

Disruptive innovation

Case study: Transforming higher education



Higher education by the numbers

- Tuition and fees at U.S. public and private colleges rose by an average of 439 percent *after* allowing for inflation (from 1982 through 2007)¹
- 6 to 7 percent annual price increases for three decades
- The average university spends US\$4 to US\$5 on overhead for each dollar spent on teaching, testing and research

Few if any sectors of our economy in recent decades have experienced price and cost increases as massive as those in higher education. From 1982 through 2007, tuition and fees at U.S. public and private colleges rose by an average of 439 percent *after* allowing for inflation.² Three decades of 6 to 7 percent annual price increases have put college beyond the means of most families without resorting to huge student loans.³

Scores of books and studies have attempted to explain the factors behind this dizzying cost spiral.⁴ What they tend to conclude is encapsulated in a pithy phrase from Kevin Carey of the Washington, D.C.-based think tank Education Sector: "Everyone wants to be Harvard."⁵

Every college and university wants to have the leading researchers who publish in top journals and lure federal grants, while also offering the most state-of-the-art academic, sports and leisure facilities. Today's institutions of higher education try to do so many jobs that they've become extraordinarily complex organizations, with huge costs tied up in the overhead and administrative costs. According to the Center for American Progress, the average university spends four to five dollars on overhead for each dollar spent on teaching, testing and research.⁶

The prevailing wisdom in higher education is that it's not possible to reduce costs and improve quality. The belief is that controlling costs would mean lower quality; reduced course selection; more teaching assistants and adjunct lecturers and fewer professors; and staff layoffs.⁷ But are these assumptions actually true?



“A big chunk of the best-known American colleges...try to compete on exclusivity and the quality of the experience, not on price.”

Anya Kamenetz, author of *DIY U*⁸

Breaking the trade-off

The key to disruptive innovation in higher education is to *unbundle* the different services colleges provide, and to bring a greater range of providers into the market.

As with K-12 education, *online learning* is the technology offering the most potential to transform higher education’s basic business model. It can be used to unbundle some of the services colleges now provide, allowing students to pay only for what they need.

Disruptive entrants such as the University of Phoenix, DeVry, Western Governors University, MIT’s OpenCourseware and MITx, the United Kingdom’s Open University and many community colleges unbundle the cost of learning from the hefty costs of stadiums, student unions, swimming pools, fitness

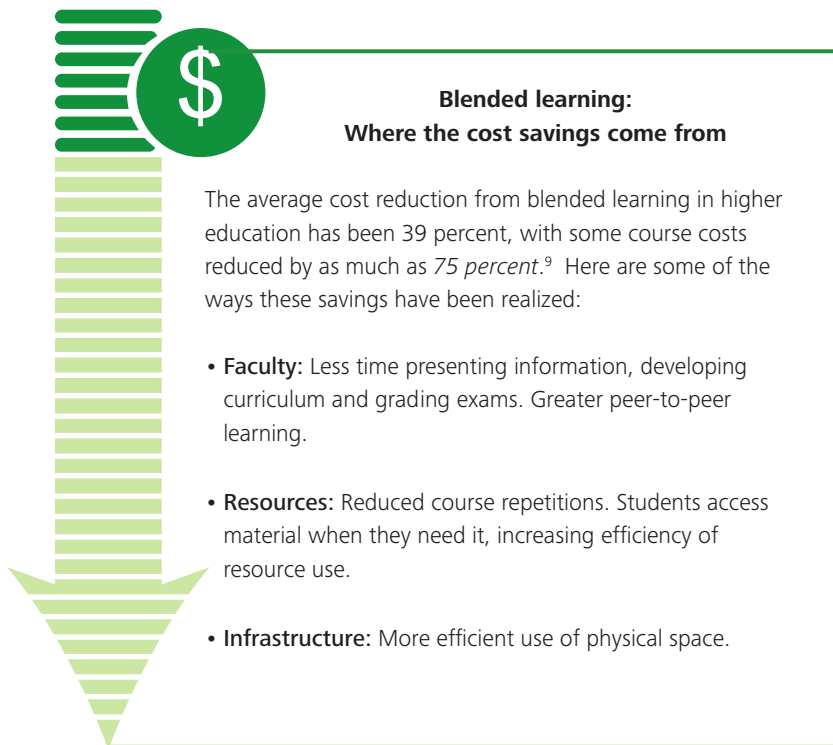
centers and administration. Online learning allows their low-cost business models to scale upward and compete against traditional colleges and universities.

Can online learning achieve good results while offering significantly lower costs than traditional college instruction? The evidence suggests it can.

During the last decade, the National Center for Academic Transformation (NCAT) has worked with hundreds of public universities to redesign individual courses around a blended model of education that takes greater advantage of technology.¹⁰ These course redesigns have covered all sorts of disciplines, from Spanish to computer science to psychology. They typically incorporate digital learning tools — simulation, video, social media, peer-to-peer tutoring and software-based drills — as well as some traditional classroom lecturing.

The average cost reduction has been a whopping 39 percent, with some course costs reduced by as much as 75 percent.¹¹ All in all, the cost of delivering a four-year degree with only online curriculum (with instructors) is less than US\$13,000 compared to US\$28,000 and US\$106,000 at typical public and private institutions respectively.¹²

As for the quality, from test scores to student satisfaction to graduation rates, outcomes have also improved according to NCAT.¹³ At the University of New Mexico, the drop-withdrawal-failure (DWF) rate in a psychology course fell from 42 percent in the traditional format to 18 percent in the new blended model. Meanwhile, Virginia Tech’s redesigned math course resulted in test scores rising 17.4 percent and the failure rate plummeting by 39 percent.¹⁴



“The most powerful mechanism of cost reduction is online learning. All but the most prestigious institutions will effectively have to create a second, virtual university within the traditional university...”

Clayton M. Christensen and Henry Eyring, *The Innovative University*

Pace of disruption

As with K-12 education, online higher education is increasing at a brisk pace. Open University is now the biggest university in the United Kingdom with more than 250,000 students and 1,200 full-time academic staff.

In the United States, about 6.14 million students enrolled in at least one online course in 2010. Fully 31 percent of all college and university students now take at least one course online.¹⁵



Endnotes

1. Kamenetz, *DIY U*, p.50.
2. Ibid, p.50.
3. Clayton Christensen, Michael Horn, Louis Caldera and Louis Soares, "Disrupting College: How Disruptive Innovation Can Deliver Quality and Affordability to Postsecondary Education," Center for American Progress and Innosight Institute, February 2011, <http://www.americanprogress.org/issues/2011/02/disrupting_college.html.>
4. Anya Kamenetz, *DIY U*, p.57. Clayton M. Christensen and Henry J. Eyring, *The Innovative University: Changing the DNA of Higher Education from the Inside Out*, (San Francisco: Jossey-Bass, 2011).
5. Kamenetz, *DIY U*, p.57.
6. Clayton Christensen, Michael Horn, Louis Caldera and Louis Soares, "Disrupting College: How Disruptive Innovation Can Deliver Quality and Affordability to Postsecondary Education," Center for American Progress and Innosight Institute, February 2011, page 39. <http://www.americanprogress.org/issues/2011/02/disrupting_college.html.>
7. National Center for Academic Transformation, "Improving Learning & Reducing Costs: Redesigning Large-Enrollment Courses," <http://www.thencat.org/Monographs/ImpLearn.html>
8. Anya Kamenetz, *DIY U: Edupunks, Entrepreneurs, and the Coming Transformation of Higher Education*, (White River Junction, VT: Charles Green Publishing, 2010) p.57.
9. Carol Twigg, "Improving Learning and Reducing Costs: New Models for Online Learning," National Center for Academic Transformation, <http://www.thencat.org/Articles/NewModels.html>
10. Kamenetz, *DIY U*, p.92.
11. Carol Twigg, "Improving Learning and Reducing Costs."
12. Clayton M. Christensen and Henry J. Eyring, *The Innovative University: Changing the DNA of Higher Education from the Inside Out*, (San Francisco: Jossey-Bass, 2011), p.215.
13. Ibid.
14. NCAT, "Improving Learning & Reducing Costs: Redesigning Large-Enrollment Courses," p.10
15. "Class Differences: Online Education in the United States 2010, Sloan Consortium," 2011. http://sloan-consortium.org/publications/survey/class_differences

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