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THINGS YOU SHOULD KNOW ABOUT...
E-READERS

Scenario

On the first day of class for his new MBA program, Charles checks the reading list and sees that students have the option of purchasing traditional printed books or, for less cost, downloading all the course materials to the e-reader of their choice. Charles prefers reading on paper, so he buys the physical copies of the textbooks. Gina, on the other hand, values the convenience of electronic text and opts for the e-reader bundle.

Gina finds she likes only having to carry her Kindle to class instead of lugging around five textbooks. She also notices that she tends to pull out the device, start reading, and perhaps highlight a passage when she has a few minutes before class or is standing in line for coffee. Charles, too, thinks he made the right decision. He enjoys sitting down with his coffee and a book and writing notes by hand in the margins. This is how he studied as an undergrad, and he finds it effective.

During the second week of classes, Gina checks her bag and realizes she didn't put her Kindle in it the night before. She pulls out her iPhone and accesses the class text on her Kindle app. She completes her annotations on the small screen and syncs them up with her e-reader when she gets home. While writing a paper, Charles takes satisfaction from spreading his course materials across his desk, arranging them in order of the points he will discuss, and pulling each one over to scan as he prepares his notes.

Several times in class, the professor asks a technical question that requires students to consult their texts. Sometimes Charles is able to recall where to find the information, but more often the search tool for the digital text allows Gina to find it first. Outside class, Charles finds that once he starts to read a chapter, he stays focused and reads through to the end, whereas Gina notices how easy it is to be distracted by the novel she's been reading or a spate of e-book shopping. In a major upgrade to the textbook, released just before mid-term, Gina's text is automatically updated, while Charles has to print off the changed material. As he collects his printed pages, Charles reflects that although he still prefers working with physical books, he might try the e-text option for one of his classes next term.

1 What is it?

E-readers are portable, low-power, high-resolution devices specifically designed to display digital versions of written material from books, magazines, newspapers, and other printed sources. Some e-readers also provide access to electronic documents like blogs, websites, news feeds, and the like. In many cases, devices with other primary functions—such as netbooks and cell phones—are pressed into service as e-readers. As used here, however, the term "e-reader" refers to devices designed specifically for presenting text—including the Amazon Kindle, Sony's Reader series, and the Nook by Barnes & Noble—and multiuse devices like the eDGe e-book reader by enTourage, the QUE proReader from Plastic Logic, and the iPad from Apple, which were designed with the e-reader market in mind. Most e-readers offer black-and-white resizable text presented on so-called e-ink rather than an LCD screen, and they allow users to store a library of titles in a single device, make annotations, highlight text, and "dog-ear" pages.

2 How does it work?

E-readers present electronic versions of text, typically using e-ink, a display technology designed to simulate printed paper. It offers similar resolution as newsprint and, relative to an LCD screen, eliminates glare and reduces eyestrain. Because e-ink uses power only when the text changes, as when a page turns, a battery charge can last 7–10 days. By contrast, most devices with LCD displays offer a battery life of perhaps 10 hours. Text can be loaded onto e-readers through wired or wireless connections, from a local computer or a source such as an online store or a publisher's website. In some cases, buyers can sample books before they buy, or share purchased materials with others. An evolving feature set for e-readers includes 3G, WiFi, audio, interactive content, and color displays.

3 Who's doing it?

E-readers are increasingly used by students to download textbooks, as evidenced by a recent report from e-textbook provider CourseSmart, which claims that 2009 sales of textbook downloads rose 400 percent over the previous year. In 2009, the Florida legislature asked Orange Grove, a state-supported digital library, to look into providing free downloads of digital texts to students of state colleges and universities. Similarly, the California legislature enacted a law requiring college textbooks to be available in electronic format by 2020. A number of institutions—including Princeton University, Reed College, Pace University, Case Western Reserve, and the University of Arizona—have conducted e-reader pilot programs to evaluate the viability of e-readers as a substitute or a complement to traditional printed course materials.

Textbook publishers have joined forces with e-reader manufacturers to produce texts in e-book formats, giving rise to new

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distribution models. A partnership between Rio Salado College and Pearson's custom publishing division, for example, resulted in a program that saves students money by offering various buy-back options. Using a model common to software markets, North Carolina State University purchased a site license for a physics text used by approximately 1,300 students each year. The digital text is available through the university library—at no cost—to all students, faculty, and staff at the institution.

4 Why is it significant?

E-readers are changing the economics for buyers and sellers of text-based intellectual property, including educational materials. Although electronic texts tend to be less expensive, there are currently limited options for reselling them. A move to digital textbooks and coursepacks would have broad implications both for the traditional campus bookstore and for an institution's library, which typically houses reserve materials. Many texts—often those that are out of copyright—are already available in electronic versions at no cost and thus offer substantial savings to students when a specific edition is not required. Digital texts can be updated easily and might include advanced features such as annotation, hyperlinking, cross-linking, saved views, interactive quizzes for individual study, analyses, and shared commentary from other members of the class. Because a single e-reader can store a large collection of books, articles, and class notes, students don't need to lug a stack of texts in their backpacks or crowd printed materials into the limited living space of a residence hall or apartment. Because they are easy to carry and have resizable fonts, e-readers offer additional benefits to users with disabilities, and some readers provide a text-to-speech function. Finally, e-readers may offer an ecologically sound option, preventing the printing of thousands of pages and the pollution that results from their transportation.

5 What are the downsides?

As with any electronic device, e-readers are susceptible to damage that standard textbooks are not. Even though electronic content can usually be recovered, dropping an e-reader onto a sidewalk could be the demise of that device. E-readers are a more tempting target for theft than books, and loss is a significant problem when all of your texts are on a single device. Content compatibility across platforms is another concern: the enTourage eDGe, the Sony Reader series, and the QUE proReader all support Adobe EPUB, which means books can be downloaded from a variety of independent vendors; Kindle, however, promotes Amazon's proprietary format AZW, and early reports suggest Apple's iBookstore reading matter will not be viewable on devices other than the iPad. Despite its benefits, the ability to loan a digital text to multiple users simultaneously challenges the paradigm of traditional libraries, which will need to change their services and modes of distribution to accommodate e-readers, perhaps moving to a "site license" model. In the meantime, libraries must decide whether scarce resources should be invested in proprietary e-book files that only work on a limited number of devices or on nonproprietary file formats supported on a number of e-readers. Currently some libraries lend e-readers with preloaded content, but questions have arisen about whether this violates the e-book terms of use. E-reader pilot programs at some colleges and universities have raised accessibility concerns. In particular, advocacy groups have claimed the Kindle DX does not provide adequate support for those with visual impairment because although it does offer text-to-speech capability, the menu is not voice-activated.

6 Where is it going?

E-readers have begun a redefinition of roles and conventions in the traditional chain of content transfer. Publishers have growing numbers of channels and formats for their content, and class materials will increasingly be available in multiple modes, including open content, library loan, or as texts, articles, or individual chapters purchased from the campus bookstore or a commercial retailer. Advances in screen technology for e-readers could lead to text combined with multimedia on e-readers. The introduction of the iPad might signal another tangent for e-readers, and Amazon has plans to provide a software development kit, pushing the Kindle closer to a tablet-style device. These trends could result in an all-purpose device capable of containing all of a student's texts and course materials, providing notification of campus emergencies or weather alerts, and allowing access to academic applications such as backchannel tools or remote lectures.

7 What are the implications for teaching and learning?

The e-reader ushers in new models of content acquisition that complement the traditional pattern of text purchase and reuse. Because e-readers could open the door to more flexible content aggregation, prompt information updates, and the inclusion of articles not published through traditional channels, they present the opportunity for highly customizable course materials. Many e-readers are products of companies in the business of selling or licensing books, and the lower costs of producing and distributing e-texts might drive wider distribution. The convergence of e-readers with more general-use devices suggests course materials will increasingly include features such as pronunciation glossaries, animated flashcards, collaborative annotation, and embedded videos. Tablet-style readers could signal a change in classroom interaction as an instructor, communicating with a classroom full of students equipped with e-readers, selects interactive maps, charts, and graphs from the web to illustrate lecture points.

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