A Sustainable Business Model for Open Electronic Textbooks

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Introductory Remarks for ACSFA

- If you need a radical, disruptive perspective, then get someone from Berkeley to present.

- Two disclaimers:

  - I've never represented Berkeley's textbook policy.

  - I've recently retired from UC Berkeley.

- Worked at UC Berkeley for over 20 years
- In the early days, I worked with early adopter faculty.
- Started the central LMS support function on UC campus (initially we used WebCT and Blackboard) .
- BTW: Berkeley has switched to Sakai, an open source LMS.
- Since 1997, I've represented UCB on learning technology standards bodies such as IMS global.
- Co-chair of IMS technical board for two years
- My work with IMS gave me chance to work with for-profit publishers, vendors, and a variety of HE institutions, such as the British Open University (UKOU).

- The UKOU and other supporters of open source, creative commons initiatives are now starting to participate in UN efforts to create Open Education Resources.

- What will happen when student backpackers come back with tales from countries where textbook content is in the public domain?

- In the US, public funds can be used for brick and mortar (which economists call normal “rival goods”).

- But, by tradition, public funds are not used for developing open content (non-rival goods) to be placed on the internet and in the public domain.

- But, I want to side-step the public –vs- free market debate by proposing a voluntary “cooperative approach” to content development.

- In my view, cooperatives and voluntary creative commons initiatives are PART OF the “free market”

Econ 101 ideas

- Economies of scale reduce costs
- Developing differentiated products (e.g. specialized textbooks and course offerings) drives costs up.
- Developing standardized products drives costs down.
- There’s a difference between reducing costs and transferring costs.

Econ 201 Ideas

- There are significant development costs for “non-rival” goods such as high-quality textbook content.
- But, the marginal cost of replicating content on the internet is essentially nil.
- So, the committee may want to look at disruptive models for unbundling:
  - the cost of developing textbook content
  - from the cost of printing.
- If you really reduce costs significantly, then someone’s Ox will probably be gored, initially.
- Is it better to gore a little bit at a time (sustaining innovation) or otherwise (disruptive innovation)?

What are your ideas to reduce the cost of textbooks?

- Three local business models to promote adoption of open electronic textbooks:
  - The Jawbone
  - The Stick
  - The Carrot ➔
- An Open Textbook Cooperative:

  A global business model for developing open electronic textbooks.

The Jawbone

- Open content is made available as a library resource.
- Faculty are completely free to “opt-out”
- Barrier to adoption: lack of faculty buy-in?

The Stick

- Administrators mandate faculty buy-in.
- Barriers to adoption: faculty revolt!
- May be appropriate for very poor communities.

The Carrot

- Provide financial incentives to faculty to switch from commercial textbooks to open content.
- Reroute revenue from textbook sales to pay for incentives.

The Carrot

- Each campus identifies 100 large courses that use textbooks.
- Determine how much students currently spend on commercial textbooks for these courses (e.g. $500/year).
- Establish a course material fee for these courses (e.g. $500/year).

The Carrot

- Students do not purchase textbooks for courses covered by the fee.
- Faculty would be free to assign commercial textbooks for courses covered by the fee.
- If they do, the cost would be covered by the fee.

The Carrot

- If faculty use open content, then they could apply for grants to customize that content.
- Money that would otherwise be used to purchase commercial textbooks would fund the grants.
- Unused funds would be returned to students.
- Customized content would also be open.

An Open Textbook Cooperative

- An organization of 1,000 colleges and universities.
- Dedicated to acquiring and distributing open electronic textbooks.
- Focus on content for large introductory college courses.

Why Focus on Large Courses?

- Berkeley offers around 3,500 courses.
- 120 large courses account for 50% of L&S enrollment at Berkeley.
- At community colleges, around 25 courses account for 50% of enrollment.

The Cost of Development

- Use the British Open University (UKOU) as a benchmark for costs.
- Use UKOU as a model for “professional development”:
  - UKOU faculty routinely work with teams of experts to develop content
  - UKOU faculty are paid to develop content on a work-for-hire basis

The Cost of Development

- UKOU development teams include:
  - Subject matter experts – i.e. faculty
  - Text editors
  - Video producers
  - Graphic designers
  - Software designers
  - Test development specialists
  - Library consultants

- As many as 40 people work together on a single project

The Cost of Development

- UKOU spends $3 million per course on average.
- They have over 200 undergraduate courses.
- Total investment: $600 million
- They depreciate course content over 8 years.
- Ongoing costs: $75 million/year

The Cost of Acquisition

- UKOU spends $75 million per year on development
- For the Open Textbook Cooperative, the acquisition cost is:
  - $75 million per year / 1000 members
  - $75,000 per year per campus

The Cost of Acquisition

- For a school the size of Berkeley
  - $75,000 per year / 23,000 undergraduates
  - $3.25 per year per student
- According to the General Account Office, students currently pay $898 per year on commercial textbooks.

What type of collaborative effort is necessary to implement these models within an institution and across institutions?

- Global open textbook coop model - large cross institution effort required.
- Local carrot model – no cross institution effort required.

What are the main barriers and challenges?

- Global open textbook model – altruism is in short supply.
- Local carrot model – high quality open content is in short supply.

What are the main barriers and challenges?

- Opposition from textbook authors?
  - A small percentage of faculty actually write textbooks (around 5%).
  - A small percentage of textbook authors make a significant amount of money on their textbooks (around 5%).

What are the main barriers and challenges?

- Opposition from faculty in general?
- A large percentage of faculty think they might write a textbook someday (around 40%).
- The carrot model helps offset faculty opposition.

What role could you foresee this model playing in the future?

- Local carrot model could be adopted by schools using open content from other initiatives – e.g. Merlot, MIT’s Open Courseware

What role could you foresee this model playing in the future?

- Open Textbook Cooperative idea may become more popular if other approaches fail to produce viable alternatives to commercial textbooks.
- UKOU has received Hewlett funding to make some of their content open.

Who else are you working with to help spread this model?

- No plans to start yet another open content initiative.
- Making presentations at conferences – e.g. Hewlett sponsored events, CSU CATS conference, etc.
- Perhaps other global initiatives will adopt the global cooperative idea.

References:

The Case for Creative Commons Textbooks
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Q&A

- All truth passes through three stages:
  - First, it is ridiculed.
  - Second, it is violently opposed.
  - Third, it is accepted as being self-evident.

    Arthur Schopenhauer

The Case for Creative Commons Textbooks

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According to a recent survey, University of California students now spend 40 percent more on textbooks than they did six years ago. We argue that colleges and universities may be able to significantly reduce these costs by creating a coalition for the acquisition and distribution of electronic textbooks.

The survey, taken in the Fall of 2003, found that University of California students now spend an average of $898 per year on new and used textbooks, compared to $642 in 1996-97 [1]. By pooling the acquisition of electronic textbooks, and distributing them under a creative commons licence [2], we could lighten the load on these students' already tight budgets.

It should be noted that there are initiatives underway to bring electronic textbooks to market [3] [4], and there are projects intent on improving access to and utilization of existing library resources [5]. Also, a number of well known creative commons initiatives are seeking to supplement, but not replace, textbooks [6] [7].

Yet, though all of these efforts are innovative in their own way, none seek to fundamentally transform the textbook industry.

While the textbook market seems rather tranquil for the time being, the same cannot be said for vendors of Learning Management Systems. One significant proposal that could disrupt the learning software market has been put forward by Ira Fuchs, VP for Research at the Mellon Foundation. In a recent article, he proposes the creation of Educore - an organization dedicated to the development of open source educational software. According to Fuchs, Educore "...might involve more than 1000 colleges and universities around the world. Each member institution would be asked to contribute between $5,000 and $25,000 per year, based on size ..." [8]

Inspired by Fuchs' vision, this paper explores the idea of establishing a global coalition of similar size that would acquire and distribute high quality creative commons content that could be used in any of the following combinations: a) as the basis of an online

course, b) as an electronic textbook, or c) as a customized printed textbook for use in a traditional college course.

OpenTextbook, as I'll call it, would also consist of around 1,000 residential colleges and universities, but it would accomplish its mission by forming long term, strategic partnerships with one or more open universities, such as the British Open University (UKOU).[9]

Unlike MIT's Open Courseware initiative, OpenTextbook would focus on content for the big introductory courses that account for a large percentage of student eyeballs, and a substantial portion of the textbook market. According to my own research, around 120 large introductory courses account for around 50% of Berkeley's undergraduate enrollment. For community colleges, this figure may be as low as 25 courses. [10]

OpenTextbook's business model would be simple: traditional colleges and universities would agree to pay membership dues to purchase content from the open universities. OpenTextbook would not develop the content; it would purchase content in bulk. In this sense, OpenTextbook would be similar to consumer cooperatives and buying clubs that pool member resources to gain purchasing power in the market.

In addition to saving money, OpenTextbook's objective would also be to give faculty the freedom to customize creative commons content, and use it as a substitute for mass produced commercial textbooks. To the extent faculty choose to do so, the cost savings for students could be substantial.

To see if this would be economically feasible, I'll start by determining how much UKOU spends on content development. I'll then look at how much it would cost OpenTextbook members to buy UKOU's content on an ongoing basis. And finally, I'll divide a single school's membership fee by the number of students at the school to see how this cost compares with the current cost of textbooks.

At present, the UKOU spends on average $3 million dollars (US) per course on content development, and they have over 200 undergraduate courses in their inventory, which comes to a total investment of over $600 million. They also keep their content

updated on a regular basis, which, among other things, means replacing each course from scratch after eight years. In other words, the UKOU currently spends around $75 million per year on content development, which amounts to around forty percent of their budget. [11]

If OpenTextbook distributed these costs equally to each member, the annual membership fee would be on the order of $75,000. This would be comparable to what Berkeley's library pays for an annual subscription to one of the more expensive journals. If we assume that students can choose to avoid printing costs by accessing the content on-line, then for a school the size of Berkeley (23,000 undergraduates) this would come out to an annual per student cost of $3.25.

In my view, a fair number of faculty who teach Berkeley's large introductory courses would be willing and able to substitute OpenTextbook content for the commercial textbooks currently in use. But even if most instructors continued to use commercial textbooks, it may still be that enough students would be able to use OpenTextbook's content to justify the small per student cost.

Even if we take the most pessimistic scenario (OpenTextbook fails completely and the content goes unused), the $75,000 annual cost of joining the coalition would be rather small - especially when compared with the best case scenario where textbook costs can be reduced to $3.25 per year. In the latter case, the cost savings for a school the size of Berkeley would be extraordinary: $898 less $3.25 times 23,000 undergraduates, or $20,579,250 per year!

In conclusion, it should be noted that what has been presented is not a specific business proposal. The purpose of this paper is simply to stimulate discussion, and to show that given a coalition of 1000 schools OpenTextbook would be economically feasible.

Resources

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Biography

In 1986, Fred Beshears came to UC Berkeley to work as a programmer for the Instructional Technology Program. In addition to helping "early adopter" faculty explore new uses of learning technology, Fred also served for ten years as staff to Berkeley's central Instructional Technology planning committee. In 1997, Fred introduced Learning Management System technology to the campus, and established Berkeley's central LMS support services group shortly thereafter. In 1998, he became Berkeley's

representative to IMS Global, a leading developer of learning technology standards and specifications. In addition to his work with IMS, Fred also organizes activities on the Berkeley campus, which have included all-UC video conferences on learning technology standards, open source software development, and creative commons content development.