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Chapter 14 - The Electronic Book as a Disruptive Technology

Janel Chandler
Western Oregon University, jchandler13@wou.edu

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The Electronic Book as a Disruptive Technology
-Janel Chandler-

In 2011, the United States made $90.3 million in the ebook market[1]. The electronic book, or ebook, is a book that is read on a computer or other electronic device[2]. Ebooks were invented in 1971 with Michael Hart's "Project Gutenberg," and later took the world by storm in 1998 with the invention of the

Electronic books like the Nook and the Kindle have revolutionized the reading market[1].

ereader by Peanut Press[2,3]. Ebooks were originally just digital copies of books that someone typed up and put on the Internet. This new technology was a disruptive innovation because it granted instant availability, allowed for easier storage, was more convenient, and completely revolutionized the book market[1].

Transition from Print

Electronic books as we know them today began as online databases of historical and classic texts that were maintained by universities[3]. For example, Michael Hart's "Gutenberg Library" now holds 30,000 free books[3]. Some early ebook devices include: the Rocket ebook that could connect to the internet that came out in 1998; the Softbook Reader that was ergonomically designed for long reading on screen; the EveryBook Reader that had a database of books, magazines, and sheet music; the Gemstar ebook that came out in 2000 and featured a color screen; and the Cybook that could store up to 30,000 pages on the device memory[4].

Many electronic reading devices employ the use of "skeuomorphs," which are threshold features such as the notebook paper lines on notepad applications, and are used to slow the transition between concrete objects and their electronic successors. There is no imperative need for there to be lines on this automated electronic application, but it makes the experience of using this application more familiar to us because it's like using a real notebook with lined paper. These features are used to comfort those who are apprehensive about the big changes associated with new technology. They are used to maintain audience. These features often inadvertently alienate some users. For example, the switch away from the lined format of the notepad application on the iOS 7 Apple software towards a more function-based layout. Another example of the use of a skeuomorph is the icon associated with the save feature on most devices--a floppy disk. The use of the floppy disk icon is associated with the save feature, although floppy disks are basically obsolete. This type of widespread recognition is known as an archetype, which is


The floppy disk is used as the save icon on many electronic devices, and is a perfect example of an archetype[2].

a widely accepted and innately understood object or idea[5]. Ebooks have many of these features employed merely for familiar format rather than function. These will slowly disappear throughout their existence. Examples of this are margins, originally used to provide a place for a reader to hold onto the book without covering any text, and bibliographies, which hyperlinks make almost obsolete).

Ebooks are seemingly taking over the limelight. Ebooks are commonly cheaper than paperbacks, but originally had very limited success[1]. One reason for this commonly expressed by readers is the lack of tactile feelings associated

with reading a print book, like feeling the pages, turning the pages, and seeing their reading progress.

Role of the Internet

Ebooks have experienced many changes throughout the years, but all of this progress began with the invention of the Internet. The World Wide Web
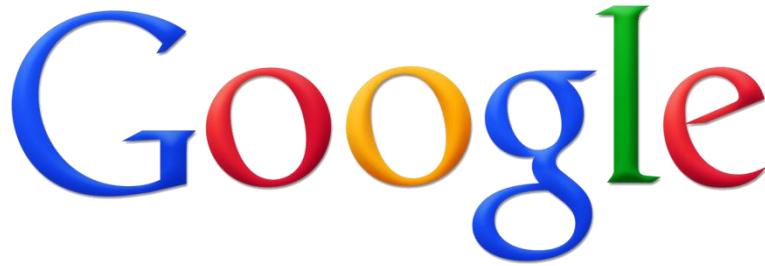
The advent of the Internet and Google changed the electronic book market and literacy as a whole[3].

made its debut in 1991, but reached initial widespread popularity in 1995[3]. The internet allowed information to be more widespread, easier to transfer, and in turn, more easily shared[6]. A major downfall of the ebook market is that people are often not willing to pay for things online, as they are seen as public domain. This has been a problem for many online businesses. This may be solved in the future by embedding paid advertisements in the pages of online books[6].

Effects on Print Market

There is a debate about the effect that ebooks and other similar technologies will have on the print market. The distribution costs of electronic books are virtually nonexistent, but that may not be enough to discount the enjoyment people gain from having solid possession of intellectual property[6]. Some argue that new technologies are making the sales of print books easier and more efficient, and although print books may become less mainstream, they will never lose their usefulness in maintaining important documents and information[6]. The ebook market has taken a lot of business from the print market, but has yet to completely replace it.

New Technologies

Some say new technologies can be distracting, and can take away from more real forms of entertainment. Regardless, new technologies are coming to the surface every day. In most new technologies, innovators look to previous technology to design the future.

There is a big debate about the integrity of ebooks and the transcribing of classics into electronic format. Those in favor of this innovation claim that extra media added to stories add context and history to the story, make it easier to understand, and make it more of an interactive experience. Those against this declare that this format was not the way the author originally intended it to be read. The reason some classic books can still be altered is because their copyright protection time is over, making use of these books public domain.

There are many other new technological advances that aid in the advancement of the book market. There are Print-on-Demand kiosks that can print books on the spot. You select a book from the machine's archive, and 15 minutes later you have a freshly printed and bound book. This allows avoidance of surplus and uses technology to advance the market of print books.

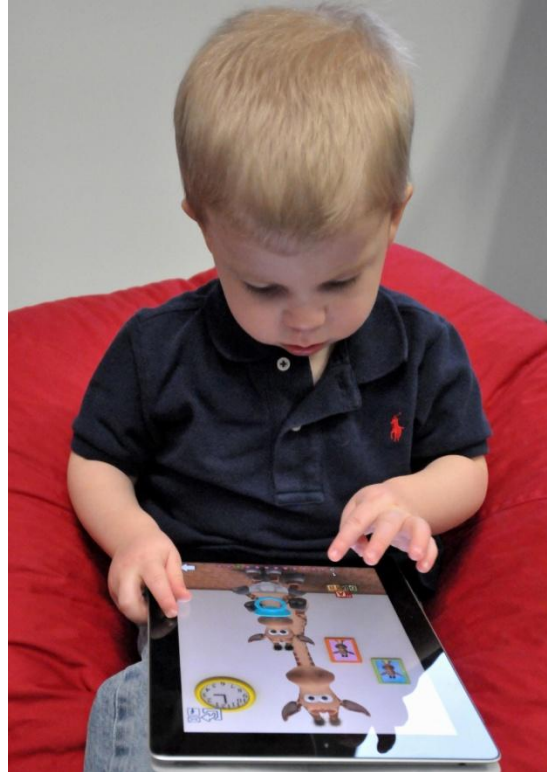**Print-on-Demand kiosks provide a new and innovative way to meet print book demands[4].**

The future holds a newer format of book, made from "smart paper." This "smart paper" is composed of millions of tiny rubber balls, black on one side and white on the other. These balls are electrically charged, and form to the

pages of whatever book you download. This maintains the tangible aspects of reading a print book, but intertwines the use of new technologies[6].

Accessibility

Due to the prevalence of libraries, print books are currently more accessible to the general public. Education has taken new reading technologies and used them extensively in schools, especially with young children. More than half of U.S. children are reading on electronic books, which is twice as many as American adults[2].

Many schools have adopted the use of electronic readers in youth education[5].

There was a large study conducted based on the differences in reading quality between electronic and print books. The study concluded that on average, people read print materials faster. It was also found that there is no difference in comprehension of material read[7].

Ebook as a Disruptive Innovation

As originally stated by David Staley, "the computer may be more like the printing press than we ever imagined before. The printing press transformed the production and distribution of writing, but not its form or structure[6]." The ebook came from left field and completely revolutionized the book market. It has had many effects on the format and function of electronic versions of books, and has changed the printed book world as we know it.

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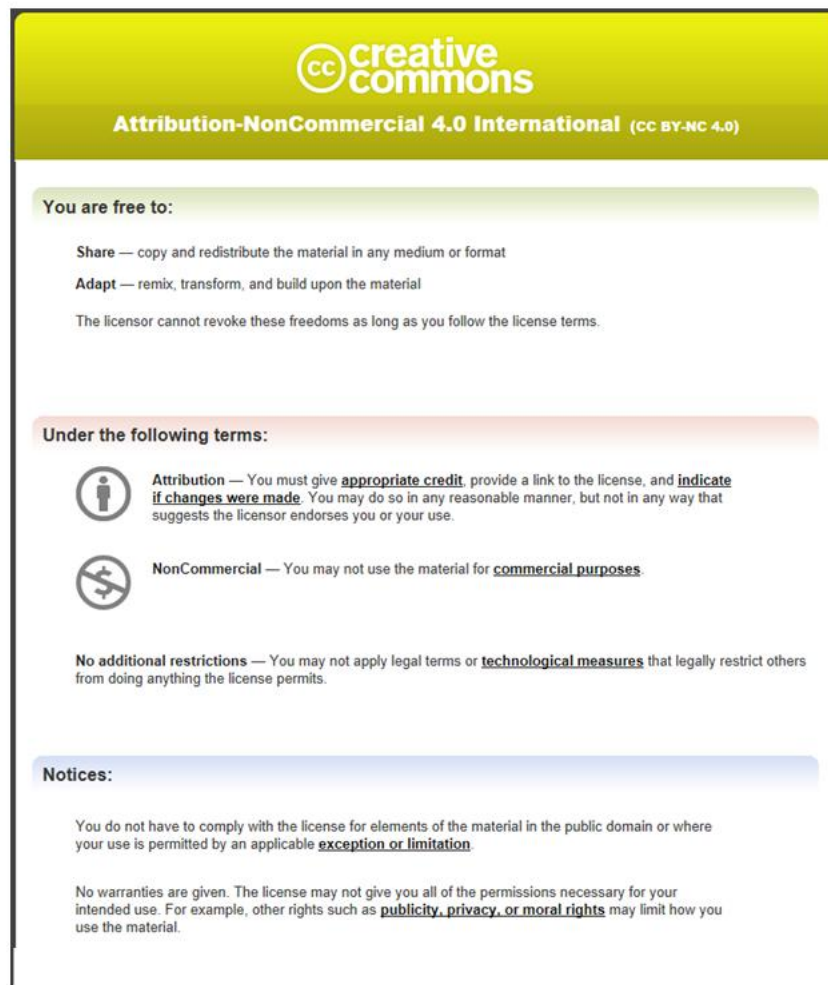4.   On demand book printer 1, GNU Free Documentation License, Version

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