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The Evolution and Future of E-Books: A Major Shift In Technology

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THE EVOLUTION AND FUTURE OF E-BOOKS: A MAJOR SHIFT IN TECHNOLOGY

by

Sean F. O'Connor

BA, Carthage College, 2009

A Research Paper
Submitted in Partial Fulfillment of the Requirements for the
Master of Science

Department of Mass Communication and Media Arts
In the Graduate School
Southern Illinois University Carbondale
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RESEARCH PAPER APPROVAL

THE EVOLUTION AND FUTURE OF E-BOOKS: A MAJOR SHIFT IN TECHNOLOGY

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Sean F. O'Connor

A Research Paper Submitted in Partial

Fulfillment of the Requirements

for the Degree of

Master of Science

in the field of Mass Communication and Media Arts

Approved by:

Dr. Paul Torre, Chair

Graduate School
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Sean F. O'Connor, for the Master of Science degree in Mass Communication and Media Arts, presented on November 2nd, 2011 at Southern Illinois University Carbondale.

TITLE: THE EVOLUTION AND FUTURE OF E-BOOKS: A MAJOR SHIFT IN TECHNOLOGY

MAJOR PROFESSOR: Dr. Paul Torre

Since their creation in 1971 by Michael Hart, e-books have steadily progressed into a major part of our technological landscape through the diffusion of innovations. The technology of e-books and e-readers has only further progressed into the current media landscape of how we read books. The e-book and e-reader technology will only continue at a more rapid pace of heavily impacting the future of book reading exponentially with further adaption of this technology.

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Introduction

This paper is an examination of e-books as an example of a diffusion of innovation. The scope of the research will range from the issues presented in the continuing evolution of this new media format, the innovation of this technology presented as an idea (reading), practice (using an e-reader to read an e-book), and object (e-reader), the stages of the Innovation Decision Process (knowledge, persuasion, decision, implementation, confirmation) in relation to the spread or development of this technology, and conducting research into the diffusion of innovation using e-reading and e-readers as a case study of methodology. There has been and continues to be a diffusion of innovation in e-book technology that pushes the art of reading to new heights.

An e-book or electronic book is a book-length publication in digital form, consisting of text, images, and is produced on, published through, and readable on computers or any other electronic devices. The e-book is the digital equal to the traditional printed book. The contents are read on personal computers, tablet computers, or by the use of hardware devices called e-book readers. (Sporkin, 2011)

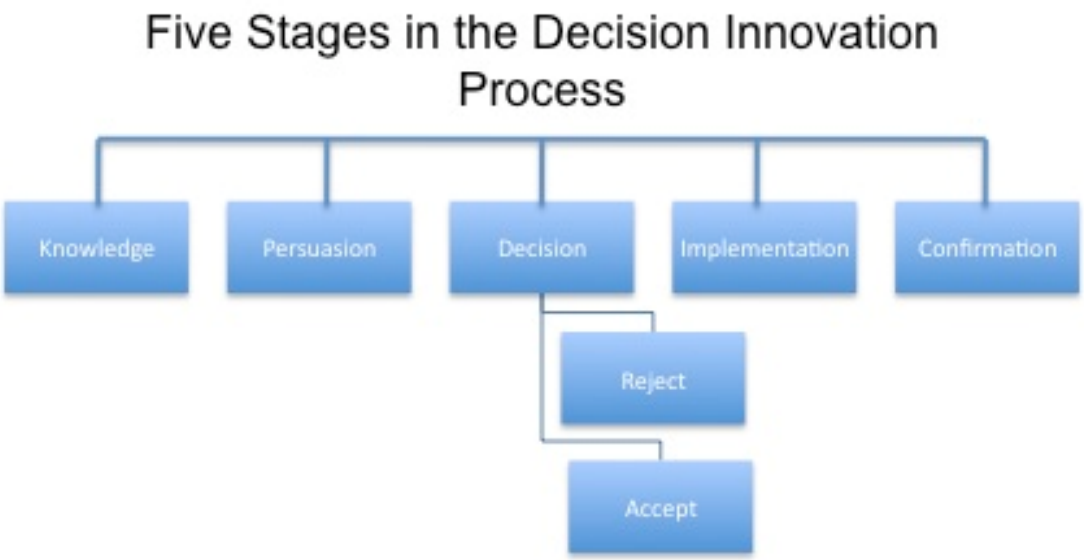
An e-reader is a portable electronic device that is designed primarily for the purpose of reading digital books (e-books) and periodicals. An e-book reader is similar in form to a tablet computer, in that they are both devices that can display text on a screen can act as an e-reader, but the main advantages of e-book readers, such as the Nook or Kindle over computers are their added use in features, such as better

readability of their screens especially in bright sunlight and longer battery life (this is achieved by using electronic paper technology to display content to readers specifically for e-readers only). A tablet computers capability as an e-reader however, does typically have a faster screen capable of higher refresh rates, which makes them more suitable for interaction. (Sedycias, 2008)

The diffusion of this technology is rapidly advancing from an advanced accompaniment for print books, an alternative option of buying a book, and finally a main staple in how books will be produced in the future of literature. According to Everett M. Rogers, diffusion refers to "The process by which an innovation is communicated through certain channels over time among the members of a social system. An Innovation is an idea, practice or object perceived as new by an individual or other unit of adoption. The diffusion of innovations involves both mass media and interpersonal communication channels." That is, by sharing communication channels such as interpersonal communication or mass communication people can get information of an innovation, such as e-books and perceive its innovation as useful. (Rogers, 1996)

Everett M. Rogers mentioned that there are five stages as viewed in Figure 1, the consumer undergoes when deciding whether to adapt a new technology or stay with their current level of technology: Knowledge (selective exposure or awareness of news of the innovation), Persuasion (positive or negative attitudes/impressions people have toward innovations), Decision (whether to adopt the innovation or not), Implementation (regular or standard practice of actual use), and Confirmation (comparing and evaluating information on innovation and probability of continued or

discontinued use). Consumers must weigh the difficult decision of whether to accept or reject the new technology of e-books. (Rogers, 1995)



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. **Figure 1:** The Five Stages of the Process of Innovative Decisions

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The Innovation Decision Process is the rate at which mental process through which an individual (or other decision making unit) passes from first knowledge of an innovation to forming an attitude toward the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision. The process begins when the consumer first accumulates Knowledge of an innovation (an individual is exposed to the innovation's existence and gains some understanding of how it functions, such as Tech Reports) by forming an opinion toward the innovation through Persuasion (Through Product Advertising By Companies an individual forms a favorable or unfavorable attitude toward the innovation), then a Decision to is

formed whether to purchase or ignore the product (Sales Figures impact how an individual engages in activities that lead to a choice to adopt or reject the innovation), resulting in the Implementation of the new idea (Through Consumer Use an individual puts an innovation into use), and finally to Confirmation of this decision (New Products Being Launched would be an example of how an individual seeks reinforcement of an innovation decision or decides to reverse the previous decision due to the conflict). An individual then seeks information at various stages in the innovation-decision process in order to decrease uncertainty about an innovation's expected consequences. (Rogers, 1995)

Rogers framework is empirical-descriptive in that he has detected recurrent patterns from careful statistical analyses of many innovations, which can be viewed in the evolution of the e-book and e-reader. His framework is an accurate description of natural phenomena occurring in human social systems, which would be the consumers or readers of e-books. Rogers exposes the ways in which individuals generate actions that produce and sustain the adoption innovations. (Rogers, 1995)

Rogers defines the rate of adoption for a new technology as the relative speed with which members of a social system adopt an innovation. It is usually measured by the length of time required for a certain percentage of the members of a social system to adopt an innovation. As an example, individuals who first adopt an innovation require a shorter adoption period (adoption process) than late adopters most likely due to their technological aptness or their willingness and foresight into the benefits of adapting to a new technology. (Rogers, 1995)

Within the rate of adoption there is a point at which an innovation reaches

critical mass, which is where the e-reader is currently beginning to find itself at. This is a point in time within the adoption curve that enough individuals have adopted an innovation in order that the continued adoption of the innovation is self-sustaining. Rogers describes how an innovation reaches critical mass, in his outline of how several strategies reach this stage that include: Having an innovation adopted by a highly respected individual within a social network, creating an instinctive desire for a specific innovation, and thus injecting an innovation into a group of individuals who would readily use an innovation, which would in turn provide positive reactions and benefits for early adopters of an innovation. (Rogers, 1995)

The study of diffusion theory is potentially valuable to e-book companies for many reasons. Many e-book strategists do not understand why their products are, or are not, adopted. In a very real sense, the underlying causes of e-readings diffusion problem still remains a mystery to the field in what it will exactly take for e-books to become an integral part of the way readers view literary content. (Sharp, 2011)

Research Questions

RQ1: In what ways are e-books innovative vs. reading versions of text?

Hypothesis 1: Larger and easier distribution of text, as well as portability in a device that can store thousands of books in one space with the same look, feel, and touch of a print book. The use and functions are improved as the reader now has more control of how they read (visual screen improvements) and what they read more practically (many books are available that are not available in print

versions or are difficult to obtain) at a cheaper price than hard cover or paper back books can provide. Writers and publishers can now enhance the consumers reading experience through multi media content that was not previously available.

RQ2: How has the practice of reading e-books spread?

Hypothesis 2: By encouraging the creation and distribution of e-books, e-book companies encouraged the use of e-readers and free e-books from web sites, such as the Guttenberg Press. If there was any one significant revolution that marked a new era in the popularity and use of e-books it was the price war of 2010 that initially occurred between Amazon and Wal-Mart and then further between Barnes and Noble, Sony, and Kobo for market supremacy with back and forth lowering of e-reader prices that resulted in increased revenue from e-book sales, as well as establishing e-reader market leaders. Improving e-reader functions, visual presentation of e-books available (in retail stores and online), and pushing e-readers as a singular device that provides a greater abundance of multi media content to its consumers.

RQ3: In what way have e-readers played a major role in stimulating e-book development?

Hypothesis 3: The development of e-reader technology has dictated how and at what rate the e-book has advanced to stake a major claim in today's literary market. Industry issues, such as the price war in 2010 that occurred between prominent e-reader companies, which resulted in the lowering of their devices prices

as a way to generate more e-book sales, as well other challenges including piracy and competition from other devices (tablet computer, cell phone, etc) that e-books can be viewed on continue to challenge the industry. E-Readers provide multi media content that compliments e-books and an easier, as well as a more enhanced reading experience for the consumer.

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Literature Review

The word 'book' is so much a part of everyday conversation that there is no doubt that every reader already has a mental image and a complete understanding of what is being discussed when mentioning this art form, but in the digital age can the same be said of the e-book? Researcher, Chris Armstrong comments on the subject, "No two readers may have the same picture, but all will have a clear idea of the essential features: what it is for, how it is used, and so on. The same cannot be said of the e-book." This is mostly due to the variety of forms, formats, and features given to e-books, as well as the fact that this form of technology within regards to reading is still relatively new. (Armstrong,
2008)

The issues presented by e-books as an evolution of a new media format are both positive and negative for the book industry, but with the evolution of a new technology also comes opportunity for growth within the industry. CEO of publisher Bloomsbury, Nigel Newton believes 2011 will be the year of the e-book by commenting, "We are benefitting from our strong position in digital publishing, which continues to experience exciting and unprecedented growth. With sales of

digital devices such as the Kindle, Nook and iPad growing rapidly, 2011 will clearly be the year of the e-book. We believe that digital publishing creates huge opportunities." There has been and continues to be within regards to the e-reader, a major diffusion of innovation taking place in the literary community, which affects how we read and will continue to read in the future. (Trotman, 2011)

Random House UK's deputy chairman, Ian Hudson predicts that e-book sales could exceed 8% of trade publishers' sales in 2011, and could reach 15% next year. Hudson also rejected the notion that the death of the app or enhanced e-book may be nearing, by arguing "Publishers need to explore the opportunities [rather] than sit back only to be flattened by the changes sweeping the industry." If change is embraced within the industry toward digitalization, then the consumer will discontinue their dissenting opinions on whether or not to adopt the technology of e-books and more fully realize the potential of this diffusion of innovations. (Trotman, 2011)

In an era for publishing so utterly defined by the race toward digital, will the publisher, writer, and reader differ or agree on their fixation on the book as an object? Writer Art Spiegelman said, "I use digits for most of my comics making these days, and for designing the books themselves. The technology that threatens to kill off books as we know them—the "physical book," a new phrase in our language—is also making the physical book capable of being more beautiful than books have been since the middle ages." Spiegelman is an example of an avid bookworm who embraces the digital benefits of e-book technology while retaining all of the physical elements of the print world that he has been familiar with for so long. (Heater, 2011)

Publishers are facing an conundrum in that they are trying their best to keep from cannibalizing hardcover sales by over popularizing e-books, but they also realize that they stand a chance to make even more sales via instant downloads that don't require a physical bookstore to stock them. Founder of Sterling Marketing Intelligence, Greg Sterling said of the current environment for publishers, "The book industry is trying to feel its way in this new media environment, and what we're ultimately probably going to have is the hardback release, and some relatively limited window of time before an e-book version comes out. In the end, they've got to say, 'this is a real opportunity and not something we have to be afraid of." Will publishers respond with instant gratification to the consumers' needs and voyage into the future of implementing technology in book readership, as well as distribution or will there continue to be a divide in readers of the future and readers of the past. (San Miguel, 2010)

Due to the technology limitations imposed on readers by publishers and e-reader companies, many readers are still on the fence as to whether to give the electronic technology of reading books a chance or stick with the casual form of reading a physical book that they are already familiar with. TechNewsWorld columnist Renay San Miguel said, "If I'm going to shell out $200 for a Kindle or $499 for an iPad, will I be able to download all the books I want, when I want? Or are you going to make me wait a month or two to get the e-book version of the latest James Patterson, Anne Tyler, John Grisham, and Don DeLillo?" Shouldn't the reader get what they want immediately without any market politics or preferential interference of the publisher and e-reader company? (San Miguel, 2010)

Will the e-book become a mainstay or staple technology that is viewed as the universal standard for reading books? Hart views that it may be a natural process of adaption over time, “To say that the world always says it will stick with the old ways until a new generation comes, and then the car or the telephone or hairstyle, or whatever, becomes ubiquitous, then the story is closed, and the argument forgotten.” So if the current generation doesn’t adopt in prevailing numbers, then the next generation of consumers will seamlessly adapt or be left behind in an technological whirlwind, much like workers who do not have computer skills are finding that technological adaption is no longer optional, but necessary to stay current with technology that is becoming an industry standard. (Bosman, 2011)

In Figure 3, we can categorize the different types of innovators in the extremes of the Innovators and the Laggards, as well as everything in between. The Individual Innovativeness theory states individuals who are predisposed to being innovative will adopt an innovation earlier than those who are less predisposed. The figure shows the bell shaped distribution of Individual Innovativeness and the percentage of potential adapters theorized to fall into each category. (Rogers, 1995)

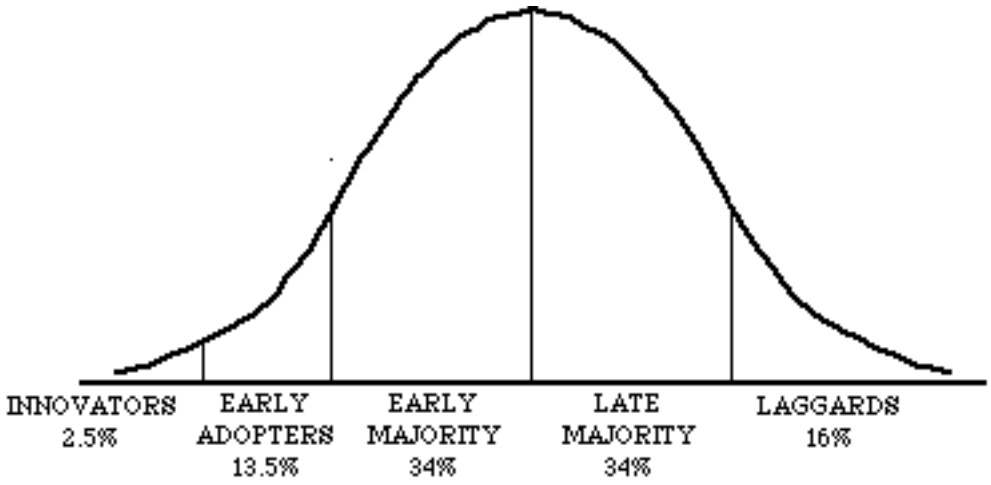

Figure 2: Bell shaped curve-showing categories of individual innovativeness and percentages with each category.

This concept of Individual Innovativeness states that, for any given innovation, a certain percentage of the population will readily adopt the innovation, while others will be less likely to adopt. According to Rogers, there is usually a normal distribution of the various adopter categories that forms the shape of a bell curve. The concept of adopter categories is important because it shows that all innovations go through a natural, predictable, and sometimes-lengthy process before becoming widely adopted within a population. (Rogers, 1995)

This process begins with the Innovators that readily adopt an innovation while making up about 2.5% of any population and then closely followed by Early Adopters that make up approximately 13.5% of the population. Most people will then subsequently fall into either the Early Majority (34%) or the Late Majority (34%) categories. Lastly, Laggards are those who will resist an innovation until the bitter end and eventually comprise about 16% of the entire population. (Rogers, 1995)

On one extreme of the distribution are the Innovators, which are the risk takers and pioneers who adopt an innovation very early in the diffusion process, such as those that adopt the Innovation Decision Process early while making a positive Conformation of the technology. On the other extreme are the Laggards who resist adopting an innovation until rather late in the diffusion process or not at all. The process of how each stage unfolds and the rate their adaptation to technology is determined by a plethora of factors concerning the technology. (Ely & Surry, 2011)

Certain individuals are inevitably more open to adaptation than others. Academic Researchers, Daniel W. Surry and Donald P. Ely said, "The concept of adopter categories is important because it shows that all innovations go through a natural, predictable, and sometimes lengthy process before becoming widely adopted within a population." This theory states, that Once there are less technological restraints and the economic barriers have been lifted, the technology can become a social norm in the consumers' everyday life, which in the case of the e-book is only a matter of time before the res of the Late Majority and Laggards use the technology. (Ely & Surry, 2011)

In Figure 4, we see another diffusion theory discussed by Rogers, which demonstrates an example of how the rate of adoption of technology might typically be represented. The three factors of Number of Percentage of Adopters, Period of Rapid Growth, and Time are depicted in the essence of how they affect each other. Time is the determining factor that influences the adopters' period of growth with the technology and culminates in the adopters' purchase/use of the technology. (Rogers, 1995)

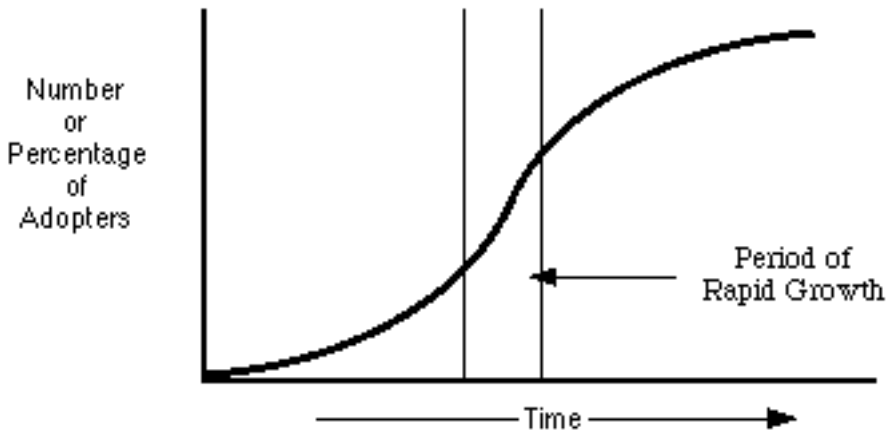

Figure 3: S-Curve representing rate of adoption of an innovation over time.

The Rate of Adoption theory states that innovations are diffused over time in a pattern that resembles an s-shaped curve, which will most likely resemble the complete process of evolution of the e-book. Rate of Adoption theorizes that an innovation goes through a period of slow, gradual growth before experiencing a period of relatively dramatically rapid growth, then a gradual stabilization, and eventually a leveling off or gradual decline. The period of rapid expansion, for most successful innovations, occurs when social and technical factors combine to permit the innovation to experience dramatic growth. (Rogers, 1995)

Publishers will play a bigger and more complicated role, but only if the link between the author and reader is "reconfigured", was among the conclusions from a panel of chief executives at Publishers Launch London. John Makinson, chairman and chief executive of Penguin Group, said he felt more confident about the retail side as of late, "The overall book market, [both] physical and digital, will be resilient, and Amazon's share will grow. Digital content will continue to grow at the expense of

physical content, so you would expect that brick and mortar booksellers will have to adapt, like Barnes & Noble, or it will shrink. But that doesn't mean it is terminal." Does that mean that only one e-reader company will prevail to offer e-books to the masses? (Jones, 2011)

Could publishers experiment with multimedia presentations that include author interviews, exclusive author context on the history of the making of the book, additional cover artist visual digital files, additional short stories, and a free audio version of the book if purchased during its release week, as well as other rich content that could be purchased by consumers at a premium for these editions, which might appeal to high-end users who enjoy their readings enhanced by exclusive content? Sterling said, "It's actually going to be interesting to see how all this evolves. I like reading physical books, but I think it's far from a 'sky is falling' feeling here. It's a real opportunity to do some interesting and engaging things." If it is the technological masterminds that supply us with the game changing technology that pushes the envelope of how we read books, it is up to the publisher and author of the content to together create an environment for readers where that push in the direction of new technology is welcome. (San Miguel, 2011)

When this technology is embraced more fully and viewed as an asset instead of a hindrance of growth for the industry, coordinated progress can be made to provide an better enhanced reading experience for the consumer. Founder and CEO of Sourcebooks and Chair of the BookStats Committee, Dominique Raccah said, “The BookStats study indicates that the publishing industry is healthy and growing during a time of unprecedented change. Publishers in every sector of our business

have made significant investments in content and technology to better serve their audiences' needs and those efforts seem to correlate with the results we're seeing." Without technological unity, readers could remain unconvinced of this new technology and could view the e-book and e-reader as an attempt by the industry at experimenting, hesitating, hedging, and trying to add new ways of reading without abandoning the old one to get more of the consumers dollars unnecessarily. (Katz, 2011)

For those who resist e-books and e-readers, they may just simply say that the technology isn't for them, as they love print books and don't enjoy reading on a screen. The Director of Current Science and Technology at the Museum of Science, David Rabkin said, "Maybe I spend so much time on the computer that I don't want to spend more time on the computer." Whether readers believe they are too old for the technological convergence or that they will miss the bookshelves willed with stacked books to remember what they've read, there are many excuses for why readers continue to resist the e-book technology. (Katz, 2011)

Many dangers do lurk with the elimination of print. Could Libraries be eliminated or replaced with computer labs that access a wealth of e-texts via one source (the website) and could this further result in further privatization (price may rise for printed copies) and desocialization (loss of interacting with other readers in same subject interest) of going to a bookstore, which would in turn result in less interaction with store workers and fellow readers at a store with the transaction/browsing of periodicals occurring entirely online? Will browsing or discovering new books and the use of a bookstore as a social stimulant to engage a

mass audience in books, entirely be replaced by text becoming electronic on a universal scale? (Jenkins, 2006)

Beyond this general resistance to change, some holdouts (Laggards) listed more specific objections, such as believing that e-books may be the demise of publishing or that those who adore book art are disturbed by the uniformity of books on e-readers like the Kindle due to the standard font and page size the device imposes. Their resistance to innovation of books will soon pass though, as the price of e-readers fall and e-books continue their steady rate of being less expensive than print books. New beneficial features will continue to convert print readers into digital readers and eventually, more books will be designed expressly with digital platforms in mind, but for now, almost everything available e-book was conceived initially as a print book and then as digital conversion, which could make print readers believe that the print version is still the standard necessary edition of the book for them. (Jones, 2011)

Idea

The history of the e-reader was launched when Michael Hart fathomed his initial thoughts of developing an e-book in 1971 as a storage device for text. He reasoned that the greatest value of a computer should be not merely computing but also storing material, retrieving it and searching for knowledge kept in libraries. The birth of the e-book era started with Hart typing and translating a copy of the Declaration of Independence while operating the Xerox Sigma V mainframe as a

student at the University of Illinois. (Sedycias, 2008)

He typed the text into the computer but was told that it would be unacceptable to transmit it to numerous people at once via e-mail. Thus, to avoid crashing the system, he made the text available for people to download instead, which would serve, as the basis for the initial beginnings of another of Harts creations in Project Guttenberg. Harts intention was simple information distribution, which he accomplished, but his creation would catapult a dramatic shift in the way readers would consume text in the future. (Flood, 2011)

In December of 1971, Project Gutenberg (a free service, as well as the oldest and largest digital library on the Internet) was launched and in doing so, the creation of the initial mass technological convergence (making electronic copies) of print to e-books was set in motion. Today, Project Guttenberg contains 20,000 free texts and more than 100,000 books available culminating each month in an impressive 3,000,000 e-books being downloaded by users. The collection is only comprised of books that are in the Public Domain, which features books whose copyrights have expired and has text that is available for free public use. (Project Guttenberg, 2011)

These large figures are impressive figures due to the initial uncertain beginnings of e-books. When the e-book made its debut in the web the material was easily shared and stored, but users were reluctant to give the technology a try due to either the users unfamiliarity with need to convert to the technology fear of losing all print copies to cyberspace. Quickly the idea picked up and large-scale dissemination of the technology began to take place as the diffusion of e-books occurred due to the technological landscape evolving in other media around the 21st century, which

centered on multiple media use on one central device (iPod, Blackberry phones, and more portable lap top computers). (Sedycias, 2008)

Early e-books were generally written for specialty areas with a very limited audience and the intent of these books being read exclusively by small and devoted interest groups. The scope of the subject matter of these e-books included technical manuals for hardware, manufacturing techniques and other subject. It wasn't until the 1990s; the general availability of the Internet made transferring electronic files much easier, including e-books. (Sedycias, 2008)

Reader software products were originally developed only for reading e-books exclusively on your PC or Mac. There are 3 major, free e-book readers for your PC or Mac, these are: Palm, Microsoft, and Adobe. They have all since adapted to the stand-alone readers, such as the Nook and Kindle. (Sedycias, 2008)

So what e-reader is right for you, a tablet computer or an e-book device (Kindle)? Michael Hart, the Inventor of the e-book commented on the matter, "Many people have argued with me for years on the subject of dedicated eBook reader devices, with any number of reasons they like them, but it is really only that they can't read small print or they still want "the look and feel" of the dead trees pulp bound up in dead animal skins." (Shankland, 2011)

The first generation of e-readers was introduced, to little fanfare, in the 1990s. Devices such as the SoftBook and the Rocket E-Book reader are well documented in the literature, but were unsuccessful in the market. The most recent and effective wave of e-readers began with the Sony Reader in 2006 and Amazon's Kindle in 2007, and thus far is enjoying more success. Barnes and Noble and Borders have entered

the market with the Nook and the Kobo, respectively, and Apple has introduced the iPad, a multifunction device that works well as an e-reader. (Foasberg, 2011)

The most popular e-book readers that are also portable include the Amazon Kindle, Barnes and Noble Nook, and the Sony Reader unleashes e-books from the constraints of the computer screen. Although such devices have existed for a long time, only recently have they achieved some degree of popularity. Due to the continuing price drop of e-books and e-readers with greater technological capabilities, customers are adapting more and more to this ground breaking digital conversion process. (Foasberg, 2011)

There's little doubt that paper books will be a commercial force for a long time yet, but over the past few years and especially in 2010 e-books and e-readers took a big step forward in representing a sizable minority of the overall book market. As technology has moved forwards, the approach of the creation, distribution, and readership of books has changed or almost completely been replaced by digitization (in the form of computer scanning followed by optical character recognition) to produce a text that can be manipulated and read on screen. The adoption of the digital technology has brought a series of useful features to the reader that has been made possible through the nature of an electronic environment. (Sporkin, 2011)

The progress is largely due to publishers producing a wider range of content formats, which has caused the consumers to shift their buying habits forcing publishers to respond in a variety of ways, which most often include adapting their books to the latest trends of consumers needs, as well as accepting the needs of loyal customers who prefer to digest their books through the method they are stubbornly

used to and then changing or making available whatever methods readers choose to read books. The Principal of Belz Consulting, Andrea Belz commented on the changing needs of readers, “We jump ship easily if we don't get what we want. We have all turned into young children, absolutely dependent on a couple of parents and switching friendships on a moment's notice. These new additions create a new rebirth for the product or shape shifting metamorphosis that can mimic the butterfly’s journey from its origins as a small or undistinguishable larva. (Belz, 2010)

Is there a parable we can take from prior paradigm shifts, such as physical music CD’s to digital online downloads? The numerous CD’s were replaced by individual digital files, which were stored on one device (the same device that plays the files). The same can be said of how numerous copies books can now be replaced by individual files, which encompass whole books that are also played on the same device that they are stored. To many in the literary community, the positives outweigh the negatives and the main populous of people who use e-readers to view e-books has begun to grow rapidly in numbers. (Jenkins, 2006)

Examples of paradigm shifts that have occurred outside of science include the adaptation and implementation of an invention, such as the wheel, the airplane, the personal computer, and now the e-book and e-reader are the result of a metamorphosis in the production, as well as the use of technology. Steve Haber, president of Sony's digital reading business division, commented on the shift in technology for the e-book, "You have your multifunction devices - like a tablet - that are available for reading and then you'll have devices that are immersive. People will choose different devices for different experiences.” These inventions (e-book, e-

reader) have truly transformed our relationship with the world and how the inclusion of an invention or update of new features in technology can radically transform the previous technology it is replacing. (Associated Press, 2010)

This transition can be a lengthy process based on the timeline of how the public embraces the product and can be determined by a variety of factors, such as a target populations need for the product or how useful of an improvement the product is to the owner of the previously updated product. Haber remarked of the paradigm shift in the technology of e-books, “We in the consumer electronics area have a paradigm shift every year or two. I have multiple meetings with publishers and tell them paradigm shifts happen. You can say fortunately or unfortunately you haven't had a paradigm shift in, what, hundreds of years.” Some areas of the literary industry are embracing the new paradigm faster than others and this can be largely due to their lack of familiarity or drive to purchase the new technology that they may not see as a needed improvement. (Associated Press, 2010)

Sony has predicted that e-books will completely take over the print media in another five years. Haber remarked of the current climate within the industry, "Within five years there will be more digital content sold than physical content. Three years ago, I said within ten years but I realized that was wrong - it's within five," Seemingly, the patterns in the digitization of music and photography are now being repeated in the books market. (Associated Press, 2010)

In July 2010, Amazon announced that sales of electronic books for its Kindle e-book reader surpassed sales of hardcover books on the site and then six months later, Kindle books also surpassed paperbacks in total sales. Amazon founder and

CEO, Jeff Bezos said in a company statement, "Customers are now choosing Kindle books more often than print books. We had high hopes that this would happen eventually, but we never imagined it would happen this quickly—we've been selling print books for 15 years and Kindle books for less than four years". Currently, customers are downloading Kindle books more than hardcovers and paperbacks combined. (Sporkin, 2011)

The e-reader price war in turn fueled demand for eBooks and during the first nine months of 2010, market leader Amazon sold three times as many Kindle books than during the same time period in 2009. Fueled by intense competition amongst e-reader manufacturers over 2010, e-book sales almost doubled over 2010 and now make up 9% of total consumer book sales, according to the Association of American Publishers. Amazon Kindle, Sony Reader, Barnes & Noble Nook and others attempted to undercut each other throughout the year. (Sporkin, 2011)

At the end of last year, Amazon was selling its basic Kindle for $259. In June of 2010, Barnes & Noble slashed the price of its Nook e-reader to $199. Amazon immediately responded by dropping the price of the simplest Kindle to $189. In July, Sony dropped the price of its e-reader from $169 to $149. The Nook then went down to $149 and Amazon announced that its new Kindle Wi-Fi, eventually released in August, would retail for $139. (Sporkin, 2011)

Most e-reader vendors have been reluctant to give out sales information, however Amazon was vocal throughout 2010 on the overall trends. At the end of October Amazon announced that for its top 10 best-selling books, customers bought the Kindle edition twice as often as the print copy and according to Amazon's VP for

Kindle, Steve Kessel, Kindle eBook sales also topped print sales of hardcovers and paperbacks for its top 25, top 100 and top 1,000 bestsellers. Could it be that much of Amazon's success story could be that their new or more casual customers are discovering more about the e-book technology available through the positive public relations statements in news articles about Amazon's sales success, which in turn influences the customer to purchase from the company? (Association of American Publishers, 2011)

By the third quarter of 2010, e-book sales represented close to $120 million as viewed in Figure 5 and Figure 6, versus $11.7 billion for traditional books, and eMarketer estimated that 12% of U.S. adults would own an e-reader by 2012, which is up from 1.9% in 2009. It's an impressive rate of growth that portends major changes in how books are published. Is this the future of how books will become published or just a trend that will eventually fizzle out into technological oblivion? (Association of American Publishers, 2011)

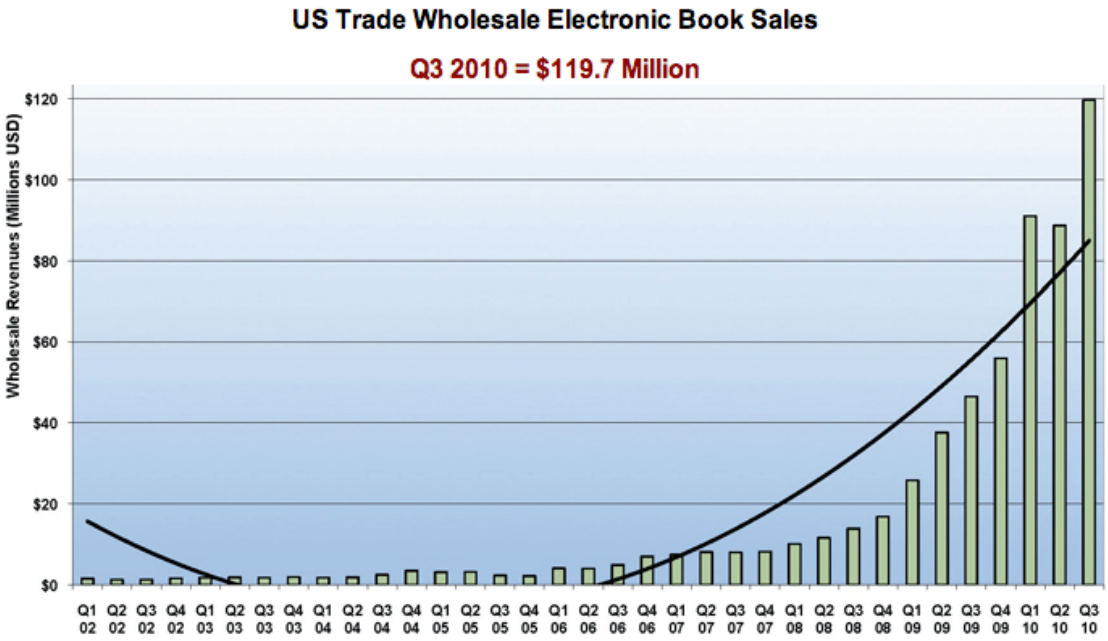

Figure 4: United States Revenues From Electronic Book Sales

Quarters 2002 through Q3 2010

Quarters	Revenues	Quarters	Revenues	Quarters	Revenues
Q1 02	$1,556,499	Q1 06	$4,100,000	Q1 10	$91,000,000
Q2 02	$1,258,989	Q2 06	$4,000,000	Q2 10	$88,700,000
Q3 02	$1,329,548	Q3 06	$4,900,000	**Q3 10**	**$119,700,000**
Q4 02	$1,649,144	Q4 06	$7,000,000	Oct 2010	$40,700,000
Q1 03	$1,794,544	Q1 07	$7,500,000		
Q2 03	$1,842,502	Q2 07	$8,100,000		
Q3 03	$1,789,455	Q3 07	$8,000,000		
Q4 03	$1,917,384	Q4 07	$8,200,000		
Q1 04	$1,794,130	Q1 08	$11,200,000		
Q2 04	$1,887,900	Q2 08	$11,600,000		
Q3 04	$2,460,343	Q3 08	$13,900,000		
Q4 04	$3,477,130	Q4 08	$16,800,000		
Q1 05	$3,161,049	Q1 09	$25,800,000		
Q2 05	$3,182,499	Q2 09	$37,600,000		
Q3 05	$2,310,291	Q3 09	$46,500,000		
Q4 05	$2,175,131	**Q4 09**	**$55,900,000**		

Figure 5: Revenue Quarters From United States Electronic Book Sales

Practice

In favor of the shift to e-books are writers who enjoy no longer being bound to the strict page-count standards of the industry. Publisher of Avon Impulse (the digital imprint of Avon Romance), Liate Stehlik said, "We've had some of our big, established writers write short pieces that tie into their full-length book - [pieces that] give you a little more about a certain character, or it helps set up the next book." Since e-book authors' creative output doesn't go to a physical press, they can turn in a work that's between the length of a short story and a novel, which results in supplemental material that previously could not have been offered. (Jenkins, 2006)

Sidestepping the printer results in fewer production costs, making it less risky for a publisher to take a chance on a new author. Stehlik commented on the process, "We can get a book into the cycle in weeks if not a month or two, instead of the longer lead time with the print cycle," This means more artistic works can be published and distributed to a mass audience with increased ease. (Jenkins, 2006)

As a result of the drastically reduced or in some cases even eliminated production costs, a major debate in the industry is how much e-books should cost. Tech guru and author Seth Godin said, "They should be free." He has been offering his own e-books as complimentary downloads since 2000, but since most authors don't view or have self-publishing as an option, book publishers will continue to let the market demand dictate the highest price they cane generate from a book sale. (Godin, 2010)

Digital distribution is a huge cost-saver for publishers, as well as a big time-saver for publishers. Under the old model, the industry standard included waiting for returns from bookstores before they can calculate their exact sales. The industry may be in favor of the digital transition for cost reasons, but does this matter to the book reading public and how aware are they of the benefits? (Godin, 2010)

With such improvements, it’s tough to say if this is the end for bound pages, but according to industry gurus such as Stehlik, they may be around for a while longer, "I honestly don't think so. I think that there's still a distinct customer who prefers a print book. It's still hard to know exactly what you're going to read if you're not seeing it visually in a store sometimes." This is part of a transition process of early innovative adopters of technology, laggards who usually don’t support the new technology until it is the main or only format offered on the market for their purchase of the media, and the vast majority of late/early adopters of the technology. (Jenkins, 2006)

Even when considering there are so many positives to be had in the conversion from print books to e-books, there are still many in the literary community who are not convinced. "We took a survey back in March for our fourth anniversary and found that more than half of our respondents are not reading e-books at all," said Christine Onorati, owner of Word bookstore in Greenpoint. Word has offered Google e-books through its website since December of 2006. (Jenkins, 2006)

Are people comfortable with reading an e-book and if the technology is overwhelming or unnecessary to some? The e-books are designed to replicate an experience that is similar to a book, but with the added benefits of technology. Some,

but not all of the e-books are made to look like printed books on your computer or e-reader screen, complete with flipping pages, so you just press a button to flip to the next page of your book. (Macmanus, 2010)

Both the e-books and print books have different features, which could be a positive addition to some and a negative subtraction to others. To the traditionalists, the print books have that unmistakable feel to the touch of flipping trough the pages, unique packaging, smell of print on paper, and sharing quality among fellow readers that keeps customers interested in keeping these items of print, almost as relics or valued collector items that can be purchased or redistributed at literary retailers/second hand stores. To the adaptors to technology, there are innovative ways to enhance or contribute to your literary experience, such as social highlighting, notes, word reference or meaning, search, and the ability to interact with others with the implementation of social networking (Twitter, Facebook, Tumblr, Digg). (Macmanus, 2010)

Whether you're reading the text in MS-Word or in an e-book Reader, you can also change the look of the text to suit your tastes, which could be useful when altering the page that is presented to you, such as viewing a whole page, half a page, or multiple pages at once. Many e-books are being issued in landscape format with large-sized text as standard (The page fits in the e-book Reader's window and all you have to do is read and press the Page Down button). So there is no need to scroll down the text, or adjust the text size, so doing do would be entirely optional to the user, but still a welcome supplemental option nonetheless. (Martinelli, 2011)

Another advantage of e-texts and e-books is the possibility of changing the

size of the text to fit your screen however you would like. You can set the text size to whatever specifications are comfortable for your eyes. This could eliminate the need for specialty reading glasses for the reader. (Martinelli, 2011)

The latest development in e-book readers is the ability to turn e-books into audio books. The Microsoft free e-book reader offers extra software called "Text-To-Speech", which allows their reader to recognize text and feed this information to a voice-synthesizer. The same program also reads out the contents of the program's menus so you can select menu items with ease. (Hulme, 2011)

E-texts in HTML (web-page) format can be read aloud by your computer with the only limitation being the often-expressionless tone of the synthesized voice. If the web-page creator has linked to special speech software, all you need is a speaker-card in your PC, and download free software to take advantage of this feature. The most common application at present of this technology is for student lectures, foreign language study, and for the reading disabled. (Hulme, 2011)

It is up to the e-book distributor and publisher to determine if their e-book can take advantage of this software. Some publishers choose to block its use to protect their audio-book sales. But many publishers, especially the smaller ones, allow all their e-books to become audio books (text from e-books in public domain can be read by the software). (Jones, 2011)

E-books and e-texts are ideal for Technical and historical publications because of the built-in search feature within MS-Word and e-book Readers. No longer do researchers have to rely on the author's index for finding a specific item in a passage. Whatever word or phrase you need to find, can now be located in seconds with the

improved technology offered within e-books. (Jones, 2011)

Technical publications are often very quickly out-of-date, but with the added technology of e-books, some publishers of technical e-books are able to offer quick electronic updates. Even without the update option, e-books save you money. Instead of spending a fortune on a new print book that will be out of date in a short time and then having to continuously purchase the newer material, the more reasonably priced e-book version that offers constantly updated material makes a lot more economic sense than the options that were previously available. (Jones, 2011)

In addition to the features, such as the added ease of finding the sections of books you want in seconds, you can electronically bookmark that point instantaneously for later reference. Within this feature, you can consult a list of your bookmarks and access the selected item with the push of a button. While having access to a greater technology may be exciting for some, it may however be irritating or not useful to others who prefer the touch, look, and feel of a simple book in their hands as that is how they have grown accustomed to reading a book. (Jones, 2011)

Free services, such as Project Gutenberg are only one of many free e-book sites that exist currently, as over 100,000 free e-books are available through affiliates (RocketReader, Wattpad, and Librivox among others) that are downloadable to your PC, Kindle, Android, iOS or other portable device. Readers who download, have the option to choose between downloads of ePub, Kindle, HTML and simple text formats. All of Project Guttenbergs e-books were previously published by industry publishers and were digitized and proofed with the help of thousands of volunteers, which is an example of the literary community welcoming new technology. (Project

Guttenberg, 2011)

E-book sites, such as Internet Archive who have been scanning books since 2005, have made approximately 2 million books from 1,000 libraries in 200 languages available online via their site since that time. According to their site, "More than 100 people digitize books in Internet Archive scanning centers in 27 libraries in 6 countries. At 10 cents a page, we are bringing over 1,000 new books online every day." Another 1 million texts have been uploaded by others, including everything from original books to court records, as well as other scans from digitization projects, such as 37,000 books from Project Gutenberg. (Project Guttenberg, 2011)

More than 1 million different users visit Archive.org every day. Books are downloaded or read on archive.org about 10 million times each month, and approximately 2,000 books for the blind and dyslexic (print disabled) are downloaded every day. This is an audience that might not be reached adequately without the improvement of technology available. (Martinelli, 2011)

During the last few decades the publishing industry has changed dramatically. The biggest change has been perhaps the demise of the small publishing house, which is sometimes called a Boutique Publisher. These publishers print small numbers of specialized books for unique markets: the arts, the sciences, the social sciences, literature, or mixed genre books that appeal to a smaller audience than the formulaic single genre of mass marketed books. (Katz, 2011)

Publishers of these books do still exist, but like the university presses, their publications are generally prohibitively expensive for the casual reader. For the most

part, electronic publishers have taken their place. So those who are interested in special topics and sometimes more vastly detailed subjects than the usual reader find are finding that e-books are their best option for the use of these books. (Katz, 2011)

Many classic books are no longer in print. The large publishing houses are not interested in reprinting older books unless they are used in university or high school courses or featured in celebrity endorsed book clubs, such as those featured on Oprah. Thus, the casual reader previously would only have the option of searching for hard to find books in rare books shops, but now the reader is can find them much more easily and for free on the internet immediately at the click of a button. (Katz, 2011)

Object

A writer or publisher has many options when it comes to choosing a format for publication. This can be a dilemma as the e-readers supporting software can determine the e-readers features. The storage size for texts without images depends on the file format, but is always relatively small compared with a richly illustrated text and other interactive component features, such as audio support, embedded annotation support, book marking, and word wrap (allowing text to be read from top to bottom without any horizontal scrolling). (Shankland, 2011)

The E-book technology has not been without a few errors, thus highlighting the need for this technology to become more fluid or some problematic occurrences may develop, such as when Neal Stephenson's new "Reamde: A Novel," online

retailer Amazon sold a skewed version of the book to its customers for use on the Kindle. Customers were notified cryptically that their e-book needed to be replaced because of "missing content." For some though, this was not soon enough of a notification and the error may have ruined their reading experience. (Albanesius, 2011)

The problem certainly isn't the kind of thing that would happen with a paper book unless a misprint was distributed. E-books are essentially as fallible to technological errors as any other collection of digital bits, but just like a quick update can patch a new app's shortcomings, an e-book update can fix any last-minute typos. The problem here was not so much that the book changed, but rather that people didn't know what about it had changed and a band aid approach could have been undertaken if Amazon had contacted customers with an online notification of the problem within the text available only for its e-reader. (Albanesius, 2011)

Paper books of course need updates, too, but those changes don’t affect the book as a person reads it. Amazon Customer, Cynthia Ewer vented, "As of this morning, I'm about 40 percent through the book--and I just received a notice that my Kindle edition was 'missing content,' and would be replaced...It seriously damages the reading experience. I've invested many hours in the book, overlooking various format errors along the way. Now--without more--I'm told that what I've read is incomplete. Do I begin again at the beginning? Do I plow on? Either way, the reading experience is fatally tainted." Hopefully next time Amazon will learn from technological errors like this and develop a better mechanism that provides customers with more up to date notices of any lapses on the retailers’ part. (Albanesius, 2011)

So which form should an author choose to publish their work through? When examining mass communication, we are interested in who has control over what content, for what audience, using what medium, and what the results may be? If an author chooses to only distribute his work exclusively as either an e-book or a print book, will they still reach all of their desired audience? (Lowery, 1995)

J.K. Rowling held a staunch stance on refusing to permit any of the six Potter books to be released in electronic form, not even during the peak of the e-book craze a few years ago (she did finally release her novels as e-books earlier this year). Neil Blair, a lawyer with Rowling's literary agency, would only say "this has not been an area that we have sought to license" and did not comment directly on whether Rowling blocked the releases due to her concern of e-book piracy hurting sales or whether she simply preferred her books to be read in print form. Could she possibly believe that children and pre-teens won't use the technology? (McHugh, 2005)

Rowling's choice followed an early industry trend that is only finally starting to relent. Young people are believed to be more open to new technology, but the e-book market has worked in the opposite way as an initial response to the uncertainty of e-book technology use by readers. Adult best sellers such as Dan Brown's "The Da Vinci Code" and David McCullough's "1776" are available electronically, but not books by Rowling and many other popular children's authors, including Lemony Snicket, Cornelia Funke and R.L. Stine. (McHugh, 2005)

Industry officials agree that Potter e-books would have great advantages: an enormous fan base; appeal to readers of fantasy novels, which sell relatively well in electronic form; and appeal to adult readers, an asset that helped persuade Random

House to release e-books for Christopher Paolini's popular Eragon novels. Associate Director of New Media Marketing for Random House Children's Books, Linda Leonard said, "There's just not a market for books that don't have appeal to adults, because they're the ones with the devices at this time. It is kind of frustrating. Kids are tech savvy, but we can't reach them." (McHugh, 2005)

Several reasons are cited, from authors preferring books on paper to concerns over digital piracy to competition from television and other media. Marketing Director for Harper Media (a division of HarperCollins that oversees e-book distribution), Jason Campbell says, "It's not like we haven't tried this market. But the greatest problem is the lack of a popular reading device, a handicap that has held back the whole e-book business from the start." While Amazon's Kindle currently holds a strong market share of e-reader sales, there is a good probability that the lack of a universal e-reader device will continue to evade readers and industry execs alike, which slows the e-readers innovation of technology diffusing to readers at a speedy rate due to the consumer recognizing that they may not be able to fully rely on the technology quite yet. (Boorstin, 2011)

To academic librarians, it is especially important to know whether e-readers are being adopted by college students and whether or not they can be adapted for academic use. E-readers' virtues, including their lightweight, their ability to hold many books at the same time, and the speed with which materials can be delivered, could make them very attractive to students. As new media formats emerge, libraries must avoid both extremes: uncritical, hype-driven adoption of new formats and irrational attachment to the status quo. (Foasber, 2011)

For some readers, they don't receive the same or enough added values from an e-book, as they would receive from its physical form. Author Tobin Harris observes, "An eBook is great for reference or high level scanning, but a paper book is far easier to actually study. I can leave a paper book around the office or house where I'm likely to pick it up, making me more likely to read it. The book itself can become it's own bookmark in your life - a visual reminder to continue reading." This need of physical books could be supplanted by taking the time of adjusting and/or adapting to the useful benefits of an e-book, but the fact remains that most every reader has consumed their text in a standard way for so long and for some the technology may be too high a hurdle to climb for an technological improvement or update in a medium that they don't think needs improving or updating. (Harris, 2009)

This new process of readers adapting to an e-books different uses and features for some readers may just be a journey that they just flat out are not interested in taking. Harris states of his comparative uses for e-books and physical books, "I tend to read paper books two or three times, mainly because they occupy shelf space in my study, which is where I look for reading inspiration. I also frequently pull them off the shelf for looking something up. E-Books don't lure me in this way, so they get read less often." Authors, publishers, and e-book reader companies are trying to lure readers over to this new technology, but some won't bite no matter how similar e-book companies are making their reading experience as close to the real thing as possible and the reason is obvious in that an electronic book is simply not print on a page, but instead mimicry of the real thing. (Harris, 2009)

Possibly the biggest reason why e-books haven't caught on with the greater

public is that they're simply too complicated and don't understand or are unwilling to give the technology a try. Cofounder of the OpenReader Consortium, David H. Rothman said, "For the money—$850 list or about $500 discounted—the Pepper should be able to display any e-book you want. Alas, the device won't handle the Fairfax County Public Library's digital editions of Mike Wallace's "Between You and Me," Malcolm Gladwell's "Blink" or Elizabeth Kostova's "The Historian." The Pepper Pad, it turns out, cannot yet cope with anything in Adobe Reader, which is the only text format in which the library system, the largest in Virginia, offers those particular books. (Rothman, 2006)

Will the addition of e-readers that improve these previous lapses or barriers in features be enough to propel the diehard traditionalist bookworms out of their hole in the print covered ground? This is feasible to believe for some e-readers, but due to technological limitations and variations, some e-readers, such as the Pepper Pad, which has been out for many months and can read copy-protected books solely in Mobipocket format will be unable to adapt to every format that is desirable by the reader, thus not performing all of the readers needs adequately. Many remain unconvinced of the potential benefits in digitally converting their reading experience as a replacement for their print versions. (Rothman, 2006)

Boosted Market: How Amazon's Price War Resulted In Their Current Foothold In The Market and How Piracy Could Force A Shift In E-Book Technology

In order to conduct research into the diffusion of innovations, using e-reading

and e-readers as a case study, it is important to examine the market occurrences of 2010, where Amazon got into a price war with Walmart (currently offer Kobo, Nook, and Sony among major brand of e-readers) over best-selling paper books in a game of chicken that ended up hurting both companies, which ended with Amazon and other e-reader makers betting that sales of e-books would more than make up for the loss of profits on hardware. Normally a price war is a zero sum game for companies selling similar products with prices being slashed in order to compete with each other and eventually end up in a death cycle of selling more and more of a product at a greater loss than previously, which results in larger and larger mounting losses for each company, but in this case companies were banking on lower prices attracting more readers to digitally convert their reading to e-books. Regardless of if reduced hardware prices effectively spurred both sales of e-books and overall profits for the companies, a price war had begun that would drastically change the way the industry functions. (Silbert, 2011)

Amazon announced recently that its customers are now purchasing more Kindle books than print books. Amazon founder and CEO, Jeff Bezos said in a statement "Customers are now choosing Kindle books more often than print books. We had high hopes that this would happen eventually, but we never imagined it would happen this quickly—we've been selling print books for 15 years and Kindle books for less than four years." With such a prospective outlook occurring as a result within the recent market activity, more industry decision makers are turning more and more towards e-book technology diffusing before readers eyes not as an alternative to print books, but instead as a piece of literature that is born of the digital age and also

distributed secondly in print in far lesser quantities than previously. (Silbert, 2011)

Kindle sales have helped create Amazon's fastest year-over-year growth for Amazon's U.S. book business, in units and dollars, in more than a decade. So far, Amazon has sold three times as many Kindle books in 2011 as it did during the same period in 2010 (since April 1, Amazon has sold 105 Kindle books for every 100 print books purchased). Amazon did not count free Kindle books in its sales or downloads, but if it did that would surely make the total number much higher. (Silbert, 2011)

Barnes & Noble responded to the Kindle's success by slashing the price of its Nook e-reader to $199 and then Amazon followed suit by dropped the price of the simplest Kindle to $189 almost immediately. That's when both companies stopped making money on the e-readers, according to iSuppli, an analysts' firm known for taking apart gadgets to estimate how much they cost to manufacture. The price dropping did not stop, as Sony quickly dropped the price of its e-reader from $169 to $149 as to remain competitive within the market. (Perenson, 2011)

The cheapest Nook can now be had for $149 and Amazon's Kindle Wi-Fi, released in August, is $139). Sony and Barnes & Noble have not cut their prices yet in response to Amazon's continued undermining price drop, but in the absence of significant differences between the top e-readers (the iPad floats above all this price jostling because it functions as much more than an e-reader), it's likely that the prices will continue to drop. Consumers stand to benefit most from the jostling between the competition for their purchase, but as long as lower prices mean selling more e-readers, Sony, Amazon and Barnes & Noble will continue to battle for overall market dominance among its competition. (Perenson, 2011)

Things don't look so good for other market leaders, such as Sony's latest e-reader, the Wifi PRS-T1, since its main competitor, the Kindle Fire already has everything that Sony's device has to offer at almost half the price. Sony could respond by lowering its prices, but then they would be selling at a loss or breaking even at best, while Amazon still makes a profit off their cheapest Kindle due to its popularity. Could Kindle's biggest draw be its premium price feature? (Lee, 2011)

Recently, Amazon unveiled the Kindle Fire, which features an Android-powered technology in a tablet that acts more like a color e-reader on steroids, will retail for $199, and will be available on November 15. Amazon CEO Jeff Bezos commented on the new products arrival, "We're building premium products at non-premium prices." Will the reease of Amazon's newest Kindle, its strongest and most viable product yet ignite a winners take all scenario among e-readers or will there continue to be an steady influx of competition for readers eyes? (Lee, 2011)

The main reason Amazon is able to make the Fire a compelling device is due to of the vast stores of content that's made available for the consumer, which includes movies, TV shows, music, and much more media in addition to books. The Nook Color for instance was able to carve out a niche because it had an actual identity, and was far cheaper than other Android tablets. What do emerging e-readers, such as the Kobo have to offer? (Coldewey, 2011)

As the technology of e-readers continue to diffuse into further development and integration of other technologies, the company that beats its competitors to the punch has the early advantage. With the release of its Vox Color e-reader priced at $200, Kobo believes the market is heading in the direction of socially enabled e-

readers that clearly echoes Amazon's amped-up social networking integration by including sharing options for Facebook (ticker integration lets detect and join discussion of others passages and pages as you read them), Twitter, and Kobo Pulse, which is a source for sharing thoughts and opinions about what you're reading (example: "Devin turned a page in The Aeneid – 12 seconds ago"). Features include a web browser (Wi-Fi-only), 8GB of internal memory (storage capabilities of 8,000 books); unlimited Kobo cloud storage, and exclusive social e-reading platforms, such as Reading Life, which offers book clubs. (Coldewey, 2011)

When comparing the two premier e-reader products, the Nook Color and Kindle Fire both have remarkable similarities and differences that may boil down to consumers individual preference, instead of technological or economic edge. The main features of the two devices are nearly the same: 7-inch touch screens, customized Android OS, 8GB of internal memory, similar size and weight, similar battery life (about 8 hours), same connectivity (Wi-Fi), and the same price (Fire is slightly cheaper). However, the Nook Color features more original design and due to its microSD slot it is more expandable/rootable, but will this be enough to stave off the current momentum building for the Kindle Fire, which features the ability to support more video and audio formats, as well as stream video rentals or video on demand from the cloud drive and offer free bonus content offerings that are exclusively available for Amazon Prime members? (Greenfield, 2011)

Amazon's Kindle Fire is indeed a game changer, but will readers recognize it as the universal e-reader in its field, much like the apple iPod dominates the digital music player market or to put it more simply will the Kindle be the new iPod? Back

on October 23, 2001 Steve Jobs introduced the iPod to a market already clamored with lots of digital music players at the time, but since the device was lacking features, such as an FM radio or a microphone and at an expensive introductory price of $399, the iPod was met with much criticism, as well as doubt in the market. Many within the industry thought there was no big market for Apple to capitalize on and as it turned out they were wrong to doubt the iPod as a game changer, as Apple shares stood at $9.51 the day before the launch and today are at $166. (Johnson, 2009)

When viewing the pattern that's occurred in music and video, why hasn't an old medium, such as book reading changed radically by technology? The answer is that they've had no reason to. There is not currently a massive problem with readers downloading pirated versions of e-books for free. (Johnson, 2011)

While the literary industry is fearful of the damage that digital media could do to an entrenched and slow-moving media business it however, isn't looking at the big picture, as the publishing industry isn't being forced to confront a radical shift in consumer behavior caused by technology. That scenario just is not happening, as customers aren't forcing the issue by choosing to abandon books and read pirated text instead. Instead, there is no problem to be confronted and the consequence is that the industry does nothing until it has to. (San Miguel, 2010)

There isn't much danger for digital piracy, as the e-book files are much too large and complicated for the common hacker to find the experience of illegal file sharing easy or worthwhile. San Miguel offers his take on the subject, "Not being a hacker, I wouldn't know for sure, but it can't be as easy -- or as sexy -- to upload a bestselling novel for piracy reasons as it is to send a song via peer-to-peer networks,

or even to seed a screener copy of "Avatar" on a BitTorrent client. In fact, just reading the phrase "pirating e-books" sounds downright silly, like something from a Robin Williams routine: "Pssst, hey buddy -- I got new Maeve Binchy, fresh, uncut. You want harder stuff? I got Palahniuk, Ellroy, etc". The lure for many is simply not the same or doesn't hold the same instant gratification or excitement that one would obtain from stealing music or movies. (San Miguel, 2010)

The music industry, meanwhile, created this change by switching to digital files instead of analogue recordings. Downloads may be replacing CDs, but that shift has only happened because the first technology enabled the second one. After all, without CDs to rip from in the first place, it would be a lot more difficult to get hold of music the way you want. (Johnson, 2011)

Unlike the music business who lost customers to Napster, Kazaa, and Gnutella, the average book reader isn't turning to legally dubious sources for their novels, such as meeting up with book dealers on street corners to pick up copies of the latest bestseller as is the case with illegal DVD distribution. If book readers want to share files, they can get somebody to lend them a copy, or go to a place for sharing this information that's wholly supported by the industry, such as a library. This would be a diffusion of technology as e-books would be reaching an larger audience and people will be reading e-books more frequently and in greater abundance, which would lead to greater use and eventually lead to greater sales when the readers discover that they can't get the same features or quality that they would when they purchase the product from an e-book distributor. (Johnson, 2011)

Publishing an electronic book could encourage piracy due to copyright text

being distributed into a digital format even if lock down procedural precautions, such as DRM (Digital Rights Management) are undertaken, the content will be redistributed illegally in a matter of time simply because it can. Without massive piracy, there's no easy cause and effect to startle the publishers or critics of technological innovation out of their comfort zone of “If isn’t broke why fix it?” and into action of implementing change within the industry that benefits the whole literary community. A dramatic shift can still occur, but without an outside influence, such as piracy that can push things into a faster timeline than the industry is comfortable with, any progress made will be very slow. (Johnson, 2011)

These critics were clearly not thinking outside the box or on a large enough scale to look past minimal features that were omitted and instead looking towards the iPods potential as an industry changer. If the Kindle Fire wants to become the iPad of e-books, continued innovation must occur, but the Kindle fire is certainly going in the right direction as a radical change in consumer behavior technology such as a continued positive shift in e-book is presently occurring. Innovation can occur due to the phenomena the lowered prices of e-readers as a result of the continued price war among companies. (Johnson, 2009)

Currently, the race is on to develop the best digital platform for reading. What will this bring and how soon will the technology of today be the fossil fuel, which propels the technology of tomorrow? The question may not be how books make technology evolve, but how technology changes books and the readers who consume them. (San Miguel, 2010)

The Future of E-Books

We are only on the cusp of what the digital spectrum may hold in the future of e-book technology. Bridging the digital divide between the print community and digital community, as well as lowering the margin between innovators and laggards in what necessarily constitutes technology for each will continue to be a quandary for the e-book industry at least in the immediate future. This is a good dilemma to have, as technology will be the guiding force in keeping the literary community relevant within readers minds, as well as spurring their interest in the future into greater market gains. (Pressman, 2007)

As viewed in Figure 7, Online retailers continued to increase their market share of book purchases in the second quarter of 2011 as e-tailers (online book retailers) grabbed 37.0% of all spending in the quarter, which is up from 35.3% in the first period. The recent increase in online sales activity accounts for almost 10 percentage points higher than the 27.6% share e-tailers had in the second quarter of 2010. Bookstore chains however, have seen their market share totals dwindle to 27.3% in the period, down from 29.6% in the first quarter and from 30.6% in the second quarter of 2010. (Milliot, 2011)

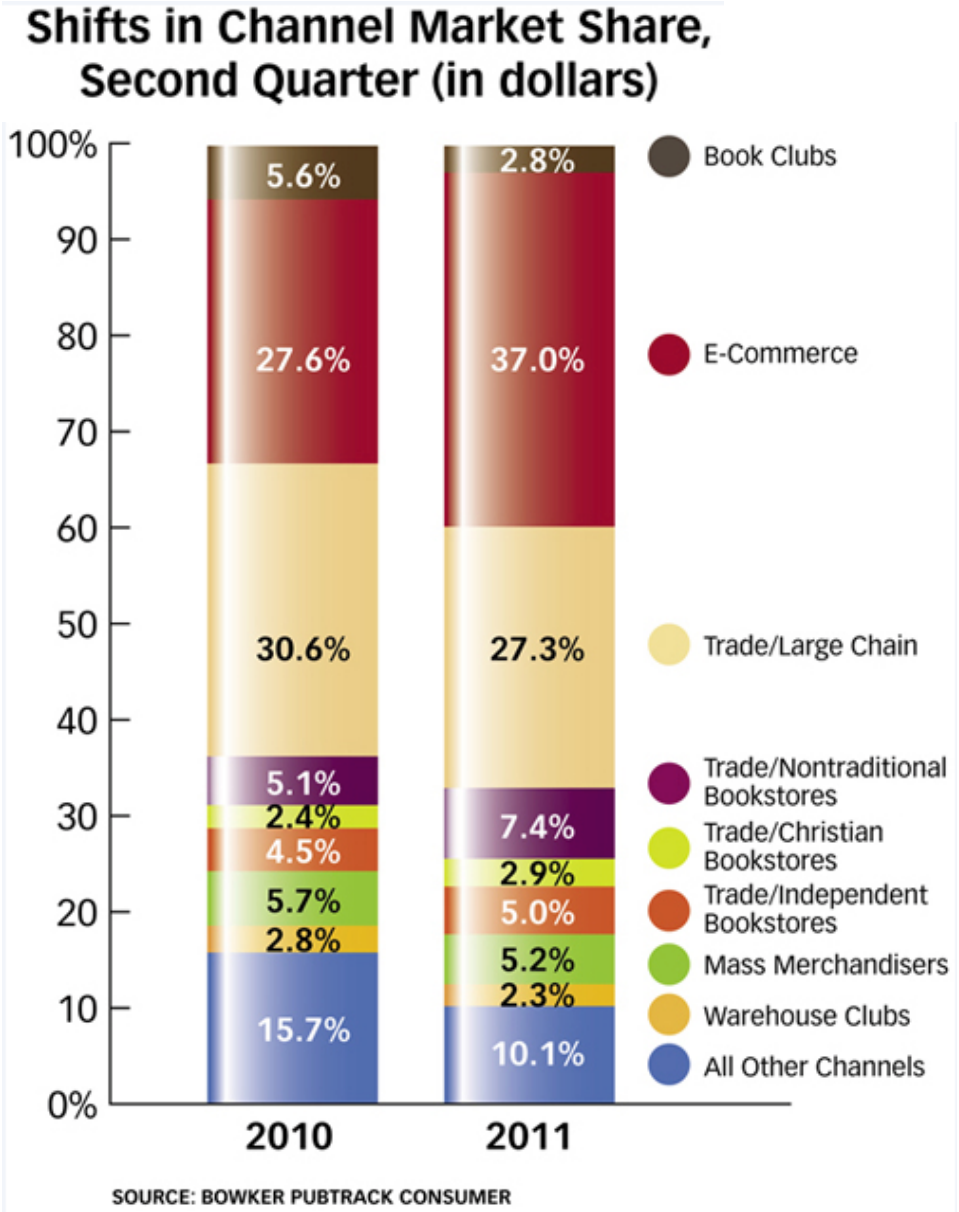

Figure 6: Comparison In Shifts Of Channel Market Share From Second Quarter of 2010 and 2011

The loss in sales totals was spurred by the recent (October, 2011) closing of all Borders's bookstores, which have signaled a decline in overall market share. Their loss is others market gain, such as independent bookstores that have picked up half a percentage point between the second quarter of 2010 and 2011, although compared to

the first quarter of 2011 their share fell from 6.2% to 5.0%, which shows that any small gains that traditional book retailers receive from other markets losses are small potatoes (really not gains at all) when compared to the continuing upward spiral of the e-book market. The big picture is that the constant gains achieved by the e-book market, currently has no end in sight. (Milliot, 2011)

There was a time when heading to a massive book superstore, such as Borders was actually the most convenient option for consumers. Former Editor in "Chief of PC World" and current "Time Magazine" Columnist Harry McCracken reminisced of his experiences of going to the store, "I am old enough to remember when going into a chain store like Borders and picking out books physically was something one did to save time. Plus, as any bookworm will tell you, rifling through bookstore shelves for buried treasure and asking knowledgeable employees about their reading recommendations was an oddly exciting feeling, even at a franchise." The experience of going to a bookstore, talking with other bookworms, eating or drinking at the café, and making a physical connection of sifting through endless rows of content was not enough to keep consumers business. (McCracken, 2011)

It could be said, that retail book stores, such as Borders brought this on themselves with the far too little too late implementation of e-reader technology as they didn't announce their partnership with Kobo in 2009, thus lagging far behind competitor Barnes and Noble's Nook. McCracken said, "The last time I was in a Borders, which was last week, the first thing I encountered when I entered was a great big table of Kobo readers. But it was clearly far too little, far too late." In June Kobo and Borders began transitioning Borders' customers' eBook accounts to Kobo, which

has since established its independence from the company to provide their customers direct access to the most up to date e-reading functionality, apps, and devices. (McCracken, 2011)

Will traditional distribution chains be replaced by print-on-demand technology, which some bookstores are now using to convert digital books back into paper? Will some kinds of books - small-press poetry, catalogs of paintings - resist the conversion entirely and will today's toddlers, some of whom are being raised on the enhanced e-book of "Pat the Bunny'' rather than the old fuzzy version, feel the same urge as past generations to build vast cohesive collections of paper volumes? To some these may be problems that arise from unwanted technology, but to others this is progress that propels the literary industry and community to unparalleled or previously unthought-of of heights. (McCracken, 2011)

The increase in online retailers' market share of book spending was given a significant boost by the higher share e-books grabbed of all units purchased in the quarter. Compared to the second quarter of 2010, e-books' share of units rose from 3.2% to 13.7%. The growth rate slowed a bit between the first and second quarters of 2011; e-books had a 12.9% share in the first period and the more moderate gains between the quarters is an indication of the importance the purchase of new devices over the holidays played in the sale of e-books, which is a trend that is all but certain to continue into the 2011–2012 holiday period, especially now that Wal-Mart sells Nook (as of Oct. 24th the 3G and WI-FI are available), Kobo, and Apple's iPad (also arrived in Oct.) in its stores in addition to Sony e-readers (all the major brands accept for Amazon't Kindle). (Milliot, 2011)

As viewed in Figure 8, sales of eBook readers began to takeoff in 2009. According to Yankee Group, $1.273 billion (at wholesale) in eBook readers were sold in 2010, and sales of eBook readers are expected to generate $2.5 billion by 2013. The numbers will continue to grow more and more over time due to the continuing diffusion of technology and the continuing reduction of e-reader prices as Chief Executive of the Idea Logical Co. (a New York-based publishing consultancy), Mike Shatzkin said, "Over time there's bound to be pricing pressure because there will be more and more self publishing efforts at lower efforts offering a wider range of choices at lower prices." It's unclear if lower e-reader prices always will result in revenue gains from additional sales, but publishers are likely to face more pricing pressure down the road from consumers. (Shatzkin, 2011)

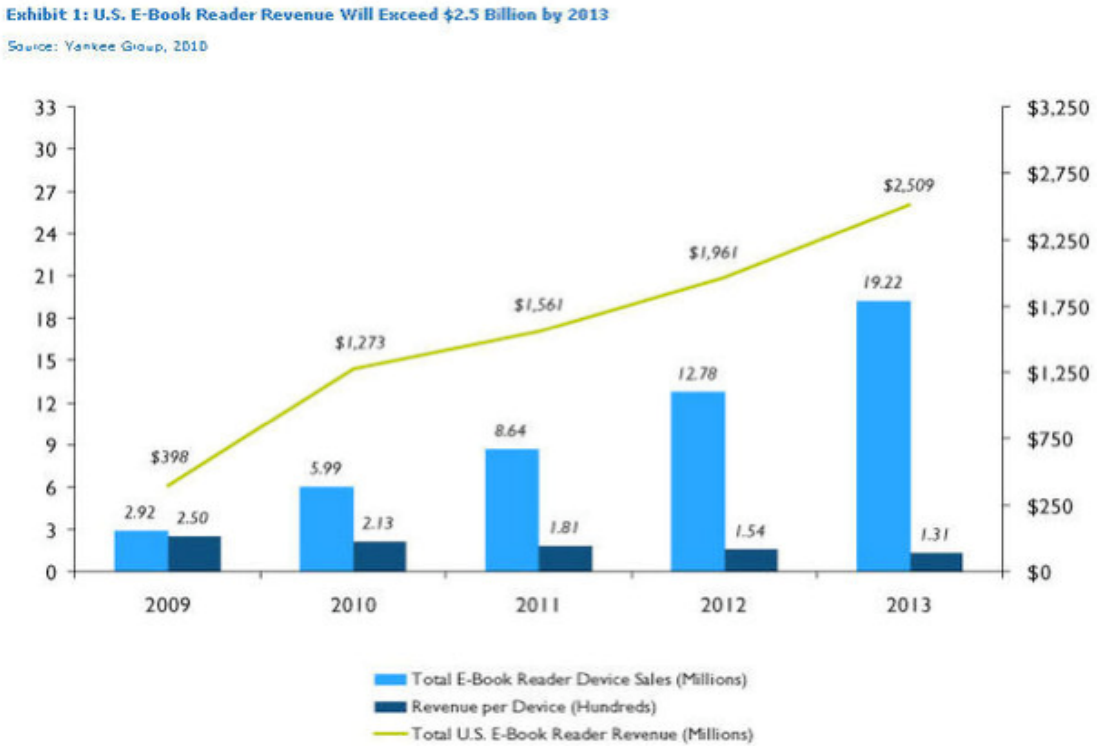

Figure 7: Past and Projected E-Reader Device Sales and Revenue From Each Device Sold from 2009-2013

As viewed in Figure 9, according to Yankee Group forecasts, U.S. consumers will purchase 381 million e-books by 2013, roughly four times the amount they purchased in 2010. Over the next three years alone, e-book sales will grow at a compound annual growth rate of 72 percent to reach nearly U.S.$2.7 billion by 2013. In 2011, e-book content sales will be about $1.4 billion and this number will only continue to grow exponentially. (Shatzkin, 2011)

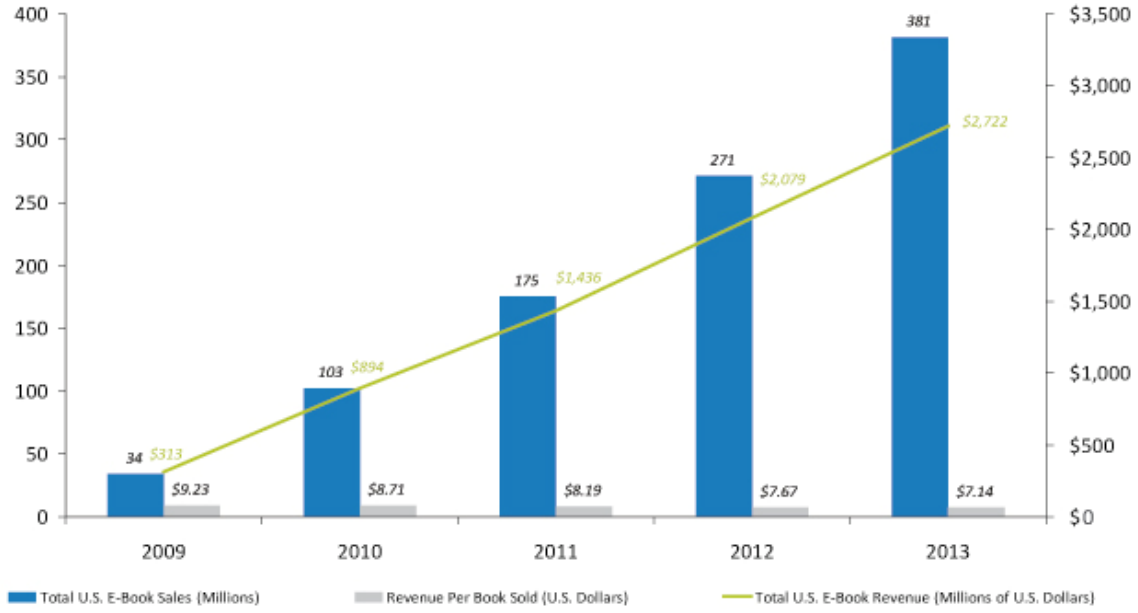

Figure 8: Past and Projected U.S. Book Sales, Revenue Per Book, and Total Revenue Sales Total From 2009-2013

In an acknowledgment of the growing sales and influence of digital publishing, The New York Times started publishing rankings of e-book best-seller lists in fiction and nonfiction along side print sales figures. The lists will be compiled from weekly data from publishers, chain bookstores, independent booksellers and online retailers, among other sources. The addition of digital books to the different lists of top selling books shows the significance and future impact that the New York Times expects e-books to have on the literary market. (Bosman, 2010)

E-Books are not just digital versions of printed books; an e-book can have a literary life without ever moving into the physical world of paper and ink. Having a best-seller list is great news for publisher and authors who venture into e-book only

publications, because there is an option to be ranked without consideration of print book sales. Now that the permanence of e-books is being respected and embraced as the future of reading, instead of the death of print, unity, as well as growth can occur in the future of publishing by putting a positive foot forward down the path of the digital age. (Sharp, 2011)

Conclusion

By examining the different types of the Diffusion of Innovations (idea, practice, object) and the stages of the Innovation Decision Process (knowledge, persuasion, decision, implementation, confirmation) in relation to the evolution, spread, and development of e-book/e-reader technology, we can conclude a number of findings, but without specifically looking at an more in depth comparison of e-readers (Kindle) and portable tablets (iPad) it is difficult to attain how or on what platform consumers will choose to read their e-books in the future. I would need to conduct further research on the ways e-readers have played and will continue to play a major role in stimulating e-book development in an constantly changing technological environment. Further development of this technology will only allow a broader gateway for greater access, embrace, adoption, and use of this technology. (Rogers, 1995)

The methodology of conducting research into the diffusion of innovation using e-reading and e-readers as a case study yielded the use of an e-reader as not just a device for the singular practice of reading, but also a multi function device that

provides greater technological advantages for its users on one platform. The consumer may ultimately choose to read e-books on a device that allows greater or easier accessibility to multimedia content that is not yet accessible on an e-reader, but instead currently available on a tablet computer or on a multi function cell phone. I would develop further research by conducting a focus group of consumers who regularly read, selected specifically from a sample population of young adults (21-32) who could represent either a possible generational shift in reading preferences or point toward the possible direction where the future of e-reading could be heading, which would in turn narrow the scope on possible consumer preferences of what device they would choose to read e-books with if each device allowed the same multi function benefits. (Milliot, 2011)

If there were no preference among users, then an e-reader would almost certainly have to adopt and incorporate the similar aspects or features that would make the e-reader similar in use as its competing platforms. This would likely mean that an e-reader would more closely resemble a tablet computer or cell phone. In the near future e-reader companies will need to make a decision as to whether e-readers need to narrow its focus on consumers who only desire a device that targets the exclusivity of their reading needs as a singular function device or whether the e-reader needs to broaden itself as a device that is used, as well as designed not only for reading e-books, but also as a multi function device that caters to all of the consumers needs equally on one device while replacing the use of any other devices that incorporates the use of media or communication. (Johnson, 2011)

What factors or events need to occur for e-book/e-reader technology to

become an integral part of readers' lives? This will be a question that companies, such as Amazon will either choose to address or possibly be forced to address, but for e-books to continue to rise in sales, as well as achieve massive popularity as the go to device for consumers to read e-books, the e-book and e-reader technology must make further strides in the direction of giving consumers exactly what they want in reading technology and more. If not, the technology could be in danger of being just another trendy new hype driven media format that readers will eventually tire of. (Trotman, 2011)

To achieve higher profits, e-reader makers must move beyond e-books and offer bonus media content with e-book purchase, such as magazines, enhanced books, and Amazon Singles (exclusive bonus content in the form of very short books offered only when purchasing the e-book version) as well as bonus games such as Sudoku and Scrabble, and news subscriptions. It will only be a matter of time before e-book technology is as vital as other contemporary media devices of our time, such as the portable computer, digital camera, cell phone, etc that overtook and replaced past forms of devices that provide content to users. By better understanding the multitude of factors that influence adoption of innovations, e-book companies will be better able to explain, predict and account for the factors that impede or facilitate the diffusion of their products. (Sharp, 2011)

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