

The Kindle

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This is the most important thing we've ever done. It's so ambitious to take something as highly evolved as the book and improve on it. And maybe even change the way people read.

-Jeff Bezos, CEO, Amazon.com¹

Books are time consuming. They're involved and they require focus. They managed, until recently, to escape the full impact of the information age, staying "the last bastion of analog," according to Jeff Bezos, Amazon's CEO. But nowadays, just as surely as ice cream melts, content digitizes, and even the book is beginning to find its place in the digital revolution. The transformation to digital, still in progress, will yield great cost savings. But more important, digitization can increase the value of the book, as digital content is more easily searched, linked to, and stored. Book digitization has created two complementary markets: one for content, eBooks, and one for devices, eReaders. Amazon was trying to capture both markets.

eReader History

Michael S. Hart invented the digital book (eBook) in 1971, in what later became Project Gutenberg. The project's mission was "to encourage the creation and distribution of eBooks." Hart believed the computer had potential beyond computation, in data storage and management. Securing time on a \$100,000 Xerox Sigma V mainframe computer, Hart typed a copy of the Declaration of Independence, the first eBook. It took eighteen years to digitize the first ten public domain eBooks, but by 1997, there were 1,000, and by 2009, there were 30,000.² eBooks, however, remained scarce: they couldn't even be read on a PC until 1993. Initially, eBooks were written for highly specialized arenas; indeed, many were little more than technical manuals. But by 2001, basically every major publishing house was creating and selling eBooks that were read on eReaders, hand-held computers with prominent screens used to read digital content. By then, eReaders were sufficiently capable, and digital piracy had wrought havoc on the music industry. Publishers realized that if they didn't produce eReader content, pirates would.

The first eReaders---the Rocket eBook by NuvoMedia and the SoftBook by SoftBook Press---were released in 1998. They were released too early: they were novel; they

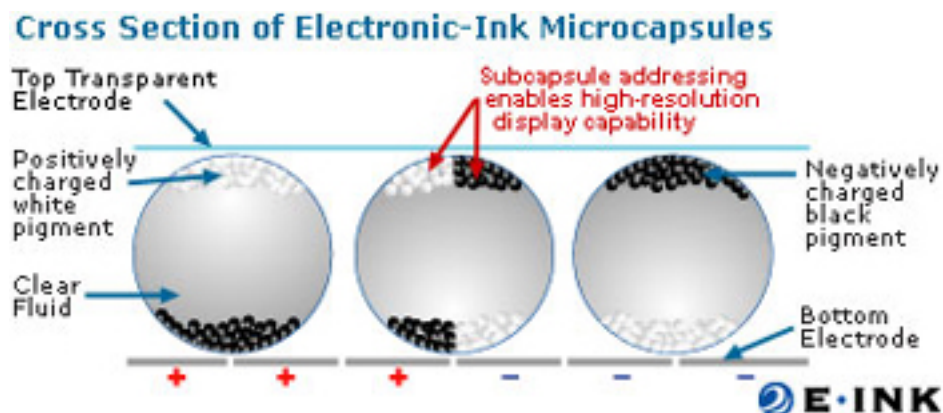
¹ Cited in Steven Levy, "The Future of Reading," *Newsweek*, November 18, 2007.

² Based on Project Gutenberg statistics at <http://www.gutenbergnews.org/statistics/>.

impressed tech critics; and they flopped. They simply didn't better the incumbent technology, the book. The Rocket and SoftBook were expensive (\$499 and \$599.95, respectively), and they were heavy (1.5 and 2.9 pounds). To their credit, though, the devices had decent memories: the Rocket had 4MB and the SoftBook had 8MB, enough to store 10 and 20 books, respectively. But filling this memory, i.e., loading books onto the devices, was difficult. SoftBook had an internal 33.6Kbps modem, so users could download books without a computer, but the process---logging-on, finding and selecting a book, and downloading it---was clumsy and error-prone. Loading books on the Rocket required a computer; users bought books from the Barnes & Noble (B&N) website (initial offering: 524 titles), but rather than immediately download the books they bought, users had to wait several hours for an email with a download link from B&N.³ The bookseller charged a premium for the service: hardcover books, sold for \$16 in stores, cost \$20 on the Rocket. But most significant, these devices made reading uncomfortable: they had LED screens, which flicker and express letters in fuzzy pixels rather than clear edges, which make them hard on the eyes.

Screen eyestrain crippled the eReader industry until the advent of E Ink. E Ink, described as "electronic paper," was developed by the E Ink Corporation founded by MIT researcher Joseph Jacobson in 1997. The company explained the concept as follows:

The principal components of electronic ink are millions of tiny microcapsules, about the diameter of a human hair. In one incarnation, each microcapsule contains positively charged white particles and negatively charged black particles suspended in a clear fluid. When a negative electric field is applied, the white particles move to the top of the microcapsule where they become visible to the user. This makes the surface appear white at that spot. At the same time, an opposite electric field pulls the black particles to the bottom of the microcapsules where they are hidden. By reversing this process, the black particles appear at the top of the capsule, which now makes the surface appear dark at that spot.⁴



³ Jacob Weisberg, "I Have Read the Future. At dinner. In a Taxi. On the John. With My Electronic Book," *Slate*, May 8, 1999.

⁴ <http://www.eink.com/technology/howitworks.html>.

Rather than emit light, E Ink screens reflect it, which means they are as easy on the eyes as paper. Further, the microcapsules remain static, i.e., the screen holds its image, when there is no current. As E Ink displays only use power to “turn pages,” not to display them, they are very efficient.

Creating an E Ink screen is a three-step process. First, in Cambridge, Massachusetts, E Ink Corporation creates the charged microcapsules into a slurry called Vizplex; second, they layer the slurry into films in a western Massachusetts plant; and last, they ship the films to Taiwan, where E Ink’s parent company, Prime View International, attaches them to an electronic grid, which controls the black and white particles within the microcapsules.⁵

Initially, E Ink tried to create its own eReader, a project Jacobson coined the Last Book. Yet, in 2000, following the dot-com retrenchment, E Ink changed tack: rather than pursue the Last Book, they chose to cede the eReader market to giants like Sony and Phillips, and instead focus on the eReader’s key element, the screen. “Imagine you’re NutraSweet,” Russ Wilcox, E Ink’s CEO said. “The cola industry is already up and running. There’s no way you’re going to make your own diet cola and compete head to head. So what do you do? You sell the ingredient.”⁶

E Ink’s strategy worked. In 2004, Sony bought E Ink screens to create its Libre eReader; in 2006, iRex Technologies and Jinke did so to create the iLiad and the Halin V2, respectively. These eReaders experienced limited success, but in 2006 Sony released a blockbuster, the Sony Reader PRS-500. The PRS-500 boasted a 6-inch E Ink screen, which could display up to four shades of grey. It had 64 MB---160 books---of memory, and a slot for an SD external memory card. It had a Lithium-ion battery, which could “turn” up to 7,500 pages per charge. It weighed a little over half a pound. Further, Sony launched a 10,000 title online bookstore, the eBookstore, with prices 20-25% below those of printed-books. Users downloaded books from the eBookstore to their computers, and then uploaded them to the device via USB. Sony’s eBooks were published in a proprietary format, BBEB, which only the PRS-500 could open, but the device could also open Acrobat PDF files.⁷

⁵ Nicholson Baker, “A New Page. Can the Kindle Really Improve on the Book?” *New Yorker*, August 3, 2009.

⁶ *Ibid.*

⁷ Barb Dybwad, “Sony Reader Details and Pics,” *Endgadget*, January 6, 2006.

Amazon.com

Brief Company History⁸

In Seattle, Washington, in 1994, Jeffrey Bezos founded online bookstore Amazon.com. Sales, initially restricted to books, soon expanded to other media---DVDs, CDs, and software---and then to a wider class of sundries---electronics, toys, apparel, home appliances, tools, and more. By 2009, the company was the dominant online retailer, with \$24.5 billion in revenue and \$1.13 billion in operating income (**Exhibit 1**). As the number of customers grew, so did the sales per customer (**Exhibit 2**).

Amazon competed on product selection, convenience, and price. Rather than buy expensive retail properties, Amazon distributed books from large, highly-automated warehouses built on cheap land. Its distribution network enabled Amazon to fulfill most orders quickly and at low cost (using land freight). With ample warehouse capacity, Amazon could sell millions of book titles whereas even the largest brick-and-mortar bookstores carried less than 200,000 titles. Along with low prices and diverse selection, Amazon offered recommendations and efficient customer service. In 1999, Amazon introduced “1-click” which, as the name suggests, eliminated the payment form and simplified product purchasing to a single mouse click. Amazon personalized the site to build what amounted to a unique storefront for each customer. Bezos stressed customer intimacy: “It’s just like in traditional retail. If a small-town merchant knows your tastes, he could tell you if something interesting came in and he suspected you might want it.”⁹ Thus, the site displayed prominent personal messages and identified complementary goods that were offered to customers as they were shopping. Supporting customer product selection were honest customer reviews. Publishers and authors pressured Amazon to curtail negative comments, but Amazon resisted. “We want to make every book available,” Bezos explained, “the good, the bad, and the ugly. When you’re doing that, you actually have an obligation if you’re going to make the shopping environment one that’s actually conducive to shopping to let truth loose.”¹⁰

Amazon viewed fulfillment as a central driver of the customer experience. To control the customer experience, it managed its own inventory and fulfillment through a network of fulfillment centers built at a cost of hundreds of millions of

⁸ For a more detailed analysis of Amazon before the Kindle, see H. Mendelson, “Amazon.com: Customer-Centricity in the Cloud,” Stanford Graduate School of Business, 2008.

⁹ George Anders, “The View from the Top: The Past, Present and Future of Internet Economy, as Seen by Amazon.com’s Jeff Bezos,” *The Wall Street Journal*, July 12, 1999.

¹⁰ Robert Spector, *Amazon.com: Get Big Fast*, Harper Collins, 2000.

dollars. Through a relentless efficiency drive as well as the effect of scale, Amazon drove its fulfillment costs from 15% of sales in 2000 to 8.4% in 2009 (**Exhibit 1**).

Shipping charges were often cited as a reason consumers did not buy online. Amazon responded with its “super-saver” shipping that started in 2002 and was made permanent in 2003: Amazon offered free shipping for orders of \$25 or more, but the buyer agreed to wait up to 3-5 additional days for delivery.¹¹ In 2005, Amazon started a membership program called Amazon Prime that offered, for a fixed \$79 annual fee, two-day shipping on an unlimited number of orders of any size as well as discounted priority shipping rates. When the program was initiated, Bezos said, it was “scary” since “the one thing you do know when you hold an all-you-can-eat buffet, the heavy eaters show up first.”¹² But, he explained, “Once customers try Amazon Prime, it changes the way they shop with us. They love taking advantage of unlimited two-day shipping for a flat fee, and they shop across more categories.”¹³ One customer described how he took advantage of Amazon Prime over the Christmas season: “I must have bought 50 gift items for relatives in Idaho and California, and Rory bought gifts for all of her good clients. It was so much easier. I’m glad it’s catching on. I was afraid they might cancel it.”¹⁴

Amazon upended book retailing with efficiency and customer intimacy. As a result, eReader technology presented both an opportunity and a threat to Amazon. An eReader, seamlessly transmitting an eBook to customers in less than a minute, could enhance the customer experience, strengthen Amazon’s relationship with its customers, and play to the company’s technological strengths. On the other hand, an eBook ecosystem would compete with Amazon’s elaborate book distribution system which made it so successful. In 2004, Amazon set out to develop an eReader solution to ensure its continued leading position in the book market. But there was a problem: Amazon was a retailer, not a hardware manufacturer. Bezos explained:

Companies can extend in at least two different ways. One, they can take an inventory of their skills and then they can say, ‘OK, with this set of skills, what else can we do?’ That’s kind of a skills-outward approach. Another way is to start with the customer needs and work backwards. Given our customers, you can say, ‘What needs do they have that we could fulfill, even if it requires us to develop new skills?’ Kindle is an example that’s firmly in that second camp. We have a large base of customers who love reading. How else can we make reading even easier for those customers, even if it requires us to develop new skills? We certainly had to go out and hire people who had expertise in hardware design, hardware manufacturing, and so on. If you’re going to start with the customer and work backwards, even if it requires you to develop new skills, you certainly have to have a long-term orientation.¹⁵

¹¹ The initial threshold was \$99.

¹² “The Charmed Life of Amazon’s Jeff Bezos,” *Fortune*, April 15, 2008.

¹³ “Amazon Won’t Go Down with the Ship,” *USA Today*, July 30, 2007.

¹⁴ *Ibid.*

¹⁵ David LaGessee, “Jeff Bezos on Amazon Kindle and Digital Media,” *US News and World Report*, October 29, 2008.

The Kindle

Wary of the failings of the Rocket and the SoftBook, Bezos knew the Kindle would have to better the book itself, “an object that is superbly designed, wickedly functional, infinitely useful and beloved more passionately than any gadget in a Best Buy.”¹⁶ Bezos acknowledged the task was formidable, for “anything that resists change for 500 years is going to be difficult to improve on.”¹⁷ To outperform the book, Amazon honed the Kindle’s book-reading functionality, an arduous challenge:

But the book has a feature which I think is hard to notice, but it’s the book’s most important feature. And that is that it disappears... So when you are reading, you don’t notice the paper and the ink and the glue and the stitching... All of that dissolves and what remains is the author’s world. And you go into this flow state. And that ability for a book to disappear is something that became our top design objective for Kindle. Because we knew if we couldn’t replicate that aspect of a book, that nobody would use this device. And if you think about it, there’s a lot of things that have to go into that, to get something to disappear like that and to vanish so that you can get into that very pleasurable mental flow state that readers know and love.¹⁸

Amazon sought to replicate this “flow state” by downplaying functionality that could distract readers---for example, the Kindle had a web browser, but it was buried in an “experimental folder,” and an MP3 player, but it could only play tracks in a single, predefined order. At the same time, Amazon played up features that highlighted the device’s bookishness---for example, it tapered the Kindle’s width to allude to the book binding bulge.

Lab126, an Amazon division based in Cupertino, California, developed the Kindle which was released on November 19, 2007. The first Kindle had a 532 MHz processor running a Linux-based operating system. It sported a six-inch E Ink Vizplex screen that displayed four shades of gray. It boasted 180 MB of user-accessible memory---roughly 200 books---and supported external memory with an SD memory card slot. It had a 3.7-volt, 1530-mAh, lithium polymer battery that allowed up to 30 hours of continuous reading (**Exhibit 3**). Files were encoded in a special file format, AZW, which provided Digital Rights Management (DRM). The Kindle could read files in a number of different formats (**Exhibit 3**).

The Kindle was a hit. It sold out in less than six hours, and remained out of stock for the following five months. It subsequently sold on eBay for an average of \$830, and

¹⁶ Steven Levy, *Op. Cit.*

¹⁷ David LaGeese, *Op. Cit.*

¹⁸ Jeff Bezos on The Charlie Rose Show, November 19, 2007.

upwards of \$1,500.¹⁹ “It’s absolutely my new favorite, favorite thing in the world,” said Oprah Winfrey.²⁰

There were a number of reasons for the Kindle’s popularity. It saved backs: users no longer had to schlep books. It made buyers feel righteous: “Maybe the Kindle was the Bowflex of bookishness,” Nicholson Baker, *New Yorker* magazine contributor, explained, “something expensive that, when you commit to it, forces you to do more of whatever it is you think you should be doing more of.”²¹ It offered utmost discretion: on Fictionwise, B&N’s electronic bookstore, tech blogger Peter Smith found “of the top 10 bestsellers under the ‘Multiformat’ category, nine [were] tagged ‘erotica’ and the last [was] ‘dark fantasy.’” Accordingly, “people who read erotic romance and ‘bodice rippers’ love eBooks because of the privacy they offer, both during purchase and when reading.”²² But most important, the Kindle made acquiring eBooks easy.

Amazon developed its eReader not just as a product designer, but also as a bookseller. Before the Kindle, Amazon overran brick-and-mortar bookstores by using its price, convenience and selection advantage. With the Kindle, it did the same. Whereas other eReaders required users to download books via computer and then upload them via USB, the Kindle allowed them to buy books directly from Amazon’s online Kindle Store through Sprint’s wireless EV-DO network, branded by Amazon as “Whispernet.” Doing so required no computer or third-party internet connection. To the user, the Whispernet appeared free: Amazon didn’t charge for the service directly, rather the company defrayed its cost across the device’s initial price and the prices of the downloaded books. The Kindle Store offered a wider selection of titles than did the Sony eBookstore---50,000 in late 2007, then 200,000 in late 2008, and then 300,000 by summer of 2009 (**Exhibit 4**). And Bezos dazzled customers with rosy book availability prospects: “the vision is that you should be able to get any book---not just any book in print, but any book that’s ever been in print---on this device in less than a minute. This isn’t a device, it’s a service.”²³

There were good reasons to buy a Kindle, but there were also reasons to avoid buying one. These were listed by *New Yorker* writer and Kindle critic Nicholson Baker: First, at \$399 and then \$359, the Kindle was pricey (**Exhibit 5**). Second, the initial design was clumsy. Having the “Next-Page” button run along the entire right side made users often accidentally skip ahead. The keyboard was “composed of many rectangular keys that were angled like cars in a parking lot... in a peculiar tea party

¹⁹ Michael Arrington, “Sold out Kindles Going for up to \$1,500 on eBay,” *TechCrunch*, December 14, 2007.

²⁰ Oprah Winfrey Show, October 24, 2008.

²¹ Nicholson Baker, *Op. Cit.*

²² Peter Smith, “Salacious Content Driving the Adoption of eBooks?” *IT World*, March 6, 2009 (corrected).

²³ Steven Levy, *Op. Cit.*

of un-ergonomicism."²⁴ Third, the Kindle wasn't fully compatible with some eBook formats, most notably Acrobat's PDF.²⁵ Likewise, until a February 2009 firmware update, the Kindle did not support Unicode or non-Western characters, only the ISO 8859-1 (Latin 1) character set. Fourth, E Ink screens, while used commonly in eReaders, hadn't been commonly accepted by consumers. Baker expressed his disappointment:

Dark gray on paler greenish gray was the palette of the Amazon Kindle. This was what they were calling e-paper? This four-by-five window onto an overcast afternoon? Where was paper white, or paper cream? Forget RGB or CMYK. Where were sharp black letters laid out like lacquered chopsticks on a clean tablecloth?²⁶

Most debasing to Baker was the Kindle's look. He cited bloggers saying "it looks like a Timex Sinclair glued to the bottom of an oversized 1st gen Palm device," and "the early 90s called and they want their device back."²⁷

Among critics, there was no consensus about the Kindle's most important feature: readability. Kindle reading had its pros and cons---pro, users could highlight text, look-up words, and bookmark pages; con, they couldn't organize books into folders; pro, users could change the text size; con, there were "locations" rather than page numbers; pro, users could read with one hand; con, they couldn't read without light. The essence of reading, the "couch plop test"²⁸ as one critic put it, couldn't be measured directly. Baker believed it failed this test, while others believed it passed with flying colors: "I left the real world and was soon happily ensconced in the book I was reading. The only difference was that I was reading an eBook and not a print book."²⁹

Critical acclaim notwithstanding, the Kindle was a runaway success among actual readers: Kindles, and the eBooks that went along with them, sold like cupcakes. The Kindle topped Amazon's best-selling lists, and it was out of stock in both the 2007 and 2008 holiday seasons. Amazon repeatedly reported that Kindle sales were above expectations, although it provided no data on unit sales, and it aggregated the device sales in its electronics and other general merchandise segment, recognizing Kindle revenues and costs over a two-year period. Analyst estimates varied widely around half a million units for 2008.³⁰ One publishing industry executive described

²⁴ Nicholson Baker, *Op. Cit.*

²⁵ The Kindle could open some PDF files, but this functionality, considered "experimental," didn't always work.

²⁶ *Ibid.*

²⁷ *Ibid.*

²⁸ Jim Lynch and Loyd Case. "The Amazon Kindle 2 Review and Experience," *ExtremeTech*, March 3, 2009.

²⁹ *Ibid.*

³⁰ See, for example, Dan Frommer, "Amazon Sold 500,000 Kindles In 2008," *Silicon Alley Insider*, February 3, 2009.

the effect of the Kindle as follows: “What’s happened is that they’ve created tremendous demand, but it's not as visible as the market for the iPod because people use their iPods in a very public way. You don't do a lot of e-book reading while jogging, or standing up on the bus.”³¹

Later Kindle Models

Amazon orchestrated a stunt to market the Kindle 2. The company commissioned author Stephen King to write a half-infomercial-half-novella called UR, in which the protagonist interacted with fictional characters through a magic Kindle. Naturally, King sold the eBook exclusively through the Kindle Store. Although gimmicky, the stunt captured people’s attention.

The Kindle 2, released in February 2009, fifteen months after its forbearer, was well received. Whereas the ratio of five-star to one-star reviews for the original Kindle was 8:1, it almost doubled to 15:1 for the Kindle 2. Pithily, one review read, “if I dropped my kindle down a sewer, I would buy another one immediately.”³²

With the Kindle 2 came new technological improvements (**Exhibit 3**). The thickness decreased by more than half, to .36 inches. The memory increased seven-fold to 1.4 GB---1,500 books---but to the chagrin of many, it lacked an SD extension memory card slot. It improved photo rendering, depicting up to 16 shades of grey, and loaded pages 20% faster (in less than a second). Amazon boosted battery life by 25%: the battery lasted up to five days with the wireless on and two weeks with it off. And brand new was a text-to-speech capability.

But, like its predecessor, the Kindle 2 had some letdowns. Kindle 2 had the same retail price as the old Kindle, \$359 (**Exhibit 5**)---expensive in the thick of a recession. Against the \$359 price, Amazon had to cover its materials and manufacturing cost, estimated at \$185 (**Exhibit 6**), distribution, testing and software costs, estimated at about \$40,³³ and the cost of the Whispernet network, estimated at about 20 cents per book on average plus a one-time \$5 activation fee.³⁴ Newspapers and magazines had richer content and cost about 30 cents per issue to transmit.³⁵ Some commentators argued they “would be willing to sacrifice the instant gratification of downloading books over 3G versus downloads when they are

³¹ Jeffrey A. Trachtenberg and Christopher Lawton, “Better Scratch That Kindle Off Your List: Amazon's E-Book Gadgets Sell Out After Oprah's Plug; Calculating the Whim Factor,” *The Wall Street Journal*, December 8, 2008.

³² Nicholson Baker, *Op. Cit.*

³³ Source: Credit Suisse.

³⁴ Sources: Gartner; Credit Suisse.

³⁵ Source: Gartner; the 30 cent figure includes a provision for updates.

in Wi-Fi range, if it meant a \$100-\$150 price reduction.”³⁶ Amazon eventually dropped the price to \$299, then to \$259 (**Exhibit 5**).

A larger-screen Kindle, the Kindle DX, was introduced in June 2009 (**Exhibit 3**). At a third of an inch, it was thinner than previous models, and with 3.3 GB of memory---3,500 books. But most important, it boasted a 9.7-inch display with the dimensions of roughly half a letter-sized piece of paper. With a screen sized 2 ½ times the earlier Kindles, it cost \$489. Along with the larger screen, Amazon---with an eye on the textbook and professional book markets---allowed the Kindle DX to open PDF files and seamlessly toggle between landscape and portrait modes.

To increase its electronic textbook offerings, Amazon partnered with textbook publishers Cengage Learning, Pearson, and Wiley, which collectively comprised 60% of the higher-education textbook market; the publishers sold their texts in the Kindle Store, starting in the summer of 2009. Amazon also partnered with universities and continuing education institutions such as the Practising Law Institute. Further, Amazon developed a program with multiple national and international newspapers including the New York Times, the Boston Globe and the Washington Post, charging monthly subscriptions ranging from \$5.99 to \$14.99 depending on the publication.

Until October 2009, the Kindle only worked in America, as Amazon had difficulty securing international network providers for its Whispernet.³⁷ In October 2009, Amazon expanded its network capabilities with the launch of an International model of the Kindle, which worked in over 100 countries. Breaking with Sprint, Amazon connected the International Kindle through AT&T’s 3G and GSM networks. The international Kindle effectively replaced the Kindle 2.³⁸

The later generation Kindles sold well. Amazon hasn’t released sales figures, but analysts generally believed that the Kindle had 60%-65% share of the U.S. eReader market.³⁹ Michael Arrington of TechCrunch pegged the cumulative Kindle sales by January 2010 at three million units.⁴⁰ During the 2009 holiday season, the Kindle

³⁶ Jason Perlow, “Kindle Economics 2: Why Amazon Should not be Apple, and Jeff Bezos is not Steve Jobs,” *ZDNet*, February 9, 2009.

³⁷ Steven Levy, “Kindle Goes International — With a Little Help From AT&T,” *Wired*, October 6, 2009.

³⁸ The Kindle 2 was discontinued just a few days following the introduction of the International Kindle. At that point, the International Kindle’s price was reduced to match the Kindle 2’s price, \$259 (**Exhibit 5**).

³⁹ See, e.g., “eReader Sales Estimates Exclusive via DigiTimes,” *Kindle Review*, January 24, 2010.

⁴⁰ Michael Arrington, “3 Million Amazon Kindles Sold, Apparently,” *TechCrunch*, January 29, 2010.

became the “most gifted item in Amazon’s history.”⁴¹ On the media side, 26% of books that were offered on the Kindle as well as in print were purchased from Amazon with a Kindle in early May 2009, up from 11.5% in that February.⁴² The corresponding number in early 2010 was 37.5%.⁴³ Clearly, Amazon sold Kindles, and Kindles sold eBooks.

Selling eBooks

Kindles drove eBook sales. Amazon, like most firms, sought to identify and reward high-value customers; the Kindle served this end. Amazon charged less for Kindle books: it listed most titles at or below \$9.99, including New York Times best sellers, which in print cost about \$16. Hence, customers could recoup the cost of the device if they purchased enough books. Consequently, Kindle buyers tended also to be high-volume book buyers. The Kindle, therefore, allowed Amazon to segregate high-volume customers and reward them with lower book prices, a de-facto buy-in-bulk discount. Further, the Kindles themselves became sales clerks, strategically placed in the homes of high-volume book-buyers, enticing their owners to buy ever more by providing the first chapter of most books for free, a seamless buying process, and a low price.

The Kindle sold books, but Amazon also used its position as a book retailer to sell Kindles. First, marketing the Kindle would have been difficult, had it not been for Amazon’s steady stream of book readers. At year-end 2009, Amazon had 105 million active customers worldwide (**Exhibit 1**) and its website had about seventy million unique monthly visitors in the U.S.⁴⁴ Amazon’s home page prominently advertised the Kindle, as did some search results: “Start reading *The World’s Greatest Books* on your Kindle in under a minute. Don’t have a Kindle? Get yours here.” Upon clicking-through, the site channeled visitors to the Kindle Store. Books with no Kindle version had a link “Tell the Publisher! I’d like to read this book on Kindle.” Each click created an automated Kindle request that was passed on to the publisher. Further, Amazon priced eBooks aggressively. For a typical bestseller with a \$24 hardcover list price, publishers set the wholesale price at around \$12 (50% off), regardless of the medium, print or digital. Amazon sold many bestsellers at \$9.99, which meant that Amazon lost \$2 on the sale. On the other hand, many of

⁴¹ “Amazon Kindle is the Most Gifted Item Ever on Amazon.com,” Amazon.com Press Release, December 26, 2009.

⁴² Eric Schonfeld, “For Books Available on Kindle, Sales Are Now Tracking at 35 Percent of Print Sales, *TechCrunch*, May 6, 2009.

⁴³ “Amazon.com Announces Fourth Quarter Sales up 42% to \$9.5 Billion,” Amazon.com Press Release, January 28, 2010, citing Bezos: “When we have both editions, we sell 6 Kindle books for every 10 physical books. This is year-to-date and includes only paid books---free Kindle books would make the number even higher.”

⁴⁴ Source: QuantCast.

the eBooks in the Kindle Store were sold at a profit. This was an extension of booksellers' traditional practice to use bestsellers to attract traffic, which were also followed vigorously by Amazon. For example, traditional bookstores sold New York Times Bestsellers at 40% off; Amazon sold their hardcover versions at 40%-60% off.

Amazon's digital rights management (DRM) allowed Amazon to further leverage its leading position in the eReader and eBook markets. Amazon encoded its books in a proprietary format called Topaz. Kindle books, therefore, could only be read on Amazon-approved devices. Initially, this meant a Kindle book could only be read on a Kindle. While bolstering Kindle sales, the policy could hurt the sales of Kindle books. In March 2009, Amazon introduced a free iPhone application that allowed users to read Kindle content on the iPhone and iPod Touch. In November 2009, Amazon further expanded the Kindle content's reach to Windows-based computers, with a Kindle for PC application, and in February 2010, it introduced Kindle for Blackberry. These Kindle applications used Whispersync, which synchronized reading progress, bookmarks, and notes across the different devices. Allowing Kindle content to be read on devices other than the Kindle might have been an Amazon concession---Amazon might have been forgoing Kindle sales to increase Kindle book sales. On the other hand, synchronized multichannel delivery could make the Kindle more appealing in addition to increasing content sales, and it improved the overall user experience.

The effects of DRM didn't stop at device choice. By the nature of Kindle content, the first-sale doctrine did not apply. Under the first-sale doctrine, the legal buyers of packaged content, such as a paper book, could sell or give it away at their discretion. In contrast, Kindle books could not be lent, given away, sold, or even printed. As Kindle critic Nicholson Baker put it, "a copy of a Kindle book dies with its possessor."⁴⁵ Further, Amazon limited the number of devices a book could be downloaded to, depending on the publisher's choice, from one to six.

In July 2009, Amazon demonstrated that users didn't fully control Kindle content. Due to a copyright mix-up, Amazon had sold copies of George Orwell's "1984" and "Animal Farm" without having the right to do so. Drew Herdener, an Amazon spokesman, described what happened next: "when we were notified of this by the rights holder, we removed the illegal copies from our systems and from customers' devices, and refunded customers."⁴⁶ The resulting scandal was foreseeable, considering the irony of recalling a book about book censorship. Jay Edelson, of the law firm Kamber Edelson, filed suit: "imagine Amazon had shipped a book to someone's house that it wasn't supposed to ship. It can't climb into the person's window, take it back, and leave \$1.57."⁴⁷

⁴⁵ Nicholson Baker, *Op. Cit.*

⁴⁶ Brad Stone, "Amazon Erases Orwell Books From Kindle," *New York Times*, July 17, 2009.

⁴⁷ Wendy Davis, "Law Firm Readying Class-Action Suit Against Amazon for Deleting Orwell Books from Users' Kindles," *MediaPost*, July 20, 2009.

The eReader Ecosystem

eReaders and eBooks

Hard work, an innovative spirit and fortuitous timing combined to give Amazon a favorable Kindle market. By the Kindle's debut, customers had warmed to the notion of portable media consumption and internet shopping---from 2004 to 2008, the fractions of U.S. households that purchased something online and those that owned one or more MP3 players increased from 48% to 59%, and from 5% to 36%, respectively.⁴⁸ The press also factored into the Kindle's success---Kindle stories in the media grew from 8,680 in Q4 2008 to 15,700 in Q3 2009.⁴⁹ The press and Amazon's advertising increased consumer eReader awareness and interest: from Q2 2008 to Q2 2009, the fraction of consumers that had never heard of an eReader dropped from 37% to 17%, and the fraction that said they were interested to learn more increased from 16% to 24%. More important, over that time span, eReader ownership doubled and intent to purchase tripled.⁵⁰

In October 2009, Forrester Research estimated the following sales of E Ink based eReaders in the U.S.: 1 million units by year-end 2008, 3 million units in 2009, and 6 million units in 2010.⁵¹ This represented a rapid increase, but it was still fairly modest compared to the 50 million MP3 players sold within five years of the iPod debut.⁵²

Naturally, eBook sales also grew. The Association of American Publishers reported a rise of U.S. eBook wholesale revenues from \$10 million in Q4 2007 to \$56 million in Q4 2009, and from \$52.4 million in the year of 2008 to \$166 million in 2009 (**Exhibit 7**). These were wholesale numbers, and included only trade books from major publishers---the total eBook market in 2010, Forrester predicted, could top \$500 million at retail prices.⁵³

With market growth came demographic change. In the summer of 2009, Forrester segmented the eReader market into eReader owners (early adopters), those planning to buy one in the following six months (second-wave adopters), and those interested in the product, but without near-term purchasing plans (late adopters) (**Exhibit 8**). The early adopters, Forrester found, tended to be older, higher-income, technology adopters, mobile readers (a higher percentage reading when they commute or on business trips), married, and college-educated. Before acquiring an eReader, they bought an average of 3.5 books a month, 36% of which they bought

⁴⁸ "How Big is the eReader Opportunity?" *Forrester Research*, May 27, 2009.

⁴⁹ "Forrester's eReader Holiday Outlook 2009," *Forrester Research*, October 7, 2009.

⁵⁰ "Who Will Buy an eReader?" *Forrester Research*, August 3, 2009.

⁵¹ "Forrester's eReader Holiday Outlook 2009," *Forrester Research*, October 7, 2009.

⁵² "Who Will Buy An eReader?" *Forrester Research*, August 3, 2009.

⁵³ "The Battle for the eBook Consumer," *Forrester Research*, December 3, 2009.

online. From Amazon's perspective, this demographic group was ideal: they had money, experience buying books online, and enthusiasm about new technology.⁵⁴

The second-wave adopters were younger and read more books. Other than those differences, they were similar to the early adopters but with somewhat lower levels of income and education and a lower propensity to adopt new technology, buy books online or read on the go. At 5.5 books a month on average, this group read the most. As such, they presented an attractive target, but they were expected to be price-sensitive, reading eBooks on devices they already had (e.g., iPhones or netbooks) or waiting for the price of eReaders to drop.⁵⁵

Late-adopters had lower income and education, were less likely to buy books online or read on the go, and were less inclined to adopt new technology. They represented a potentially large market but were unlikely to adopt current-generation eReaders. Forrester predicted that these consumers would generally opt for cheaper, lower-end eReaders from discount retailers like Wal-Mart or Target rather than from Amazon.⁵⁶

Publishers

Amazon's relationship with publishers was perhaps similar to Walmart's, reflecting the fact that it was an important sales channel that recognized its strong position in the value chain. As one eBook publisher put it, "Amazon is a dedicated book channel, a longtime retail partner. Is there tension between the major publishers and Amazon today? Yes. But there are many overriding reasons why they will find resolution."⁵⁷

Amazon's relationship with newspaper publishers was tense as well. Traditional newspaper subscriptions were on the decline, and publishers were looking for digital revenue streams. James Moroney, the CEO of Dallas Morning News, believed the relationship with Kindle was unsustainable for newspapers under the terms that prevailed in 2009. He testified in a U.S. Senate hearing on the future of journalism that for Kindle newspaper subscriptions, Amazon kept 70% of subscription revenues and his newspaper received 30%.⁵⁸ Moreover, Amazon restricted newspapers and magazines from publishing advertisements on Kindle. The Dallas Morning News newsroom had an annual budget of \$35 million excluding the costs of

⁵⁴ "Who Will Buy an eReader?" *Forrester Research*, July 29, 2009.

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*

⁵⁷ Jeffrey A. Trachtenberg, "Apple Tablet Portends Rewrite for Publishers," *The Wall Street Journal*, January 26, 2010.

⁵⁸ U.S. Senate Committee on Science, Technology & Transportation, Hearings, May 6, 2009, The Future of Journalism, James Moroney, Publisher/CEO, The Dallas Morning News.

marketing, printing and distribution. Assuming a \$12.95 monthly subscription and assuming that all of the newspaper's 265,000 paid print subscribers switched to Kindle subscriptions,⁵⁹ the newspaper would be able to recover only 35% of that cost.

Another point of contention with publishers was Amazon's Digital Text Platform (DTP), a self-publishing system released with the first generation Kindle. The DTP format was light and efficient, with a median DTP file size of 368 Kilobytes in 2009. With DTP, authors could bypass publishing houses and release content directly through the Kindle. The authors could charge between \$0.99 and \$200 per download, of which they received 35% in 2009.

In January 2010, Amazon announced that starting in June 2010, authors and publishers of eBooks who used the DTP could earn a 70% royalty (minus delivery costs of 15 cents per megabyte) if their Kindle list price was between \$2.99 and \$9.99 as well as at least 20% below the lowest list price available for the physical version of the book. In addition, they had to opt into all the features of the Kindle Store (e.g., text to speech) and offer the book for sale through the Kindle Store in all the geographies for which they had the right to publish it. The 70% royalty rate applied to both small and large publishers, approximately matching the payment terms of Apple's App Store.

In January 2010, Amazon also released a software development kit (SDK) and invited software developers to create "active content" applications for the Kindle. This "active content" would be sold in the Kindle Store as a subscription or as a one-time purchase under the same revenue split (70% royalty minus delivery costs) as eBooks using the DTP. Under this program, textbooks could incorporate live spreadsheets within their text, companies could build restaurants and reviews that would be updated in real time, and game developers could start developing games for the Kindle.

Another inherent point of contention between Amazon and book publishers was the potential devaluation of the book. eBooks, decoupled from the tangible book form and riddled with DRM restrictions, were new, abstract products; their worth hadn't yet been established. Publishers set the wholesale prices of physical books and eBooks at the same level, arguing that digital and print books were equivalent and should therefore be priced equally. Consumers disagreed. As one eBook reader put it, "E-books should NEVER be more than the paperback price and they should be cheaper (no paper, print, shipping)."⁶⁰ Accordingly, Amazon subsidized its Kindle books, selling them far below print prices. Publishers believed these subsidies cheapened their product. Further, they argued the devaluation was contagious,

⁵⁹ Anthony Duignan-Cabrera, "Follow the E-Reader Money," *Portfolio.com*, November 30, 2009.

⁶⁰ *eBook User Survey 2006*, International Digital Publishing Forum, February 2006, at http://www.openebook.org/doc_library/surveys.htm

pointing to the precipitous drop in hardcover book sales, caused by the flight to digital. With their outside option---hardcover books---crippled, publishers feared Amazon would soon mandate lower wholesale prices. Publishers responded by delaying eBook releases, to which Amazon turned to its customer-base, encouraging them to electronically “petition” publishers to make their books available on Kindle.

As discussed below, Amazon did not have the last word: the introduction of Apple’s iPad gave the traditional publishers the power to have their way.

Competitors

In 2009, Amazon’s competition attacked from two sides, courting both eBook readers and publishers. The market was still wide open: in the second quarter of 2009, only 1.5% of online households had purchased an eReader (**Exhibit 8**). And within the product-space, there was room to differentiate: eReaders could specialize on a medium---blogs, newspapers, magazines, comics, or textbooks---or they could aspire to be the all-in-one device that the Kindle was not. As one commentator put it early on, the “Kindle was already a rudimentary MP3/Audiobook player, so why not allow me to carry a ton of work documents (PDFs, Words, text files) with me as well as a pantload of audiobooks and MP3 files, so I can use it as my primary audio entertainment device when I travel?”⁶¹ Competitors raced to add new features; they invested in bigger screens and ones that weren’t backlit yet displayed color and video; some pursued touch-sensitive screens, and others flexible screens;⁶² yet others sought to open their devices to third-party developers, which, for example, would allow users to interact within book-related social networks.

Sony was a contender. Although it was the first to launch current-generation eReaders, Sony was clearly overtaken by Amazon’s service-oriented approach. Sony had wider retail distribution than Amazon---its eReaders were sold at Borders, Fry’s, Best Buy, and Costco, whereas the Kindle was sold only on Amazon’s website. By August 2009, it had released five models: the PRS-500 in September 2006, PRS-505 in October 2007, PRS-700 in October 2008, and PRS-300 and PRS-600 in August 2009. The PRS-600 and PRS-700 boasted touch-screens and virtual keyboards with 5 and 6 inch screens priced at \$199 and \$299, respectively. By August 2009, the Sony eBookstore outnumbered the Kindle Store in titles, with over a million Google-scanned book titles compared to 340,000 for Amazon, but most of these books were older, low-demand titles. The bottom line was that the Kindle was by far the market leader: consumers found Amazon’s seamless end-to-end offering superior to Sony’s.

⁶¹ Jason Perlow, “Kindle Economics 2: Why Amazon should not be Apple, and Jeff Bezos is not Steve Jobs,” *ZDNet*, February 9, 2009.

⁶² Plastic Logic, for example, announced a device, to be released in early 2010, that rolled-up when not in use.

Sony's PRS-900 Daily Edition eReader, made available in December 2009, sought to level the playing field with an offering that mimicked the Kindle: using AT&T's 3G network, the device connected and downloaded books from the Sony eBookstore just as the Kindle downloaded books over Whispernet. The high-end, 7.1 inch screen Sony eReader was priced at \$399, well above the Kindle (**Exhibit 9**). The device used touch navigation instead of physical controls, so the reader could turn a page by just swiping her finger across the screen. However, the Sony Daily Edition eReader was expensive and it had a selection of 200,000 eBooks (in addition to Google's one million older, mostly out-of-copyright books) and eight newspapers, well below the Kindle (**Exhibit 4**). Sony's eReader sold out for the 2009 holiday season and the Wall Street Journal's Walter Mossberg concluded that in spite of its higher price, more limited content selection, and less intuitive interface, it was competitive with the Kindle.⁶³

By 2009, Sony published its content in the ePub format, an "open" eBook standard that was adopted by the International Digital Publishing Forum to serve as a single eBook format to be used by publishers, distributors and eBook stores. The ePub file format was ultimately adopted by all the leading eBook stores and eReaders---except Amazon (**Exhibit 9**). However, the underlying file format (including ePub) used by the eBook store was wrapped in a DRM that was device- and store- specific (**Exhibit 9**). As a practical matter, both the file format (ePub) and the DRM had to be compatible to allow eBooks sold by one vendor to be read on an eReader sold by another vendor. However, books sold by independent eBook stores such as Lulu in the ePub format could be read on the Sony eReader.

Like Amazon, B&N was primarily a bookseller. Forrester Research found that its overall reach was about that of Amazon's, with 17% of U.S. consumers shopping at Amazon.com over a 30-day period compared to 16% for B&N's stores or website.⁶⁴ However, Amazon's online presence was formidable, and among consumers who were interested in reading eBooks, 40% more were Amazon shoppers than were B&N shoppers in Q3 2009. B&N's entry to the eReader battle was nook, introduced in November 2009. Like the Sony Daily Edition eReader, the nook also had a touch-screen and it connected, through AT&T's 3G network, to a bookstore---the B&N eBook Store, which additionally sourced from Google. The nook's features generally mimicked the Kindle's (**Exhibit 9**) but it also had a second, smaller color screen under the main reading screen. This touch screen could be used for navigating , typing, and turning pages. Further, the nook partly reestablished the customer's right of first sale, enabling book sharing with its LendMe feature: barring any publisher constraints, a customer could beam an eBook to another nook for up to 14 days (during which time the eBook was inaccessible on the original device). In his review of nook, The Wall Street Journal's Walter Mossberg concluded that nook "has the feel of a product with great potential that was rushed to market before it was

⁶³ Walter Mossberg, "Sony's E-Reader Opens New Chapter in Kindle Rivalry," *The Wall Street Journal*, February 10, 2009.

⁶⁴ "The Battle For The eBook Consumer," *Forrester Research*, December 3, 2009.

fully ready,” as he “found the Nook slower, more cumbersome to use and less polished than the Kindle. I ran into various crashes and bugs. And, while the Kindle’s navigation system isn’t exactly world class, it ran circles around the Nook’s, despite the great possibilities offered by the latter’s use of the touch screen.”⁶⁵ The nook sold out for the 2009 holiday season and shipments of an updated model resumed in February 2010.

Because of the incompatible file formats and DRMs, pricing at a vendor’s eBook store influenced the eReader purchase decision. In eBook pricing, Amazon was the low-cost leader by a wide margin. Inkmesh, an eBook search engine, compared in late November 2009 the prices of 11,604 top-selling eBook that were available at the U.S. websites of Amazon, B&N and Sony (**Exhibit 10**). In 74% of the cases, Amazon had (28%) or matched (46%) the best price. B&N had the best price for 4% of titles and matched it for 42%. Sony had the best price for less than 0.2% of titles and matched it for less than 4%.

Under Amazon’s watch, along with the Sony Reader and B&N nook, sprouted a collection of other eReaders---the eGriver Touch, the BeBook, the eSlick, the Papyrus---but the Kindle’s fiercest competitors may well be backlit devices, cell phones and computers. Forrester Research found that in addition to eReaders, consumers were reading eBooks across multiple devices including desktops, laptops, mobile phones and netbooks (**Exhibit 11**). Indeed, in 2008, more people downloaded Lexcycle’s iPhone eReader app---1 million---than bought Kindles.⁶⁶ Amazon took notice, introducing the Kindle for iPhone app in March 2009 and acquiring Lexcycle in April 2009.

Without an expensive E Ink screen, which cost about \$60 (**Exhibit 6**), backlit readers were relatively cheap: 3G iPhones cost \$199 and netbooks \$300. Backlit devices could also be more stylish for some: the switch from reading on the iPhone to the Kindle, was to The New Yorker’s Nicholson Baker like “going from a Mini Cooper to a white 1982 Impala with blown shocks.”⁶⁷

The iPad Shuffle

Stylish and with its \$499-\$829 price spread across multiple applications, Apple’s iPad, introduced in January 2010 and set for sale in March 2010, was the Kindle’s most notable backlit contender. The iPad was not an eReader. Rather, it was a general purpose multimedia and Internet device that included an eReader application (**Exhibit 9**). It had a 9.7” color LCD display, a multi-touch screen with a virtual keyboard, and it weighed 24 oz. — about twice the weight of an eReader. All

⁶⁵ Walter Mossberg, “Nook E-Reader Has Potential, but Needs Work,” *The Wall Street Journal*, December 10, 2009.

⁶⁶ “How Big is the eReader Opportunity?” *Forrester Research*, May 27, 2009.

⁶⁷ Nicholson Baker, *Op. Cit.*

models had Wi-Fi; more expensive models had access to AT&T's 3G network, which required a separate subscription. The iPad could run almost any iPhone application, so it started with an installed-base of at least 150,000 apps that users could download from Apple's App Store. The apps supported video, text, social-networking, games, web-browsing, and most relevant, eBook reading: preloaded was the iBooks app, which displayed eBooks published in the ePub format.⁶⁸ Users downloaded these eBooks from Apple's iBookstore, where they could seamlessly buy books from within the iBooks app with their pre-existing iTunes account. In contrast, other eReader apps were required to send the user to the iPad's Web browser and consummate the transaction on the seller's website.

Apple attracted book-readers with product functionality, and book-readers attracted publishers. By the time of the iPad launch, Apple had reached content agreements with publishers Macmillan, Hachette Book Group, Penguin, HarperCollins, and Simon & Schuster. Publishers could set their own prices and they kept 70% of revenues, following the App Store's usual revenue split. Under this "agency" model, Apple collected a commission but did not set the eBook's retail price. In contrast, under Amazon's "principal" model, the retailer (Amazon) bought books at a wholesale price that was about half the list price of a physical book and set its own eBook price. Whereas Amazon lost money on most of the eBooks it sold for \$9.99 (which was less than half the physical book's list price), it built an installed base of Kindles and eBooks that gave it a leading position in the connected eReader and eBook markets.

Aware of the emerging threat, Amazon reportedly made it clear to publishers that it would not accede to the agency model some of them established with Apple, leading to "as intense a situation as the industry has ever had."⁶⁹ One of these publishers, MacMillan, then threatened that if Amazon did not agree to an agency model, it would sell new books to Amazon only six months after they were sold through other channels, including Apple's iBookstore. Amazon responded by removing all MacMillan titles from its U.S. site. But just a day later, Amazon capitulated. An official post on Amazon's Kindle blog explained:

Dear Customers:

Macmillan, one of the "big six" publishers, has clearly communicated to us that, regardless of our viewpoint, they are committed to switching to an agency model and charging \$12.99 to \$14.99 for e-book versions of bestsellers and most hardcover releases.

⁶⁸ Recall that while ePub was an "open" standard, the eBooks were encoded using the Fairplay DRM, which meant that they would not be read on incompatible devices.

⁶⁹ Jeffrey A. Tachtenberg, "Apple Tablet Portends Rewrite for Publishers," *The Wall Street Journal*, January 26, 2010.

We have expressed our strong disagreement and the seriousness of our disagreement by temporarily ceasing the sale of all Macmillan titles. We want you to know that ultimately, however, we will have to capitulate and accept Macmillan's terms because Macmillan has a monopoly over their own titles, and we will want to offer them to you even at prices we believe are needlessly high for e-books. Amazon customers will at that point decide for themselves whether they believe it's reasonable to pay \$14.99 for a bestselling e-book. We don't believe that all of the major publishers will take the same route as Macmillan. And we know for sure that many independent presses and self-published authors will see this as an opportunity to provide attractively priced e-books as an alternative.

Kindle is a business for Amazon, and it is also a mission. We never expected it to be easy!

Thank you for being a customer.⁷⁰

⁷⁰ Announcement: Macmillan E-Books, *Kindle Community*, January 31, 2010.

Exhibit 1: Amazon.com Operating Results (in millions of dollars) and Other Data.

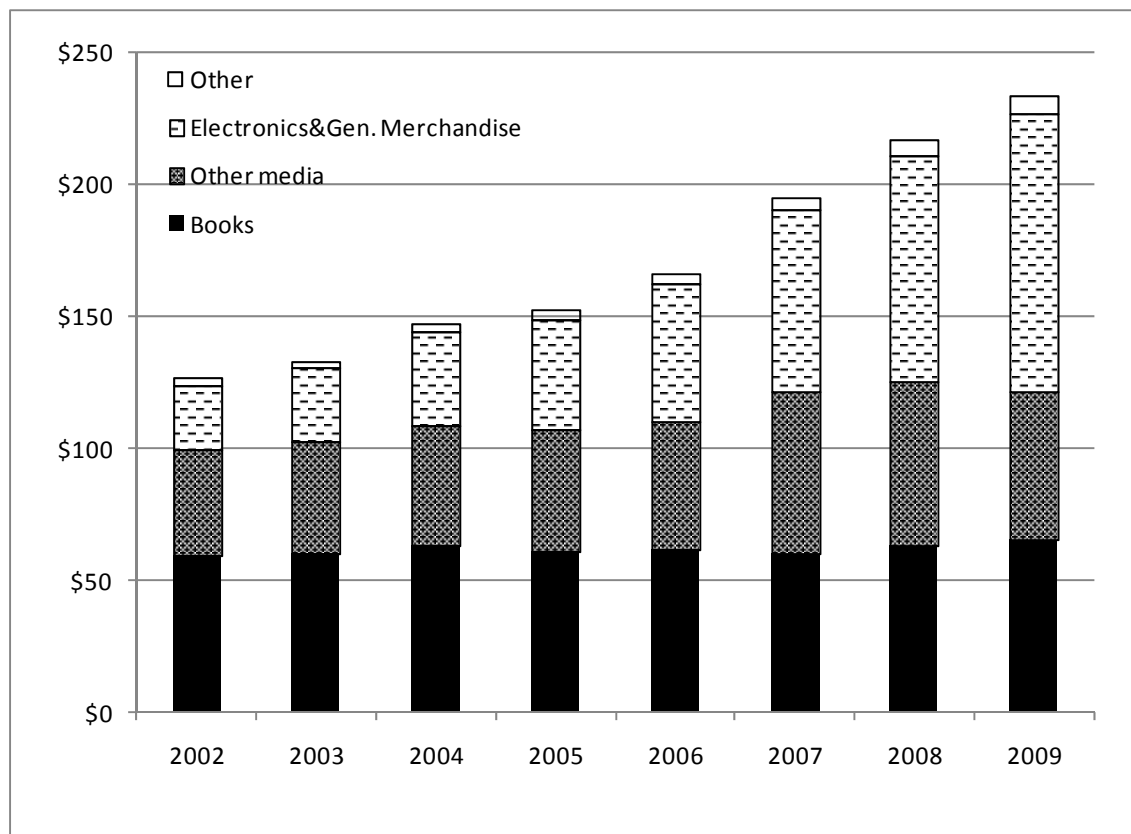
	Year Ended December 31,									
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Net sales	\$24,509	\$19,166	14,835	10,711	8,490	6,921	5,264	3,933	3,122	2,762
Cost of sales	18,978	14,896	11,482	8,255	6,451	5,319	4,007	2,940	2,324	2,106
Gross profit	5,531	4,270	3,353	2,456	2,039	1,602	1,257	993	799	656
<i>Operating expenses:</i>										
Fulfillment*	2,052	1,658	1,292	937	745	590	477	392	374	415
Marketing	680	482	344	263	198	158	123	125	138	180
Technology and content	1,240	1,033	818	662	451	251	208	216	241	269
General and administrative	328	279	235	195	166	112	88	79	90	109
Other operating expenses, net	102	(24)	9	10	47	50	91	116	367	547
Total operating expenses	4,402	3,428	2,698	2,067	1,607	1,162	987	928	1,211	1,520
Income (loss) from operations	1,129	842	655	389	432	440	271	64	(412)	(864)
Interest income	37	83	90	59	44	28	22	24	29	41
Interest expense	(34)	(71)	(77)	(78)	(92)	(107)	(130)	(143)	(139)	(131)
Other income (expense)	29	47	(1)	(4)	2	(5)	3	(5)	(12)	(10)
Restatements, investment losses etc.			(7)	11	42	(1)	(130)	(96)	(32)	(447)
Net Income (Loss)	902	645	476	190	359	588	35	(149)	(567)	(1,411)
Total assets	13,813	8,314	6,485	4,363	3,696	3,249	2,162	1,990	1,638	2,135
Cash and marketable securities	6,257	3,259	3,112	2,019	2,000	1,779	1,395	1,301	997	1,101
Employees	24,300	20,700	17,000	13,900	12,000	9,000	7,800	7,500	7,800	9,000
Active customers (millions)**	105	88	76	64	56	47	40	31	25	20

* Fulfillment costs are costs incurred in operating and staffing Amazon's fulfillment and customer service centers, costs of receiving product, picking, packing and preparing orders for shipment, credit card fees and responding to inquiries from customers.

** An active customer is a customer who transacted during the year.

Source: Corporate reports.

Exhibit 2: Amazon's annual sales per active customer by product category.



Source: Corporate reports; S.G. Cowen & Co.

Exhibit 3: Features of Amazon's Kindle Models.

	Kindle 1	Kindle 2	Kindle DX
Launch Date	11/19/2007	2/9/2009	6/10/2009
Launch Price	\$359	\$299	\$489
Size	7.5" x 5.3" x 0.7"	8" x 5.3" x 0.36"	10.4" x 7.2" x 0.38"
Weight	10.4 ounces	10.2 ounces	18.9 ounces
Display	6" diagonal electronic paper display	6" diagonal electronic paper display	9.7" diagonal electronic paper display
Pixel	600 x 800	600 x 800	1200 x 824
Resolution	167 ppi, 4-level gray scale	167 ppi, 16-level gray scale	150 ppi, 16-level gray scale
Rotating Display	No	No	Yes
Text-to-Speech	No	Yes	Yes
Storage	180 MB (200 books) - 256 MB	1.4 GB (1,500 books) - 2 GB	4GB (3,500 books)
Expandable	Yes, with SD memory stick	No	No
File Formats supported	Kindle (AZW), TXT, unprotected MOBI, PRC	Kindle (AZW), TXT, Audible, MP3, unprotected MOBI, PRC	Kindle (AZW), PDF, TXT, Audible, MP3, unprotected MOBI, PRC
Through conversion	HTML, DOC	PDF, HTML, DOC, JPEG, GIF, PNG, BMP	HTML, DOC, RTF, JPEG, GIF, PNG, BMP
Audio	Listen via Kindle's speaker or plug in the headphones for private listening	3.5mm stereo audio jack, rear-mounted stereo speakers	3.5mm stereo audio jack, built-in stereo speakers
Battery Life	2 Days with wireless	7 Days with wireless	7 Days with wireless

Source: Company data, press reports.

Exhibit 4: Evolution of Kindle Content and Accessories over Time.

	Nov-07	May-08	Nov-08	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10
Books	90,000	122,000	200,000	240,748	258,261	273,151	284,840	296,580	315,397	339,705	350,239	343,730	368,872	384,203	403,152	415,483
Magazines	10	15	20	22	24	26	29	29	32	32	34	36	38	40	43	46
Newspapers	14	21	29	31	33	36	37	38	41	44	46	46	58	73	89	94
Blogs	250	370	690	1,280	1,422	1,505	4,500	5,412	6,003	6,386	7,088	7,217	7,373	7,584	8,088	8,561
Accessories		7	26	35	79	85	107	129	158	187	212	242	253	286	318	334

Source: Collins Stewart.

Exhibit 5: Kindle Pricing.

	Nov-07	May-08	Nov-08	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10
Kindle 1	\$399	\$359	\$359													
Kindle 2 & Int'l				\$359	\$359	\$359	\$359	\$359	\$359	\$299	\$299	\$299	\$259	\$259	\$259	\$259
Kindle DX							\$489	\$489	\$489	\$489	\$489	\$489	\$489	\$489	\$489	\$489

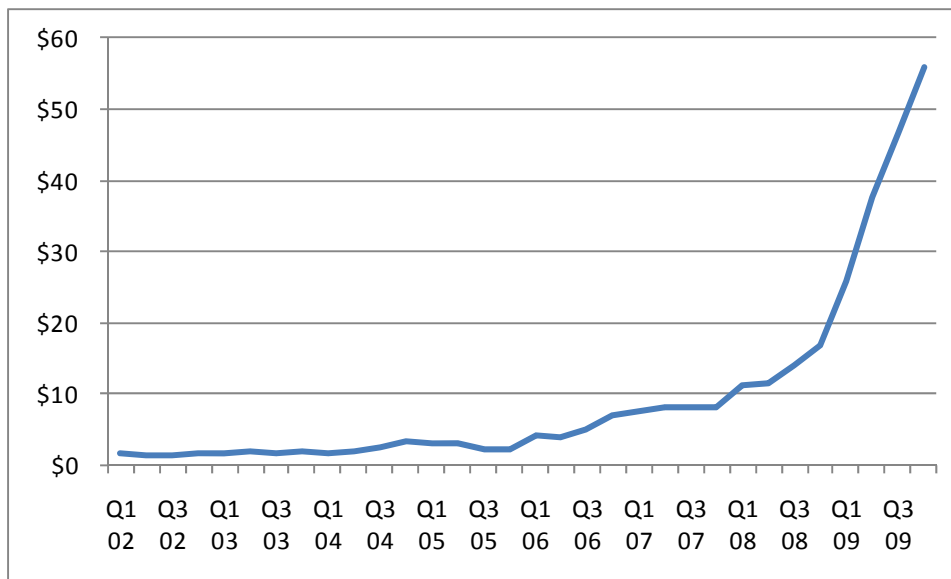
Source: Corporate reports.

Exhibit 6: Estimates of Component and Manufacturing Costs for the Kindle 2.

Materials	
Display module (E Ink)	\$60.0
Display controller	\$4.3
Wireless Broadband module	\$39.5
Printed Circuit Board	\$9.8
Multimedia Application Processor	\$8.6
Battery	\$7.5
Main enclosure	\$4.5
Audio circuit / power management	\$4.4
Memory - SDRAM and Flash	\$6.1
Other components	\$32.1
Total materials	\$176.8
Manufacturing	\$8.7
Materials + manufacturing cost	\$185.5

Source: iSuppli teardown analysis, April 2009.

Exhibit 7: U.S. Trade Wholesale Quarterly Electronic Book Sales, in millions of dollars.



Source: The Association of American Publishers,
http://www.openebook.org/doc_library/industrystats.htm.

Exhibit 8: Demographic characteristics of online North American consumers who owned an eReader, intended to buy one in six months or were interested to know more about an eReader as of Q2 2009.

	All online adults	Currently own an eReader	Intend to buy in next 6 months	Interested to know more
% of online adults	100%	1.5%	6%	24%
Male	48%	54%	60%	46%
Mean age	44	47	39	42
Married/partnered	65%	84%	62%	66%
Have children at home under 18	29%	27%	39%	33%
Use broadband at home	78%	87%	81%	82%
Technology optimist	59%	83%	84%	76%
Mean household income	\$79,210	\$116,052	\$87,640	\$83,519
College-educated	46%	69%	55%	50%
Books bought/borrowed per month*	2.7	3.5	5.0	3.7
Percent of books bought online*	13%	36%	19%	18%
Read on commute to work/school	9%	17%	14%	12%
Read on business trips	15%	30%	23%	21%

* Before buying an eReader.

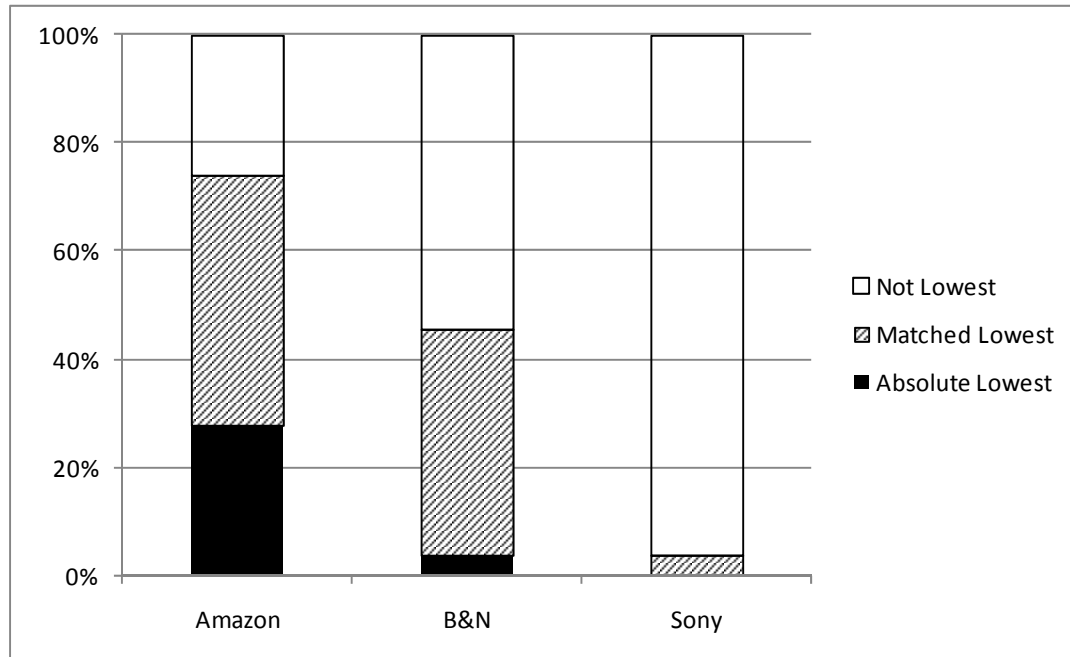
Source: Forrester Research North America online survey, Q2 2009.

Exhibit 9: Feature comparison of the Kindle, Sony Reader, nook and the iPad.

	Amazon Kindle	Sony Reader	Barnes & Noble nook	Apple iPad
Initial launch date	Nov-07	Oct-06	Nov-09	Mar-10
Primary function	E-reader	E-reader	E-reader	Multimedia & Internet device
Pricing & screen size	Kindle 2 (6"): \$259 Kindle DX (9.7"): \$489	Pocket Edition (5"): \$175 - \$200 Touch Edition (6"): \$270 - \$300 Daily Ed. (7.1"): \$399	Nook (6"): \$259	9.7" iPad: \$499-\$829
Weight	Kindle 2: 10.2 oz. Kindle DX: 18.9 oz.	Pocket Edition: 7.8 oz. Touch Edition: 10 oz. Daily Edition: 12.75 oz	Nook: 12.1 oz.	24 oz.
Screen type	Black & White E-Ink	Black & White E-Ink	Black & White E-Ink + small color LCD	LCD (color)
Touch screen	No	Yes (except Pocket Edition)	No (small LCD touch screen only)	Yes
E-book titles, December 2009	400,000	200,000 + Google (1 million)	Unknown + Google (1 million)	Unknown
Access to Google Books public domain titles	Yes, via PDF download only	Yes, integrated into bookstore	Yes, integrated into bookstore	Yes, via web browser
Typical bestseller e-book pricing	\$9 - \$10	\$10	\$9 - \$10	Publisher sets price
Newspaper/magazine subscriptions	Yes	Yes (Daily Edition only)	Yes	Yes, through App
Supports ePub file format?	No	Yes	Yes	Yes
E-Book Digital Rights Management software	AZW	BBeB, Adobe	Adobe	Fairplay
Storage capacity	2GB (4GB on the DX)	512MB, expandable (2GB on the Daily Edition)	2GB, expandable	16 GB - 64 GB
Battery life	7 days with wireless	7 days with wireless	10 days	11 hours
Wi-Fi	No	No	Yes	Yes
Wireless Internet access through carrier	Yes, bundled	Yes for Daily Edition only, bundled	Yes, bundled	AT&T, unbundled
Web browser	Yes, but very limited	No	No	Yes
Mobile access to e-books	Yes; iPhone / iPod Touch	No	Yes; iPhone / iPod Touch, Blackberry	Yes; iPhone / iPod Touch
Retail store distribution	No	Yes; Best Buy, Wal-Mart, airport kiosks, etc.	Yes; Barnes & Noble stores	Yes; Apple retail stores
Access to local library e-books	No	Yes	No	N/A

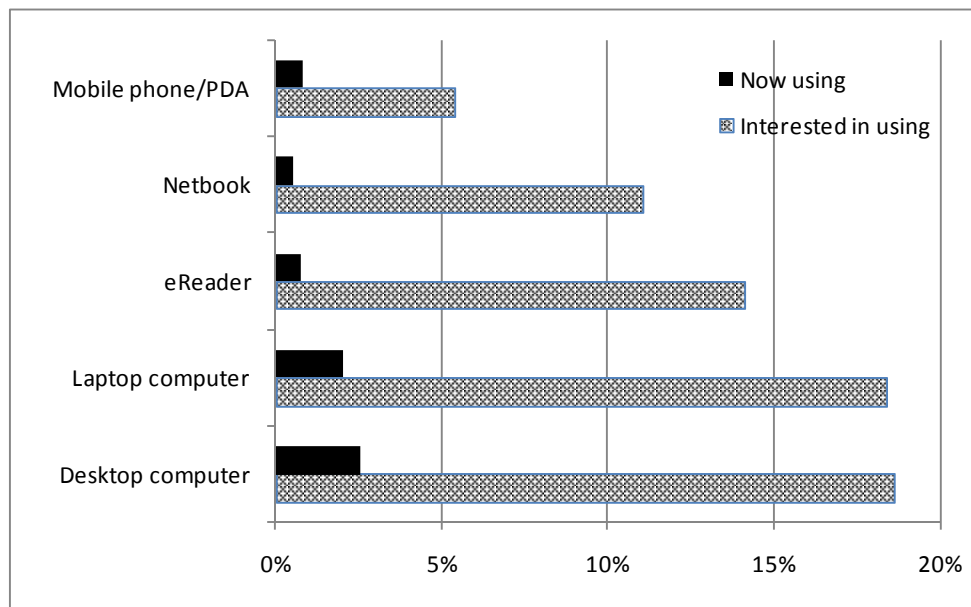
Sources: Corporate and press reports.

Exhibit 10: Price comparison for top-selling eBooks available on the Amazon, Barnes & Noble (B&N) and Sony eBook stores. Shown is the percent of cases in which each eBook store had the absolute lowest price, matched the lowest price, or did not have the lowest price.



Data from Inkmesh, November 2009.

Exhibit 11: U.S. consumers' answers to the question: "Which of the following devices do you use, or would you be interested in using, to read electronic books/eBooks?"



Source: Forrester Research, Q3 2009 (U.S.)