names and student ID numbers from the digital data spreadsheet, the only existing copy of this data. Any reports of this data will be based on aggregated data – it will not be possible to connect data to participants. Should your instructor indicate that you will receive extra credit for your participation, he/she will receive only an Excel file listing names of students who participated in the survey, and he/she will not be given a copy of your responses.
- The risks to you are minimal. If any question makes you feel uncomfortable, you do not

have to answer it. There are no direct benefits to participating.

- Survey questions are designed to measure your feelings and opinions. There are no right or wrong answers.

If you have any questions at any time, please feel free to ask. If you have questions later today or at a later date, you may contact the researcher, the faculty advisor, IRB or the compliance officer.

The University of Alabama Institutional Review Board is the committee that protects the rights of people in research studies. The IRB may review study records from time to time to be sure that people in research studies are being treated fairly and the research is being carried out as planned.

If you have questions about the study, please contact the investigator, Christi Cowan, at cacowan@crimson.ua.edu or her faculty adviser, Dr. Wilson Lowrey, at (205) 348-8608 or wlowrey@ua.edu.

If you have questions, concerns, or complaints about your rights as a person in a research study, call Ms. Tanta Myles, the Research Compliance Officer of the University of Alabama, at 205-348-8461 or toll-free at 1-877-820-3066.

You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach website at http://osp.ua.edu/site/PRCO_Welcome.html or email the Research Compliance office at participantoutreach@bama.ua.edu. After you participate, you are encouraged to complete the survey for research participants that is online at the outreach website or you may ask the investigator for a copy of it and mail it to the University Office for Research Compliance, Box 870127, 358 Rose Administration Building, Tuscaloosa, AL 35487-0127.

You may print off a copy of this statement to keep for your records.

CLICK "NEXT" BELOW IF YOU WOULD LIKE TO PROCEED TO THE SURVEY.

Welcome!

Welcome! Thank you for taking the time to participate in this survey. This is a study of different types of devices used for reading. You will be asked questions about the following types of books, and how you use them:

- Traditional printed books (paperback or hard cover)
- E-readers (sole purpose is for reading books; such as a standard Kindle reader or Nook Simple Touch)
- Tablet devices (with extra Internet-based features; such as an iPad, Kindle Fire or Nook Tablet)
- Computer e-books (of the type you might access from the UA online library database).

Below are examples of these devices, and what they look like:

Format type	Format example	What it looks like
Traditional printed book	Hardback book	
E-reader	Kindle	
Tablet device	iPad	
Computer e-book	Laptop	

Ownership

1. If you OWN an e-reader (such as a Kindle), how long have you owned it?

Do not own an e-reader

1-6 months

7-12 months

1-2 years

More than two years

2. If you OWN a tablet device (such as an iPad), how long have you owned it?

Do not own an e-reader

1-6 months

7-12 months

1-2 years

More than two years

3. If you OWN a computer with Internet connection, how long have you owned it?

Do not own an e-reader

1-6 months

7-12 months

1-2 years

More than two years

Fiction and Nonfiction

4. When you read FICTION, how often do you read it in the following formats?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

Printed books

E-readers (such as Kindles)

Tablet devices (such as iPads)

Computer e-books

5. When you read NONFICTION, how often do you read it in the following formats?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

Printed books

E-readers (such as Kindles)

Tablet devices (such as iPads)

Computer e-books

Printed books

The next few questions ask about your use of traditional printed books (either hard cover or paperback).



6. During the last completed school year, how frequently did you read PRINTED books in the following locations?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

In class

At school outside of class

At the place you live (your dorm, apartment, house, etc.)

At work

Walking somewhere

Sitting outside

Waiting somewhere (such as a doctor's office)

In a restaurant or bar

At the gym

At the home of your parents, parent or guardian

At a friend's home
In a store
In transit via car, airplane, train, subway or bus

7. During the last completed school year, how frequently did you read PRINTED books at the following times?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

Early morning: 5-8 a.m.

Morning: 8-11 a.m.

Midday: 11 a.m. to 2 p.m.

Afternoon: 2-5 p.m.

Evening: 5-8 p.m.

Late night: 8-11 p.m.

Overnight: 11 p.m. to 5 a.m.

8. On a scale of 1 to 5, please indicate how helpful you think PRINTED BOOKS are in achieving each of the following benefits.

Columns: (1=Not at all helpful 2 3=Neutral 4 5=Very helpful)

Rows:

Low cost

Ease of book purchase

Makes the reading experience easy

Better for mentally processing the information that is read

Portability, easy to take with you

Durability

Easy to store

Ability to skip around within the book

Easy to connect to outside sources of information

Offers extra features

Leisure or relaxation

Helps with academic or research needs

Other benefits (please specify in blank below) _____

E-readers

The next few questions ask about your use of e-readers, which are used only for reading books.

Examples include the standard Kindle reader.



9. How often have you read e-books on an e-reader (such as a Kindle)?

Very Frequently

Frequently

Sometimes

Rarely

Never > skips to **Tablet devices**

10. During the last completed school year, how frequently did you read e-books on an E-READER in the following locations?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

In class

At school outside of class

At the place you live (your dorm, apartment, house, etc.)

At work

Walking somewhere

Sitting outside

Waiting somewhere (such as a doctor's office)

In a restaurant or bar

At the gym

At the home of your parents, parent or guardian

At a friend's home

In a store

In transit via car, airplane, train, subway or bus

11. During the last completed school year, how frequently did you read e-books on an E-READER at the following times?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

Early morning: 5-8 a.m.

Morning: 8-11 a.m.

Midday: 11 a.m. to 2 p.m.

Afternoon: 2-5 p.m.

Evening: 5-8 p.m.

Late night: 8-11 p.m.

Overnight: 11 p.m. to 5 a.m.

12. On a scale of 1 to 5, please indicate how helpful you think E-READERS are in achieving each of the following benefits.

Columns: (1=Not at all helpful 2 3=Neutral 4 5=Very helpful)

Rows:

Low cost

Ease of book purchase

Makes the reading experience easy

Better for mentally processing the information that is read

Portability, easy to take with you

Durability

Easy to store

Ability to skip around within the book

Easy to connect to outside sources of information

Offers extra features
 Similarity to a printed book
 Leisure or relaxation
 Helps with academic or research needs
 Other benefits (please specify in blank below) _____

13. Since you started reading e-books on an e-reader, indicate below if you read the following PRINTED MEDIA less, the same or more?

Columns: (1=Less 2=A little less 3=The same 4=A little more 5=More)

Rows:

Print books
 Print newspapers
 Print magazines

Tablet devices

The next few questions ask about your use of tablet devices (such as iPads).



14. How often have you read e-books on a tablet device (such as a iPad)?

Very Frequently
 Frequently
 Sometimes
 Rarely
 Never > skips to **Computer e-books**

15. When you use a tablet device, how frequently are you reading a book on it?

Never
 Rarely
 Sometimes
 Frequently
 Very frequently

16. During the last completed school year, how frequently did you read e-books on a TABLET DEVICE in the following locations?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

In class
 At school outside of class

At the place you live (your dorm, apartment, house, etc.)
At work
Walking somewhere
Sitting outside
Waiting somewhere (such as a doctor's office)
In a restaurant or bar
At the gym
At the home of your parents, parent or guardian
At a friend's home
In a store
In transit via car, airplane, train, subway or bus

17. During the last completed school year, how frequently did you read e-books on a TABLET DEVICE at the following times?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

Early morning: 5-8 a.m.

Morning: 8-11 a.m.

Midday: 11 a.m. to 2 p.m.

Afternoon: 2-5 p.m.

Evening: 5-8 p.m.

Late night: 8-11 p.m.

Overnight: 11 p.m. to 5 a.m.

18. On a scale of 1 to 5, please indicate how helpful you think TABLET DEVICES are in achieving each of the following benefits.

Columns: (1=Not at all helpful 2 3=Neutral 4 5=Very helpful)

Rows:

Low cost

Ease of book purchase

Makes the reading experience easy

Better for mentally processing the information that is read

Portability, easy to take with you

Durability

Easy to store

Ability to skip around within the book

Easy to connect to outside sources of information

Offers extra features

Similarity to a printed book

Leisure or relaxation

Helps with academic or research needs

Other benefits (please specify in blank below) _____

19. Since you started reading e-books on a tablet device, indicate below if you read the following PRINTED MEDIA less, the same or more?

Columns: (1=Less 2=A little less 3=The same 4=A little more 5=More)

Rows:
Print books
Print newspapers
Print magazines

Computer e-books

The next few questions ask about your use of computer e-books (of the type you might find on a library website).



20. How often have you read e-books on a computer?

Very Frequently

Frequently

Sometimes

Rarely

Never > skips to **Demographics**

21. During the last completed school year, how frequently did you read COMPUTER E-BOOKS in the following locations?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

In class

At school outside of class

At the place you live (your dorm, apartment, house, etc.)

At work

Walking somewhere

Sitting outside

Waiting somewhere (such as a doctor's office)

In a restaurant or bar

At the gym

At the home of your parents, parent or guardian

At a friend's home

In a store

In transit via car, airplane, train, subway or bus

22. During the last completed school year, how frequently did you read COMPUTER E-BOOKS at the following times?

Columns: (1=Never 2=Rarely 3=Sometimes 4=Frequently 5=Very frequently)

Rows:

Early morning: 5-8 a.m.

Morning: 8-11 a.m.

Midday: 11 a.m. to 2 p.m.

Afternoon: 2-5 p.m.

Evening: 5-8 p.m.

Late night: 8-11 p.m.
Overnight: 11 p.m. to 5 a.m.

23. On a scale of 1 to 5, please indicate how helpful you think COMPUTER E-BOOKS are in achieving each of the following benefits.

Columns: (1=Not at all helpful 2 3=Neutral 4 5=Very helpful)

Rows:

Low cost

Ease of book purchase

Makes the reading experience easy

Better for mentally processing the information that is read

Portability, easy to take with you

Durability

Easy to store

Ability to skip around within the book

Easy to connect to outside sources of information

Offers extra features

Similarity to a printed book

Leisure or relaxation

Helps with academic or research needs

Other benefits (please specify in blank below) _____

24. Since you started reading e-books on a computer, indicate below if you read the following PRINTED MEDIA less, the same or more?

Columns: (1=Less 2=A little less 3=The same 4=A little more 5=More)

Rows:

Print books

Print newspapers

Print magazines

Demographics

Finally, the following questions are about yourself.

25. What reading device(s) do you prefer, and why? (open-ended response)

26. Please indicate how much you agree or disagree with the following statement:

"I enjoy reading books in my spare time."

Strongly Agree

Agree

Neutral

Disagree

Strong Disagree

27. What year were you born?

Drop down menu listing years since 1985

Other year (please specify) _____

28. What is your college year?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate student
- Not applicable

29. What is your current GPA?

- 3.75-4.0
- 3.50-3.749
- 3.0-3.49
- 2.5-2.99
- 2.0-2.49
- <2.0

30. If you have declared a major, what is your major?

31. If you have not declared a major, what is your most likely major?

32. What is your gender?

- Male
- Female

33. Please specify your race.

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White/Caucasian
- Other

34. Please specify your ethnicity ("Hispanic/Latino" is considered an ethnic category rather than a racial category).

- Hispanic or Latino
- Not Hispanic or Latino

35. It is hard to judge people's economic situation, and the categories below are not perfect. But to the best of your ability, please estimate which category best fits your family, in terms of income.

- Below middle class
- Middle class
- Middle to upper middle class
- Upper middle class to upper class

Extra credit

36. IMPORTANT: If you are taking this survey for extra credit in a class, please list your last name, first name, CWID, course number, course section and the last name of your instructor.

Last name: _____

First name: _____

CWID: _____

Class you are taking this survey for: _____

Class section: _____

Last name of instructor of class: _____

Thank you!

Thank you for your participation.