Trends Influencing the Growth of Digital Textbooks in US Higher Education

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Abstract Over the next 5 years, digital textbook sales in the United States will surpass 25% of combined new textbook sales for the Higher Education and Career Education markets. Moreover, we expect digital to be the dominant form factor in Higher Education textbooks inside of 7 years. This growth in digital textbooks will boost revenues in excess of $1.5 billion within 5 years (Private: Digital Textbooks Reach the Tipping Point in the US Higher Education—A Revised 5-Year Projection). This growth will also create avenues for new digital product models, allow new content publishers to enter the textbook market, lead to fundamental shifts in purchasing patterns around learning materials, and expedite the formal adoption of open educational resources to augment premium digital content.

Within the general publishing, education, and technology markets, the growth of digital textbook sales will be influenced by the following factors:

- The cost of textbooks and other learning materials
- The availability of digital textbook content
- Student buying and sharing trends
- The continued growth of for-profit institutions and online learning
- The increased popularity and availability of OER and open digital content
- An increase in digital-first publishers and open textbook movements

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- The textbook rental market
- The popularity of online retail and distribution options
- The popularity and evolution of tablet devices and smartphones
- The advance of e-reader software/hardware technology
- Format standards for digital textbooks
- The growth of e-books in trade publishing

Current Digital Textbook Sales and Trends

While digital textbook sales currently represent a small portion of the overall textbook market—approximately 1.5%—year-over-year increases show strong and steady growth. In fact, the market grew slightly faster than we projected in last year's report.

- The primary digital textbook providers in US Higher Education—CafeScribe, CourseSmart, Vitalsource, and Xplana—all showed strong sales increases in 2010. In addition, Barnes & Noble introduced its NOOKstudy e-book product into college bookstores and new, tablet-specific e-textbook products such as Inkling made their debut. Finally, a number of trade e-book companies began migrating into the education market in 2010. These include Copia and Google eBooks. The dramatic increase in access and distribution options contributed significantly to the higher-than-expected growth of digital textbooks in the last year;
- As part of this report, we conducted interviews with representatives from leading textbook publishers. These interviews reveal year-over-year increases between 80–100% for the past 12 months. In addition, MBS Direct, representing 900 client institutions and digital content for 57 academic publishers, showed increases in digital textbooks sales of more than 80% in 2010;[1]
- According to "On Campus Research Student Watch 2010," a 16,000-student survey released by the National Association of College Stores in fall of 2009, about 42 percent of students have either purchased or at least seen an e-textbook. That's an increase of 24% points from 2007.[2] Additionally, a joint survey by MBS Direct and Eduventures, "2010 Textbook Market Survey," shows that as many as 19% of traditional college students have actually purchased an e-book as part of their studies.[3]

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[1] MBS numbers are derived from internal tracking and reports.

[2] http://chronicle.com/blogPost/Leading-E-Textbook-Seller/20566/.

[3] The "2010 Textbook Market Survey" is a joint, longitudinal research project between MBS Direct and Eduventures that has now been administered for 4 consecutive years. Each year the survey is administered to 1,000 students in 2 and 4-year colleges, and targets student purchasing trends as well as their use of digital technologies for learning.

Factors within the Publishing, Education, and Technology Markets Affecting the Sales of Digital Textbooks

There are a number of factors that will have a positive influence on the sales of digital textbooks over the next 5 years.

- *The cost of textbooks and other learning materials* The cost of textbooks and course materials remains a strong determining factor in the purchase decision for most students. According to Bowker's pubtrack data, the average textbook price in Higher Education for 2010 was $104.14.[4] This means that the average price has risen more than 24% since 2005 (from $83.73). With digital textbooks from many publishers continuing to sell for 50% of print textbook prices, students are turning to digital solutions as a lower-priced alternative. Also, we continue to see the importance of alternative, digital-first publishing initiatives such as Flat World Knowledge and Textbook Media. These companies have much lower operating costs and are gaining adoption inroads with digital textbooks ranging from $0-$25. There is no reason to anticipate a drop in the price of print textbooks in the near future but we expect the average price of digital products to decrease over the next 2–3 years. This gap in pricing will provide aggressive stimulus for the sales of digital textbooks.

- *The availability of digital textbook content* Last year, we observed that approximately 20% of the demand for print textbooks was addressed by general digital textbook availability. That number has risen sharply over the past year with major publishers providing larger portions of their catalogs as digital content to distributors.[5] In addition, we are seeing many smaller publishers move rapidly to make their book lists available as digital product in order to have a competitive advantage. These trends combined have resulted in the growth of textbook titles available as digital products to approximately 30%. Moving forward, we believe that publishers will continue to increase the availability of digital textbook titles significantly over the next 5 years due to three factors. First, a continued focus on pricing by students will force publishers to create additional lower-cost digital alternatives. The desire to reduce the percentage of used book sales, which is approximately 35% of the current market, will also drive availability of digital titles.[6] Moreover, these will be added incentive to make books available in digital form, as digital textbooks are the best option for major publishers to combat the affects of the rental market. Finally, we expect to see more textbook publishers to follow the lead of Cengage and Macmillan and adopt Agency pricing, which should both stabilize and expand the e-textbook market.

- *Student buying and sharing trends* According to an Eduventures 2010 Textbook Market Survey, more than one-third of students deferred textbook purchases in

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[4] http://www.slideshare.net/bisg/bisgs-mip-for-higher-ed-gallagher-kelly.

[5] Numbers are derived from MBS Wholesale Customer Demand Information System data for print demand, and the current list of available e-content titles.

[6] http://www.nacs.org/Research/IndustryStatistics/HigherEdFactsFigures.aspx.

the fall of 2010.[7] This represents an increase from 27.8% in 2008 and 30.1% in 2009. The leading reason for this increase os the student's uncertainty regarding whether or not a textbook was actually needed for the course (74%), followed by the student's deliberation over whether the textbook for the course was actually worth the price. Also, the number of students sharing at least 1 textbook with classmates rose to 10% in 2010 and 4–5% are opting to forego the purchase of assigned textbooks altogether. These trends highlight two issues related to digital textbooks: (1) the importance of textbook prices in student buying behavior; (2) growing student concern and awareness about the irrelevance of assigned textbooks in college courses. The latter issue also points to the fact that, increasingly, current textbook products provide much more material than is actually being used in specific courses, and instructors and students are questioning the need to pay for the excess.

- *The continued growth of for-profit institutions and online learning* There are also significant shifts in the makeup of Higher Education institutions in the US that influence the growth of the digital textbook market. First, the updated Carnegie Classifications of Institutions of Higher Education, released in January 2010, shows the following key industry trends.

  - From 2005–2010, the number of for-profit institutions grew from 909–1,215.
  - The percentage of all Higher Education institutions that are classified as for-profit grew from 20.7% in 2005 to 26.2% in 2010.
  - The percentage of all Higher Education students attending for-profit institutions now stands at 9.1%.
  - Almost two-thirds of for-profit institutions say that online learning is a critical part of their long-term strategy and this, in turn is helping fuel the 20% annual growth trend in distance education in the US.[8]

For-profit institutions and online education are not only the fastest growing major trends in college learning in the US, but they are also the areas with the highest demand for digital content due to the lower costs of materials and enhanced distribution capabilities.

- *The increased popularity and availability of OER and open digital content* Gary Matkin, dean of distance education and continuing learning at UC Irvine, recently predicted that open courseware (OCW) would become standard at small community colleges and research universities alike. According to Matkin, OCW will be used on every college campus by 2016.[9] Looking at MIT OCW alone, the school's resources have reached more than 100 million users in the last

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[7] The "2010 Textbook Market Survey" is a joint, longitudinal research project between MBS Direct and Eduventures that has now been administered for 4 consecutive years. Each year the survey is administered to 1,000 students in 2 and 4-year colleges, and targets student purchasing trends as well as their use of digital technologies for learning.

[8] http://sloanconsortium.org/publications/survey/class_differences.

[9] http://www.ecampusnews.com/technologies/distance-learning-dean-open-courseware-on-every-campus-by-2016/.

10 years.[10] OERs may also receive a significant boost from a new $2 billion grant program jointly offered by the US Departments of Education and Labor, as all resources and curricular materials created for 2-year programs under the auspices of the grant program must be released under a creative commons license.[11] The growth of OERs and the use of open digital content fuels the adoption of digital textbooks because these resources are much easier to integrate with digital products than physical ones. In addition, these resources put pressure on traditional publishers to find ways to integrate open resources into their closed/commercial content.

- *An increase in digital-first publishers and open textbook movements* As we measure the velocity of the shift from print to digital textbooks in Higher Education, we must also consider the introduction of new digital-first publishers into the equation. Flat World Knowledge and Textbook Media, are making important inroads into the traditional adoption landscape with alternative product and pricing models, and non-traditional digital self-publishing companies such as Scribd are also growing more popular. These companies are driving digital textbook sales as they emphasize digital products over print, provide print-on-demand (POD) capabilities for physical product, have lower operating costs than traditional publishers, and offer superior royalty options to their authors. In addition, we are seeing significant traction in the open textbook category. The state of Washington has funded the Open Course Library, "the largest state-funded effort in the nation to make core college course materials available on the Web for $30 or less per class."

Financed with $750,000 from the state of Washington and a matching grant from the Bill & Melinda Gates Foundation, the goal isn't just to reduce student costs, says program architect Cable Green. It's also to create engaging, interactive learning materials that will help improve course completion rates. By the time the project is completed in 2012, digitized textbook equivalents for some 81 high-enrollment classes will be available online for the more than 400,000 students enrolled in Washington's network of community and technical colleges. Even better, the materials can be shared across the globe, largely for free, because they will be published in an open format that avoids the most onerous licensing restrictions. To keep costs at a minimum, the teachers developing the materials are relying primarily on either existing material in the public domain or embarking on the painstaking task of developing materials from scratch.[12]

Also, Florida has established itself as a leader in the open textbook race as it also attempts to reduce the cost of learning materials for its Higher Education students.[13]

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[10] http://tofp.wordpress.com/2011/01/05/100-million-served/.

[11] http://creativecommons.org/weblog/entry/26100.

[12] http://education.newsweek.com/2011/01/25/who-needs-textbooks.print.html.

[13] http://www.theorangegrove.org/OpenTextbooks/open_textbooksFL.asp.

Projects such as Orange Grove Texts Plus seek to provide low-cost alternatives to traditional textbooks while, at the same time, ensuring a high level of quality.

- *The textbook rental market* The textbook rental market is another important variable in the growth of the digital textbook market. Textbook rental increased significantly in 2010 and now represents approximately 5% of the total Higher Education textbook revenues.[14] The two leading online rental companies—Chegg and BookRenter—both received impressive amounts of funding last year (bringing investment totals to $146 million and $60 million respectively), and have also signed important partnerships that tie their services to brick and mortar college stores as well. In addition, Barnes & Noble College introduced its textbook rental program in 2010 and has seen a quick uptake in customers using the service. The growth of the rental market will continue to have a direct impact on digital textbooks for two reasons. First, rental programs hurt traditional publisher revenues because they reduce the overall number of new book sales opportunities and, at the same time, increase the potential size of the used book market (currently estimated at 35%). Second, the most viable alternative to rental programs for publishers is the promotion of digital textbooks. After all, digital textbooks are, in essence, a "rental" program in their own right, one in which publishers license the use of digital content to students for a limited period of time. The promotion of these products, then, provides publishers a low-cost competitive product with which they combat rental, as well as a solution that actually reduces the size of the user book market.
- *The growth of online retail and distribution options* 56% of students purchased some or all of their textbooks from online stores in the fall of 2010. Moreover, 2010 saw a 5% increase in the number of students purchasing all of their textbooks online.[15] We see this trend toward increased e-retail activity among students as significant because it facilitates the seamless purchase and distribution of digital textbooks.
- *The popularity and evolution of tablet devices and smartphones* Here are statistics and projections by other analysts that help put the tablet and smartphone revolution in perspective.

    - More people will access the Internet via smartphones and tablets than desktop or laptop computers by the end of 2011.
    - According to Forrester Research, by 2015 more than 33% of the US will be tablet users.[16]

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[14] This percentage is derived from estimates based on separate student surveys by MBS Direct, the Book Industry Study Group (BISG), and the National Association of College Stores (NACS), as well as on data compiled from earnings reports related to Chegg, BookRenter, and other rental companies.

[15] This data is from the 2010 Textbook Market Survey, a joint longitudinal research project between MBS Direct and Eduventures that has now been administered for 4 consecutive years. Each year the survey is administered to 1,000 students in 2 and 4-year colleges, and targets student purchasing trends as well as their use of digital technologies for learning.

[16] http://www.readwriteweb.com/archives/forrester_predicts_one-third_of_us_consumers_will.php.

- J.P. Morgan estimates that "tablets will evolve into a $35 billion market by 2012, posting 171.8 percent year-over-year growth this year and 66.2 percent the next. In 2010, the research outfit estimates, tablet-related cannibalization of PCs was about 18.9 percent. And in the next 2 years it will nearly double."[17]
- Apple has already registered more than 10 billion app downloads and is projected to ship as many as 40 million iPads in 2011.[18]

Based on current trends, we project tablet devices to be carried by 20% of the college student popularity by the end of 2012. Most important, these devices represent the best current form factor for delivering rich digital textbooks to students.

- *The advance of e-reader software/hardware technology* In addition to the popularity of tablets in 2010, the existing e-reader device market grew more rapidly than projected by analysts.

  - While many had picked Amazon to ship approximately 3 million e-readers in 2010, the company actually shipped 7.1 million.[19]
  - Moreover, some project Amazon to sell as many as 35 million by 2012.[20]
  - Some see the price of e-readers dropping as low as $79 by 2013.[21]

In addition to these numbers, it is also important to factor in the popularity of both NOOK (Barnes & Noble) and Sony e-readers, both of which support the EPUB standard. This continued surge in popularity of dedicated e-reader devices suggests that they will also be a factor in the growth of the digital textbook market. In particular, we assume that Amazon's Kindle and Barnes & Noble's Kindle and NOOK products (hardware and software) could have a strong impact due both to the reach of their online retail capabilities and the ubiquitous presence of their e-reader apps.

- *Format standards for digital textbooks* While the trade e-book industry has benefitted from wide scale adoption of the EPUB standard, the textbook publishing sector stands to realize similar benefits with the release of EPUB 3 in May 2011. This new evolution of EPUB will add support for critical textbook features such as: (a) rich media and interactivity support; (b) native support for mathematics; (c) global language support; (d) enhanced metadata support; (e) annotation support. We expect to see widespread adoption of the EPUB 3 standards among Higher Education textbook publishers as they seek to gain new production efficiencies and wider distribution options for their products.
- *The growth of e-book market share in trade publishing* Another factor influencing digital textbooks is the rapid growth of the trade e-book market.

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[17] http://digitaldaily.allthingsd.com/20110228/tablets-eating-pc-market-share-with-some-fava-beans-and-a-nice-chianti/?mod=ATD_rss.

[18] http://www.electronista.com/articles/11/03/03/apple.may.deliver.12m.ipad.2s.in.q2.

[19] http://mediamemo.allthingsd.com/20110118/waiting-for-the-80-kindle-hang-on-till-2013/?mod=ATD_rss.

[20] http://www.teleread.com/paul-biba/just-how-big-is-the-kindle-revolution-our-estimates/.

[21] http://mediamemo.allthingsd.com/20110118/waiting-for-the-80-kindle-hang-on-till-2013/?mod=ATD_rss.

According the Association of American Publishers (AAP), "e-books once again increased significantly on an annual basis, up +164.4 percent for 2010 versus 2009 ($441.3 vs. $166.9 M). According to AAP numbers, e-book sales represented 8.32% of the trade book market in 2010 versus 3.20% the previous year."[22] Considering that these numbers only account for trade e-book sales via wholesale channels, and that the data represents only 12–15 trade publishers in the US, the actual size of the e-book portion of the trade book marker in 2010 was closer to 10%. Moreover, that number should reach 20% by the end of 2011. By now, it is apparent that broader consumer trends such as sales of trade e-books are indeed having a positive effect on the popularity of digital textbooks.

Common Objections to Our Assumptions Regarding the Digital Textbook Market

As we conduct and present our ongoing research about digital textbooks, research, we have encountered a number of common reactions and objections to the data trends we publish. In this section we present and respond briefly to four of those objections.

1. *"But digital textbooks only represent 3% of the Higher Education market today. How can you project market share of more that 20% in less than 5 years*?"—A common fallacy when looking at projected growth patterns is the assumption that a current state of affairs is indicative of a future state. In fact, data about a current state within a system is only relevant in that it serves as a point of measurement for the application of estimated growth patterns. In our case, research shows sales and trending patterns that support a conservative growth rate of digital textbooks at 80–100% over the next 4–5 years. This, in fact is the only important number, and applying this to the current market share for digital textbooks, even though it is a small number, will yield the numbers we project.
2. *"But the textbook industry is different than trade publishing. The trends in trade aren't really applicable to textbook publishers."* This is another common argument, one commonly made by textbook publishers themselves. And, the rationale for this argument is that, because textbooks are vastly different from trade books, and because the traditional textbook adoption process removes the student as an actual decision-maker, publishers and institutions will maintain a control over product formats that is not available in trade publishing. We acknowledge the historical uniqueness of the textbook market, but we also see that publisher control has eroded due to purchase options being provided to students. Indeed, while students do not actually chose which textbook they will use, they are selecting the format they wish to access and institutions are beginning to demand digital options.

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[22] http://www.publishers.org/main/PressCenter/Archicves/2011_Feb/DecemberStatsPressRelease.htm.

3. "*But students say they don't want digital textbooks.*" A favorite and oft-quoted statistic from a recent student survey by the Book Industry Study Group (BISG) is that 75% of students preferred print textbooks to electronic versions.[23] The same survey, however, shows that 12% preferred digital textbooks and another 13% had no preference. Moreover, this impressive 25% comes when the market share for digital textbooks is at a meager 1.5% and even before market consumers have been able to enjoy any widespread benefits from emerging standards and availability across all platforms and devices.

4. "*But major textbook publishers won't let this happen.*" A year ago, one of the biggest obstacles to the adoption of digital textbooks was the lack of titles made available by large textbook publishers. A year later major publishers are making more content available and realizing that they cannot afford to lose out on revenues available to the broadest possible distribution of their digital content. Over the next several years, we do not expect the textbook industry to evolve that differently than the trade e-book market. Amazon, Google, and Apple will also own significant market share in this vertical as retailers and distributers of digital content.

Finally, with regards to these and other specific objections to our research findings, we would remind our readers that our predictions are based on the sum on many market variables as opposed to any single market trend.

A Note on Internet and Technology Companies Influencing the Digital Textbook Market

We would be remiss if, in this revised report, we did not address the likely impact of the three major Internet and technology companies that look to control much of the trade e-book market. Here, then, are our brief notes on why Google, Amazon, and Apple could also occupy dominant positions in the Higher Education digital textbook market.

- *Google* Google's strategy is to utilize its Google Apps suite, e-books, and Android operating system to create an overarching educational technology platform and content solution. The company is extending its e-book services to embrace textbooks this year and should be rolling out comprehensive new services targeting the sector by the end of 2011. In addition, Google stands to make solid inroads with campus bookstores via its bookstore affiliate programs. Through these programs Google will attempt to create "local business" models for its cloud-based services.
- *Amazon* Currently, Amazon dominates the trade e-book market and it has the broadest reach of any company in terms of print and digital content. Moreover, Amazon has already made new advances in the textbook market over the past year with its service for purchasing used books from students. We do not expect

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[23] http://www.bisg.org/news-5-603-press-releasecollege-students-want-their-textbooks-the-old-fashioned-way-in-print.php.

to see Amazon concede the digital textbook market to other players and, in fact, expect them to launch additional services over the coming year that target digital textbook market.

- *Apple* Apple has long been a player in the education market and there are three reasons to believe the Cupertino company can dominate in Higher Education digital textbooks. First, Apple has already made major inroads into Higher Education content with its successful iTunes U model. In addition, the continued and growing popularity of its laptops and iPhone is giving Apple an impressive conduit for delivering all types of content. Finally, with the success of the iPad, Apple has established itself as the leader in terms of owning what will likely be the most popular device for digital textbook delivery over the next 3 years.