The Amazon Kindle-DX: 
Are College Students the Right Target? 

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ABSTRACT: This real-world case describes the launch and marketing of Amazon.com’s e-reader, Kindle-DX. It can be used in a graduate or undergraduate marketing class with a focus on consumer behavior or marketing strategy.

INTRODUCTION

“Amazon to Launch Kindle for Textbooks,” said a headline on Wall Street Journal’s May 5, 2009 online edition (1). Kate Gibson, a business analyst at an IT firm on the west coast, was catching up with news while eating lunch at her desk. As she was doing an evening MBA program at a college, the promise that a device like Kindle would lighten her bags was very appealing. Her marketing research textbook alone weighed three pounds. “Hmm... I wonder if this DX version is an improvement over the earlier version Amazon.com had,” she mused. Her sister, an avid reader, had bought Kindle-2, an electronic reader, last Christmas and had downloaded several paperback novels and children’s books before an overseas trip. “My carry-on bag was so much lighter!” her sister had enthused. When Kate looked into the possibility of getting one for herself, she realized that neither were textbooks available for downloading on the device nor were the features suitable for flipping pages, viewing graphs, taking notes and so on, the many ways in which she studied from a textbook. Would this new device be useful? She looked forward to the product launch and resolved to do some research on it.

BACKGROUND

On May 6, 2009, Amazon announced the launch of its newest model of electronic readers, the Kindle-DX at Pace University in New York City (2). Buyers could pre-order the device and shipment began on June 10th. The device priced at $489 is $130 more than the earlier version, Kindle2, which was introduced a few months earlier in February. The DX version had a 9.7 inch screen versus the earlier 6 inch version. Like the earlier versions, Kindle owners did not have to pay for the wireless service that lets them download materials. The large sized reader was aimed at college students in addition to readers of personal and professional documents, newspapers and magazines. In line with this strategy, Amazon had partnered with several textbook publishers like Pearson, Cengage, and Wiley as well as some universities to launch a pilot program at the start of the next school year (3).

E-readers use the electronic paper display developed by E Ink Corporation (4). The display technology of these e-readers is designed to mimic the appearance of ordinary ink on paper, which makes e-reader screens easier on the eyes. Other advantages of this device are its portability and far less battery consumption compared to other portable electronic devices. Also, newer editions of textbooks could easily be disseminated through e-readers instead of the lengthy physical publishing process. E-readers can also allow for interactive learning experiences such as having pages being read to them, cross-referencing, integrating with a dictionary, and so on. However, it would lack some of the tactile experiences that students would want in a textbook.
While e-readers can lighten students’ backpacks, some students view it as one more thing to carry in addition to their laptops and other supplies (5). In addition, students would be paying not only for the device, but also for downloading the textbooks which do not currently have a resale market like traditional books. E-readers are still in the early stage of the product life cycle and competition is expected to intensify in the coming years. The adoption rate of Kindle has been compared to that of iPod by some analysts (6). However, others like New York Times futurist Michael Rogers, argued that adoption will be slower, as unlike Apple iPod and other similar mobile devices, people already understood and accepted the need for a separate player to watch videos (7). According to Rogers, that’s not the case with books or periodicals, which historically have had low-cost “built-in players” in the form of ink on paper. Does Kindle-DX have a strong value proposition to capture that would hasten diffusion of e-readers among more mainstream consumers or would it remain a niche product? Currently, around 14.9 million households are estimated to regularly purchase books online (8). Among that group 48 percent earn more than $70,000 a year and spend $28 a month on books, half of them online. However, according to a research analyst from Forrester Research, the frequent reader market, which is currently the market for e-readers, is much smaller at 5 million households (9). Thus, the adoption of the device by the education market would appear to be critical considering that consumption of books is likely to the heavy and sustained in this segment. This market is large (18.2 million students were enrolled in postsecondary degree-granting institutions in 2008, while there were 55.9 million in the K-12 schools (10)). However, would the high initial price, alternate ways of accessing digital texts such as via laptops, and intensified competition from other electronic readers slow Kindle-DX’ adoption? Is Kindle’s marketing strategy appropriate for the education segment, in particular the college student market which Amazon.com is targeting?

ELECTRONIC READERS

Communicating via the printed word has come a long way. Although writing on clay tablets, leaves, and other such modes existed centuries ago, the discovery of the printing press in the middle of the fifteenth century made books more accessible to the public. Compared to this legacy of over five hundred years, digital printing is very young. E-books are digital versions of classical books and can be made available in different formats. They can of course be printed, but can also be viewed on a computer screen or on other mobile electronic hand-held devices like tablet PCs, intelligent phones, and e-readers.

Unlike multipurpose mobile devices, e-readers so far have been dedicated readers. A big advantage of e-readers is the use of E-ink technology which gives readers a similar visual experience of reading from paper. The technology was developed by E Ink Corporation in 1997 based on research by MIT’s Media Lab (11). The display enabled by E-Ink requires no front or back light and is viewable under a wide range of lighting conditions. It also requires no power to maintain an image. E-readers use power only for turning pages and other such actions, but not for the display itself.

E-readers have various other advantages. They can store a large number of books at a time. According to Amazon.com (12), the Kindle-DX can hold up to 3500 books, periodicals and documents. E-readers can be very light at about 10 ounces which is about the same or less than the weight a typical paperback book. However, the Kindle-DX which has a larger format, weighs 18.9 ounces (or about 1.2 lbs.). This version is still lighter than current versions of mini-laptops or netbooks. Students can have access to updated versions of textbooks easily. The ability for interactive screens that would enable note taking, cross-referencing and other activities would also enhance learning and be especially useful for students with learning disabilities.
E-readers can have ecological benefits as costs of producing paper are reduced. However, it is not clear what the impact to the environment would be if used e-readers are thrown away once they fail. Also, while the younger generation may have less emotional connection to the paper, it is still the predominant method used in the education market. The tactile experience that paper provides is not easy to displace considering its long heritage.

**E-READER BRANDS**

There are three popular e-readers in the US market that use the E-ink technology: Sony Reader, iRex iLiad and the Kindle. Each brand has a couple of different models.

**Sony Reader**
The first e-reader that used this e-ink technology was Sony Librié. It was launched in Japan in 2004. Because of the high price and anti-piracy technology that allowed users to only rent books for 60 days, the product was not a success. Its successor, the Sony Reader, is popular in the international market and has been available in the U.S. since September 2006. The first model, PRS-500, was priced at $300 and available exclusively through Borders bookstore for about six months and then available through other outlets including Best Buy, Costco and Target. Apart from design features, the Sony Reader requires a computer (not compatible with Mac) to download books. It also uses proprietary software that cannot read all text formats. In October 2007, Sony released an updated model, the PRS-505 which had improved features. A year later in October 2008, it released the PRS-700. All models had 6” screens. Along with improvements in features like higher memory, it had new features such as a touch screen that could function as a keypad and LED lighting for reading under poor light conditions. It was also priced higher at $390. By December 2008, Sony reported it had sold 300,000 units of the Reader. The Sony Reader is popular in Europe and other parts of the world where the Kindle is not available. The sleeker design as well as the touch screen and lighting options on the newer models are popular. However Sony has fewer titles at 100,000 compared to Amazon’s 285,000 (14). The Chronicle of Higher Education reported a pilot study done by Northwest Missouri State University in January 2009 where 200 students were given Sony e-readers loaded with digital textbooks (15). This experiment was not as successful as hoped and according the report, students who got the machines quickly asked for their printed textbooks back as it was difficult to navigate the e-books.

**iRex iLiad**
This e-reader is sold by iRex Technologies which is a spinoff of Royal Philips Electronics. The first model was available worldwide in September 2006. It was the first e-reader to have a larger screen at 8”. The second edition ($699) was introduced a year later and the iLiad Book edition in May 2008. The book reader is sized to read a full sized 8.5 by 11” document. It is priced at $ 599. iLiads are pre-loaded with 50 classics but require a PC to download other books. Distribution of the device is through an online store, ereaderoutfitters.com that is dedicated to selling e-books, e-readers, and accessories.

**Amazon Kindles**
The first generation Kindle was released on November 2007 and was priced at $399 and available at Amazon’s site. At that time, the price was comparable to that of a mini laptop or netbook. The Kindle, unlike the other e-readers, could connect to the web wirelessly without additional charge through Amazon’s Whispernet. This connection was supported by Sprint EVDO (Evolution Data Optimized). Thus books and other digital texts could be downloaded without connecting through a PC (note: a USB port provides options to connect to a PC to transfer files). The storage capacity was 200 books and could be expanded. Books could be purchased for download from Amazon’s site. As Amazon’s CEO, Bezos noted (16), “Instead of shopping from your PC, you shop directly from the device. The store is on the
device, and then the content is wirelessly and seamlessly delivered to the device.” Newspaper subscriptions for publications like the New York Times and the Wall Street Journal could also be delivered to the Kindle. Subscription costs varied from $6 to $15 a month. Similarly some magazines could be delivered. In addition, one could browse some blogs and some limited web browsing could be done. All these features created a huge interest in this product category and according to reports by Amazon, the first stock of the product sold out within five and half hours after launch. About six months later in May 2008, Amazon reduced the price to $359 (17).

Since its introduction, there has been much speculation on the sales of Kindles as Amazon has not disclosed this information so far. Some analysts have tried to guess sales based on how many people have reviewed the reviews of Kindle and making some assumptions such as one in ten reviewers would buy the product (18). Some sources estimated that first year sales were over 500,000 (19). This figure was based on a report in DigitTimes, a daily news subscription that covers the Taiwan market, that Prime View International (PVI), a Taiwanese supplier, had been shipping between 60,000-80, 000 book panels a month for the first six months and would double the rate for the rest of the year. DigitTimes further reported that 60% of those panels went to Amazon and 40% to Sony. Forrester research estimates the sales of both these brands together at million units in 2008 which seems to support the DigiTimes numbers (20). In contrast, sales of iPods in the first year since its launch was close to a million units and increased rapidly to 4.4 million units in the second year and about 52 million units by the fifth year. Exhibit 1 shows the growth rate and revenues of iPods during the first six years since launch.

EXHIBIT 1

![Graph showing growth of iPod annual sales in millions of units](Image)

Source: This graph was compiled using data from Jindel, S. (2008, October 13). How the iPod is Killing Airfreight ; SJ Consulting Group Inc., http://www.jindel.com/Trafficworld1008.htm

Kindle 2 was launched on February 9, 2009 at a price of $359 (the same price that the first gen reader was selling for at that time). Like its predecessor, it has a 6” display, but there were several improvements on various features such as an improved page refreshing rate, a text to speech option , improved battery life
and it weighed an ounce lighter. At the launch of the model, horror novelist Stephen King read some excerpts from his book, Ur, that was exclusive to Kindle. One source estimated that Amazon sold 300,000 units of this second generation model by April 2009 (21). The Kindle appears to be gaining popularity, and according to its CEO, Bezos, 35% of Amazon book sales of titles available in print and digital formats were Kindle editions and went up 10% in early 2009. However, estimates of how much of these sales were cannibalized from print editions is not known. Kindle paperbacks were typically priced below the $10 threshold and many Kindle owners have protested when prices went over $10 (22). Kindle books can be downloaded and read on other devices such as iPhone.

The Kindle-DX launched just a few months after Kindle 2 offers a screen that is 2.5 times that of Kindle2. Some of the other improvements over the Kindle 2 include the ability to read documents in both portrait and landscape modes without losing the formatting of the original files, magnifying font size, and higher memory (it can store 3500 electronic books compared to 1500 on Kindle 2). The DX version also has audio and enables text-to-speech option as well as the ability to listen to audio books and files. This model comes at a higher price tag of $489 and a higher weight (almost twice as heavy). Kindles have free wireless 3G connectivity (this is third-generation mobile telephony standards) enabling internet surfing although the browser is text based and would not be able to handle websites requiring plug-in applications like Flash (23).

Amazon allows Kindle owners to email their own personal digital documents to the device. Prior to May 4th, 2009, this was a flat fee of 10 cents per document no matter how big the file size. However, this fee has been revised to 15 cents per megabyte (24). There is a free document conversion service which allows users to transfer the converted file using a USB connection.

According to iSuppli Corp., Kindle e-readers cost about $186 in parts and manufacturing, roughly 52% of the $359 retail price of Kindle 2 (25) (see Exhibit 2). These costs do not include shipping, software loading and updates, royalty, payment for wireless connection and so on. Although it is not known how much Amazon pays Sprint for the wireless connection, according to Nielsen Wire, an average Kindle user earns Sprint $2 a month (26).

EXHIBIT 2

<table>
<thead>
<tr>
<th>Component Description</th>
<th>Manufacturing Name</th>
<th>Sum of Total Component Cost $USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Module</td>
<td>E Ink</td>
<td>$60.00</td>
</tr>
<tr>
<td>Wireless Broadband Module</td>
<td>Novatel Wireless</td>
<td>$39.50</td>
</tr>
<tr>
<td>8-Layer PCB</td>
<td>Multek Hong Kong</td>
<td>$9.83</td>
</tr>
<tr>
<td>Multimedia Application Processor</td>
<td>Freescale</td>
<td>$8.64</td>
</tr>
<tr>
<td>Battery - Li-Polymer, 3.7V, 1530mAh</td>
<td>LICO Technology Corp.</td>
<td>$7.50</td>
</tr>
<tr>
<td>Main Enclosure</td>
<td></td>
<td>$4.45</td>
</tr>
<tr>
<td>Audio Circuit &amp; Power Management IC</td>
<td>Freescale</td>
<td>$4.39</td>
</tr>
<tr>
<td>EPD Controller</td>
<td>Epson</td>
<td>$4.31</td>
</tr>
<tr>
<td>SDRAM - Mobile DDR, 1Gbit</td>
<td>Samsung Semiconductor</td>
<td>$3.60</td>
</tr>
<tr>
<td>Flash - NAND, 16Gbit, MLC</td>
<td>Samsung Semiconductor</td>
<td>$2.50</td>
</tr>
<tr>
<td>Other Costs</td>
<td></td>
<td>$32.11</td>
</tr>
<tr>
<td>Total Material Costs</td>
<td></td>
<td>$176.83</td>
</tr>
<tr>
<td>Conversion Cost</td>
<td></td>
<td>$8.66</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>$185.49</td>
</tr>
</tbody>
</table>

Source: iSuppli Corp. April 2009
In contrast to other e-readers, the Kindle is available only through Amazon.com’s online site. Potential consumers are thus not able to try out the product. Also, there are no formal advertisements for the product. According to Jeff Bezos, Amazon’s CEO, there is no need for advertising the Kindle and that word-of-mouth is sufficient. In a recent comment on advertising (27) he said, “Advertising is the price you pay for having an unremarkable product or service.” The Kindles also get free coverage by newspapers and media who report Jeff Bezos’ publicity tours for the different models of Kindles. Kindle also benefited from the buzz created by Oprah (28) on her talk show in October 2008 when she said, “It’s absolutely my new favorite thing in the world.” It was reported that Amazon’s visits were up 6% that day and 4% the next. Exhibit 3 compares the popular brands available in the U.S in May 2009 (13).

CONTENT PROVIDERS

There are several players in the e-reader space. Apart from device and platform providers, book publishers, who are one of the main content providers, play a key role in how fast e-readers will be adopted. Total book sales in the U.S. are estimated at $24.3 billion by the Association of American Publishers. Of this, about a fourth was due to educational sales in the K-12 market and a sixth in the higher education category. Growth rate in this industry is low, with a compound annual growth rate of only 1.6%. However, growth rate of e-books is high and grossed $113 million last year. The five publishers who dominate the academic book category and account for 80% of the market are: Pearson Education, Cengage Learning, McGraw Hill, Houghton Mifflin, and John Wiley and Sons. During the launch of the Kindle-DX, Amazon.com CEO Bezos announced agreements to launch a pilot program with six universities that would distribute Kindle-DX free to participating students and load them with textbooks from three of the largest publishers, Pearson, Cengage and John Wiley. However, textbooks for only three courses would be available on the device.

Would Kindle-enabled textbooks benefit these publishers? According to Publisher’s Weekly, currently publishers make the same amount of money on Kindle editions as their print ones. Although this strategy should benefit publishers as they save on printing and distribution costs, they are concerned that when Amazon sells the bulk of digital books and digital devices, it will have an upper hand and reduce their margins considerably. Three of the main publishers (Pearson, Cengage, and Wiley) are part of a consortium of six textbook publishers, CourseSmart, and offer digital texts to students at half the list price of printed editions. In addition, licensed content in textbooks may not have digital rights stipulated in its original agreement. This rights issue may cause problems in offering any digital texts, let alone Kindle versions. Also, even if some textbooks are offered in Kindle format, would students want to buy a device that will work only for some books?

Partnership with publishers of periodicals and newspapers are important to Amazon.com. The larger screen size of Kindle-DX would also make it more suitable for readings newspapers than the earlier models. During the launch of Kindle-DX, Bezos announced that the device would be offered at a discount to readers of The New York Times, The Washington Post and The Boston Globe. Currently, subscription costs of Kindle versions of newspapers cost anywhere from $5.99 to $14.99 a month. Newspaper companies are hoping that the portability and convenience of the e-readers would revive the ailing industry.
## EXHIBIT 3

<table>
<thead>
<tr>
<th>Readers</th>
<th>Amazon Kindle 2</th>
<th>Amazon Kindle DX</th>
<th>Sony PRS 505</th>
<th>Sony PRS 700</th>
<th>iRex Iliad 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>16 greyscales</td>
<td>16 greyscales</td>
<td>8 greyscales</td>
<td>8 greyscales</td>
<td>16 greyscales</td>
</tr>
<tr>
<td>Connectivity</td>
<td>US-wide cellular free data signal, also USB 2.0 cable</td>
<td>US-wide cellular free data signal, also USB 2.0 cable</td>
<td>USB 2.0 cable</td>
<td>USB 2.0 cable</td>
<td>WiFi, Bluetooth, USB 2.0 cable</td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB</td>
<td>4 GB</td>
<td>256 MB</td>
<td>512 MB</td>
<td>256 MB</td>
</tr>
<tr>
<td>Battery</td>
<td>~ 2 weeks</td>
<td>~ 2 weeks</td>
<td>~2 weeks</td>
<td>7,500 pages</td>
<td>7,500 pages</td>
</tr>
<tr>
<td>Weight</td>
<td>10.2 oz</td>
<td>18.9 oz</td>
<td>9 oz</td>
<td>10 oz</td>
<td>15.3 oz</td>
</tr>
<tr>
<td>Audio</td>
<td>headphone jack and speakers</td>
<td>headphone jack and speakers</td>
<td>headphone jack</td>
<td>headphone jack and speakers</td>
<td>headphone jack and speakers</td>
</tr>
<tr>
<td>Input device</td>
<td>Keyboard and Directional Pad</td>
<td>Keyboard</td>
<td>Directional pad</td>
<td>Touchscreen</td>
<td>Touchscreen</td>
</tr>
<tr>
<td>Screen refresh</td>
<td>Unknown</td>
<td>Unknown</td>
<td>.8 seconds</td>
<td>Unknown</td>
<td>1.3 seconds</td>
</tr>
<tr>
<td>File formats supported</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Notes</td>
<td>Unique for wireless/ internet capability. US only, European model expected in 09</td>
<td>Only available in the U.S. 2.5 times bigger screen than Kindle 2</td>
<td>Dominates Europe market due to value and Kindle unavailability</td>
<td>Upgrade to PRS 505 with touchscreen, but display shows more glare so not as popular</td>
<td>Large screen (not necessarily better for casual reading) aimed at business; pricey, but very high quality</td>
</tr>
<tr>
<td>Price</td>
<td>$359</td>
<td>$489</td>
<td>$270</td>
<td>#390</td>
<td>$699</td>
</tr>
</tbody>
</table>

EMERGING LANDSCAPE

Kindle seems to have contributed to the awareness and adoption of e-readers. However, the product has not yet been adopted by the mainstream consumers. Also, the market is beginning to attract competition and is likely to get crowded soon. While Amazon’s focus is on the U.S. market, other players are opening markets abroad (29). Fujitsu has developed a color e-reader in Japan. Similarly Samsung, Sony, iRex, and HanLin eBook among others are launching products in other parts of the world. Various players in the value chain such as technology leaders, content and platform providers, and retailers are among those who would pose strong threats to Kindle. Recently Prime View Technology (PVT), a Taiwan based company that makes Kindle and other electronic readers acquired E Ink (30). This action makes PVT a major player in the e-reader market.

CONCLUSION

Kate Gibson was unsure whether the Kindle-DX would be helpful. She wondered if she should wait for several months to check out the reviews before buying the device. She was not even sure whether the assigned textbooks for her program would be available for download. Would Amazon.com’s marketing strategy for Kindle-DX be effective in enabling more mainstream book consumers to adopt the product and consolidate the firm’s early entry advantage?

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3&pf_rd_r=1TB8B2RSM7KDAKXVNE59B&pf_rd_t=101&pf_rd_p=470938811&pf_rd_i=507846
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