

Chapter 6
**“When Industries Change” Revisited:
New Scenarios for Higher Education**

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Forum Futures
Exploring the Future of Higher Education, 2000 Papers

Forum Strategy Series, Volume 3

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CHAPTER SIX

“WHEN INDUSTRIES CHANGE” REVISITED

New Scenarios for Higher Education

David Collis

Collis describes the potential deconstruction of the traditional university caused by technology and new entrants to the higher education market. The many alternatives for learning that technology presents break down much of the rationale for vertical and horizontal integration of higher education on a traditional campus. At the same time, changing and growing demand provides opportunities for new companies to enter the field by serving emerging markets. Collis offers strategic approaches for colleges and universities to consider in response to their deteriorating industry structure.

In Collis (1999) I argued that the future of higher education was likely to be more competitive than at any time in the past. New entrants would exploit the profit potential of higher education by capitalizing on emerging technologies to “cherry pick” its most desirable segments, such as executive education. Buyers would become increasingly price sensitive, and important groups of them—notably corporations—would backward integrate into the provision of their own services. Faculty, as key suppliers of the intellectual material for higher education, would be able to leverage copyrights on their ideas into “superstar” salaries and ownership stakes in nontraditional media, such as videos, CDs, and the Internet. Finally, rivalry among existing institutions, while mitigated by growth in the student body as the echo of the baby boom passed through higher education, would increase as a technology with high fixed costs but essentially zero marginal costs provided universities an economic incentive to expand and even intrude on each others’ geographies.¹

I suggested that the result of this competition would not only be harder times for institutions of higher education but also the potential unraveling of the traditional vertically integrated, full product range university. In its place one could

imagine the university as a smaller, more specialized provider of a limited set of educational programs—probably based around a three-year residential liberal arts degree that socializes students and teaches them how to learn but does not dispense a particular body of knowledge that is expected to satisfy their needs for life.

The passage of a year has only convinced me that my suggestions were too limited and too cautious and that they will occur much faster than I ever believed possible in 1998. A cursory review of recent press coverage of private sector entry into secondary education only reinforces this judgment, with headlines such as “The Business of Universities” (*Boston Globe*), “Wiring the Ivory Tower” (*Business Week*), “A Different Course” (*Wall Street Journal*), and even *Parade* magazine’s “Go to School Again.” Indeed, Peter Drucker, the management guru, has argued that “Universities won’t survive. The future is outside the traditional classroom” (Callahan, 1999).

To convince you that this is the case, and maybe also heighten your paranoia, in this chapter I will first review some of the recent developments and data that suggest the private sector is finally committing resources to its vision for the future of higher education. Then to address concerns that were expressed about the blanket nature of my remarks in Collis (1999), I will outline how four different entrants might approach the industry and suggest how their strategies will differentially affect various tiers among current institutions. As I did in Collis (1999), I will conclude by suggesting some possible responses that universities can (and probably should) take to avoid entering a downward spiral of lost programs and declining enrollment that could force price increases, exacerbate market share loss, and so on.

Private Sector Involvement in Higher Education

You are all aware of Internet stock mania—and I trust that some of you have benefited from it institutionally and personally—but how many of you know of the education stock mania? How many of you know the number of education company stocks that are publicly traded? Or how large the market is for public companies competing in the education sector? In 1999 Merrill Lynch published a 193-page research report, *The Book of Knowledge* (Moe, Bailey, and Lau, 1999), which laid out this data for investors; it is the best indicator of the burgeoning private sector interest in education in general and higher education in particular.

Perhaps the most compelling statistic in the Merrill Lynch report is that the education sector as a whole represents nearly 10 percent of the United States’ gross national product (GNP) today and yet receives less than 0.2 percent of private capital formation. Higher education alone, defined as all postsecondary education, represents a market of \$237 billion, of which only \$5 billion is served by the private

sector. Just as nature abhors a vacuum, so competition abhors an unserved market. Indeed, higher education is like health care thirty years ago, poised for takeover by the private sector. In fact, that industry’s share of U.S. private sector capital markets has gone from 3 percent in the 1970s to 14 percent today (Stone, 1999). The only deterrent to private sector entry into higher education, apart from philosophical objections to the presence of the profit motive in education, has been the huge sunk cost and unprofitability of the traditional university. As I discussed in Collis (1999), and as I will sketch in the next section, technology and changes in the demand for and timing of higher education now facilitate focused, low-cost, and profitable private sector entry.

Technology

The first of the two drivers facilitating entry by the private sector is technology. Again, I do not want to dwell on the mechanics (though perhaps electronics would be a better word) of the Internet or other technological advances. What I can do is highlight their effects on a couple of dimensions.

There are several ways that companies or universities can employ the new technologies to expand or improve the educational experience. Institutions can use technology to ease the capacity constraint in existing facilities for students that are on campus; expand geographical coverage to parts of the state or the country that it does not already serve; and enter new markets or niches, such as corporate training. They can even transform the current pedagogy used in the classroom—going beyond the use of the Internet as a distributed printer of course material, as a replacement for office hours, or as a camera on the classroom. Beyond this, of course, technology can transform a university’s own value chain by fundamentally altering internal administrative functions and processes.

But even before technology goes this far, when the Internet is merely a channel of distribution, it can have a dramatic effect on industries. Those of you that disagree because of the inferiority of the current product ignore historical lessons about the surreptitious effect of technologies that appear at the low end of a market. Many of these technologies were ignored or slighted by incumbents because they were inadequate for the needs of current customers. Yet the technologies were stealthy competitors that crept up on those unwary and complacent players who too quickly dismissed the threat with criticisms of their inferiority and testimonials from buyers trumpeting the merits of the existing technology.

What makes some new technologies so insidious is that they first appear as ineffective substitutes that can safely be disregarded. The best-selling management text by my colleague Clay Christensen makes exactly this point. In countless instances of what Christensen calls “disruptive technologies,” from disk drives, to personal computers, and now the Internet, technological advances initially yield

products that fail to satisfy current users (Christensen, 1998).² The product is too slow, too expensive, too limited, and so on. Incumbents that do the right thing and listen to their customers are told that this is not what customers want. Accordingly, the market leaders ignore the new technology and continue to refine their existing products and technology.

There are two errors in this response, which turns out to be merely rearranging chairs on the Titanic. First, the development trajectory of the new technology may well be faster than for the existing mature technology. In disk drives, for example, although smaller drives were initially slower and had less storage capacity, design limitations on older larger drives had already been reached. In contrast, researchers were just discovering the capabilities of the new technology. Within a couple of years smaller drives became superior.

Even if Internet-based education is inferior to the traditional classroom today, what might it look like in a few years when faculty have had the opportunity to experiment with the technology? Looked at the other way, how much potential is there for advances in traditional pedagogy? Several centuries of experience suggests that we are unlikely to get much better at delivering courses in the classroom than we are today. What might two centuries of development on the Internet, or even two decades (or two years!), do for improvement in delivering courses through that channel of distribution?³

The second flaw in a strategy that ignores new technologies because they do not satisfy current users' needs is that there are often different customers or potential customers whose needs are not currently met but for whom the new technology is perfectly adequate. Personal computers were for many years not as effective as minicomputers, and universities could never see how they could replace the DEC Vax 10s in their central computing facilities with the new product. Yet individual faculty and administrators rapidly adopted a technology that satisfied their more limited but otherwise unmet computing needs. Locked into serving its institutional customers with powerful minicomputers, Digital never seriously embraced the PC and now no longer exists (partly because of the first argument—seventeen years after the introduction of the IBM PC we now have in our briefcases a computer that has more power than the old Vax 10 workhorse of many university computer facilities).

In higher education today, four-year undergraduate degree residential students may well protest that distance learning and the Internet are no substitute for the quality of the education they are receiving on campus. But everyone else who cannot afford the expense, the time, or the relocation disturbance of a residential program might well embrace the technology as satisfying their very different, and somewhat less demanding, needs at a very attractive price. Within a few years, new entrants employing the new technology and exploiting its inherent scale economies

and innovation trajectory could offer a product that is as good as current degree courses at lower cost. And a few years after that . . .

The Boston Consulting Group (BCG) has identified another important effect that the Internet can have on industries, which they have labeled “deconstruction” (Evans and Wurster, 1997, 2000).⁴ They argue that the Internet for the first time transcends the trade-off between reach and richness in the interaction between organizations and individuals. Historically, when companies wanted to communicate with a mass audience they had to provide very limited content in the message—the typical thirty-second television commercial. When, instead, companies needed a rich interaction that conveyed much information and was responsive to the unique needs and concerns of individuals, they had to use a forum with very limited reach—the salesman in a car dealership. The Internet has broken through this frontier by allowing companies to interact with millions of people and yet provide vast amounts of customized information to each one.

BCG goes on to argue that transcending the richness and reach frontier allows small specialist competitors to be efficient in industries that previously required size and scope for profitability. Amazon.com, for example, could not have entered bookselling without the advantage over bricks and mortar bookstores, like Barnes and Noble, of offering 5 million titles to individual consumers. E*Trade has disaggregated the full-service brokerages by offering the complex interaction of stock trading by itself. It is the emergence of such players that leads to the “deconstruction,” or vertical and horizontal disintegration, of entire industries.

In higher education the analog would be the deconstruction of the traditional university. At one level the argument is simply that the Internet breaks down the trade-off between richness and reach, providing the richness and customization of content that are required for an effective educational experience for a large number of students at once. That is the threat of distance learning, although this time with the emphasis on the volume of students that can be educated on-line, rather than on their physical dispersion.

At another, deeper level the argument is that the technology facilitates entry by specialist providers because it takes away some of the traditional rationales for vertical and horizontal integration. Students can, for example, now pick and choose courses from many suppliers by searching the Web not just for two-paragraph course descriptions but for the complete set of course materials, including all reading lists, assignments, presentations, handouts, and so on. They can probably even see the lecturer in action on video clips and read a set of student evaluations. In short, the sort of detailed information that was traditionally only available to students on campus can now be part of a student’s process for selecting courses among universities, or in deciding to take the one great course provided by a new entrant.

In this environment, the reputation of the institution as a whole is not the only external signal of the quality of its courses. The Internet enables students to be far more discriminating in their assessments. This suggests that brand name becomes a much less powerful deterrent to entry, particularly if entrants can gain instant credibility by utilizing teaching materials from brand name institutions. If Harvard professor Eric Maskin makes available a great course on microeconomics through a new entrant, students will most likely prefer to take that rather than suffering through the poor quality course offered at the state university they are attending.⁵

If the Internet leads to the horizontal unbundling of the university, it can also lead to the vertical deconstruction of universities by eliminating the need for the joint provision of many activities, most obviously residential accommodation, but also the library (books have a very rich content) and even classroom space. Ending the requirement for a credible competitor in higher education to provide an integrated bundle of activities clearly reduces entry barriers enormously.

The arguments above are only two of the more recent and well-received ideas from research in strategy about the likely impact of new technology, notably the Internet,⁶ on industries. Even so, they combine to provide a picture that I hope illustrates the very real and current threat posed to higher education today by private sector companies.

Demand

If technology offers the way to supplant traditional entry barriers, changes in demand provide the market opportunity for new entrants. Current projections show there will be about a 20 percent increase in the number of eighteen-year-old students entering higher education by 2010.⁷ This echo of the baby boom appears to be a captive market for universities, which can anticipate with glee (if also some concerns about space shortages) their ever-increasing enrollments. But consider for a moment the broader market for higher education, beyond eighteen-year-olds seeking undergraduate degrees.

Today, 43 percent of students in higher education are over twenty-five years old (Moe, Bailey, and Lau, 1999). By 2010 the expectation is that such mature students will be in the majority because of the increasing requirements of the economy for a more educated workforce and the desire of individuals to bridge the widening income gap between college and high school graduates.⁸

Mature degree students require a very different educational experience than eighteen-year-olds. They are already socialized and so do not require the university to act *in loco parentis*. The opportunity cost of their education is high since they have jobs and higher earning potential than teenagers. They are unlikely to relocate for their education since they already have their own homes and

are not desperate to escape from living with parents. They only have limited time available to spend on their education since they have full-time jobs and families of their own, and the academic calendar is meaningless to their annual cycle.⁹ What these mature students need is a part-time degree program that is easily accessible from their homes at times and dates convenient to them.¹⁰ If the price is low, so much the better.

Universities do not offer such programs, and yet this is a large potential market—75 percent of Americans over twenty-five lack a degree. This unserved market is, therefore, a huge attraction to private sector entrants that can exploit technology to deliver the convenient low-cost product these customers demand. Given this entry path, companies that build scale and a reputation in this segment should be able to move upmarket into a more traditional degree program. Americans laughed at the “Made in Japan” label in the 1960s; bought cheap, small, but fuel efficient cars from that country in the 1970s; yet by the end of the 1980s, recognized Lexus and Infiniti as equal to, if not better than, the best traditional European luxury cars.

Beyond simply offering undergraduate degrees for mature students, there is a powerful drive for extending adult education. As knowledge accumulates at a rate that makes obsolete the set of skills acquired at twenty-one years old by age thirty, the model of postsecondary education will shift from onetime to lifelong learning. This will result in a growth in demand for specific skills training (as well as for the more traditional extension school adult education¹¹) and provide another huge opportunity for private sector entrants that is currently internally served by corporate universities and training departments.

As I suggested in Collis (1999), the societal changes that are involved in this shift in demand toward lifelong education are as fundamental as the alteration in the implicit employment contract, from lifetime employment to “free agency.” The trend to nontraditional students in higher education will not, therefore, go away. Rather it will accelerate as the variety of product offerings for these market segments expands and as their prices inevitably come down as they exploit the scale economies inherent in new technologies. This shift in the composition of the demand for higher (postsecondary) education, therefore, foreshadows a fundamental change in the very nature of the industry, by inducing new private sector companies to serve the emerging market segments.

Implications

The changing demand for education and the capabilities offered by new technologies facilitate entry into the market by for-profit organizations that pick off an underserved niche with a novel, and profitable, business model. Naturally, this opportunity has not escaped the gaze of the capital markets.

In the postsecondary market it is estimated that of the 3,700 schools providing service, 345 are proprietary (Moe, Bailey, and Lau, 1999). New flows of capital to the sector are also increasing. Since 1994 sixty-eight initial public offerings (IPOs) and other capital market offerings have raised \$3.4 billion for education and training companies, partly because the education sector as a whole has returned 134 percent to shareholders over that period, compared to only a 54 percent increase in the Russell 2000 Index. The largest twelve publicly quoted companies in higher education, including Apollo Group (parent of the University of Phoenix), Sylvan Learning, and DeVry, now have a combined market capitalization of \$6 billion, while private investors include the Pritzker family (owners of the Hyatt hotel chain), the Carlyle Group, and, of course, Michael Milken and Chris Whittle.

Perhaps the best example of private sector investment is the University of Phoenix. Many of you know that it is now the largest private university in the U.S. with over 60,000 students, but did you know that its parent—the Apollo Group—has also been one of the best stock market performers over the last five years, providing a total return of 1,550 percent to shareholders since IPO in 1994, and with a current market capitalization of about \$2 billion (Moe, Bailey, and Lau, 1999)? The company has struggled and experimented with various approaches in the past, but it is now in the process of rolling out a business model that works and is continually extending that model.

To a frequent business traveler, the University of Phoenix is almost ubiquitous. Somewhere, within ten miles of most airports I visit, I see a University of Phoenix building. This is intentional. Phoenix is not a distance learning institution; it is a convenient institution. Facilities are located with adequate parking spaces on major highways and along bus routes and are open at convenient times. Courses are primarily offered after work hours, and courses begin so frequently that all students should be able to start their program within days of signing up. Classes are small—average class size is sixteen—and are taught by part-time faculty, most of whom have full-time jobs. Indeed, only 100 of their 5,200 nonadministrative staff are full-time employees. Prices are set to be somewhat above comparable in-state tuitions.

The result of this strategy is a \$0.5 billion enterprise with profit margins of 18 percent. With sixty-five campuses spread over twelve states, Phoenix intends to expand rapidly and to enter true distance (Internet-based) learning. And the University of Phoenix only educates 0.5 percent of all postsecondary students. What a market opportunity!

Many of you may be thinking, so what? What if entrants capture the emerging market segments? Universities have never had the mission or obligation to serve all postsecondary students. A shift in the composition of overall demand will

not affect our traditional student body, which is still set to expand over the next fifteen years. The new entrants might well expand the total market for higher education, but they won't affect our traditional student body.

In the short term, of course, this is true. Nothing is going to reduce the enrollment of eighteen-year-olds in undergraduate programs over the next five years or so. But two factors, one of which I have mentioned already, are likely to have an important impact during that time.

The first threat posed by entrants serving new market segments is that of a "disruptive technology." Over time the entrants' new business model, or technology, will offer programs at such attractive prices and feature combinations that they will begin to attract traditional students. Obviously those existing institutions most at threat here are the smaller nonresearch state schools, which today come as close as any college or university to serving such students. Higher-end residential and research universities that offer a liberal arts, tutorial-based education will clearly be the last to face competitive pressures from this source. But as the examples of the U.S. auto industry, the U.K. motorbike industry, the U.S. steel industry, and many other industries illustrate, the period of protection for those at the high end might only be twenty years at the very most and may well be substantially shorter.

For high-end institutions, particularly state rather than private schools, the second and more immediate threat might simply be price pressure. As an example, consider the teaching hospitals, which as premier institutions have been insulated from many of the changes in the health care industry.¹² The one change they have not been able to avoid has been cost comparisons with other hospitals. Today there is enormous pressure on teaching hospitals to reduce their costs and prices because it is publicly and repeatedly pointed out that their cost per bed day is substantially higher than other hospitals. While teaching hospitals protest loudly about differences in the services they provide that justify the higher costs, the fact remains that they are being squeezed by the comparison with other, particularly for-profit, hospitals.

The same could well happen in higher education. Even if entrants do not immediately take away students from the premier universities, the cost pressure imposed by comparisons of student tuition rates will be enormous. If an entrant can provide a degree course at \$5,000 per year, for example, how can you justify \$20,000 per year (I exclude room and board fees) for the same degree (which might well include some of the same courses taught remotely by the same professors)? State officials and politicians, in particular, will be very conscious of such comparisons because higher education makes up a large percentage of their budgets. And when a university system requests a several-billion-dollar bond issue to fund the renovation of facilities and investment in new technology, will it pass

muster in the legislature that observes the proliferation of lower cost educational alternatives?

What will make these cost pressures worse, of course, is that the entrants will be picking off the more attractive parts of higher education. Executive education is one of the few programs that is profitable on a full-cost basis at most institutions, and yet that will be the first to be lost to entrants.¹³ Even “unprofitable” programs (which describes most programs) make a contribution to the fixed costs of the university. As a result, any loss in students or programs increases costs for the remaining students, unless the institution is prepared to close down whole departments or schools. This leads to the “deconstruction” of the university that I am suggesting may well happen.

The net effect of the two changes I outlined will, therefore, be pressure on all institutions of higher education. Some will be affected directly, some indirectly, but all will feel the repercussions of a changing industry sooner rather than later.

Four Entry Strategies

To exemplify the threat to universities posed by the private sector, I will describe possible strategies that four new (and old) participants in the industry might pursue. While these are hypothetical and incomplete strategies, they are not unrealistic. Indeed, elements are already being adopted by certain competitors. The four chosen strategies describe a range of positionings that players might pursue, from the high to the low end. Taken together they illustrate how all the various institutions of higher education will be affected by the upcoming change in the industry, even if the specific effects for each will come from a different direction and will impact in different ways.

I have attached names to the institutions pursuing each of the four strategies to personalize the descriptions. They are, however, not intended to be attributed to those companies alone. Rather the strategies are representative of those that could be adopted by any organization of that generic type. I have also presented the strategies as a set of definitive actions, unqualified by adverbs, such as *might* or *could*. Again this does not imply these are the exact strategies that will be pursued; it is merely a more assertive form of presentation.

Harvard University (Research Institution)

I start with an institution that is a current player in higher education. I do this intentionally because the threat to the traditional university comes not only from outside the industry but also from farsighted players that capitalize on the same

opportunities seen by outsiders. I do not necessarily put Harvard in this category but choose it as the illustration simply because I know it the best.

As an organization that manages itself according to the aphorism "Every tub on its own bottom," the strategy of the university is unlikely to be coordinated. Rather it will be the sum of the independent strategies of the various schools. Instead of being exhaustive, and somewhat repetitive, in covering all the schools, I will, therefore, focus on two—the undergraduate College and the postgraduate Business School.

As competition for undergraduates intensifies, the appropriate strategy for the premier private universities is to play to their strengths. In the case of Harvard College (and others), these are primarily brand name, physical facilities, financial resources, and the capabilities of the faculty and student body. Harvard will, therefore, leverage those assets by promoting itself as the leading provider of the traditional residential undergraduate degree, based at its Cambridge campus.

The value of the Harvard brand will be reinforced by appropriate marketing (probably focused on public relations campaigns that continually mention Harvard and direct marketing to schools). Some of the endowment will be invested to improve the physical facilities in order to differentiate the quality of Harvard's dormitories, classrooms, and so on from other schools. The size of the undergraduate body is unlikely to expand substantially, although initially Harvard would expand its presence internationally by marketing to foreign students. Later, however, by opening international campuses to allow all students to receive part of their education overseas, capacity could be increased.

All of this, and much more I could describe, may sound obvious and non-threatening, but potentially the biggest change at the undergraduate level would be the introduction of merit scholarships. Although Harvard might not want to initiate competition on this dimension, the ending of the antitrust exemption for universities encourages someone to break ranks and cut prices selectively (which is the purpose of merit scholarships) to attract the best students.

Unfortunately, the more that higher education becomes a signal of quality, whose greatest benefit is not necessarily the education itself but the association with an institutional brand name, the more important the quality of other students becomes.¹⁴ This arises, first, because the quality of an on-campus residential education comes as much from the interaction with other students as it does from the formal educational process itself. The higher the quality of the other students, the better the education I get. The second reason is that after graduation, the higher the quality of students, the better the peer group network that I have access to in order to further my career.¹⁵ The third reason is simply the reputation effect. If most students from Harvard do well, then it is a good bet that any single student with a degree from Harvard will do well.

The dynamic established by such forces is that the best students want to associate with the best students. Any university that can demonstrate the quality of its student intake through SAT scores and such will, therefore, become more attractive to other good students, which raises the average SAT score and so creates a virtuous circle.¹⁶ In contrast, universities that cannot maintain the quality of the student body in this “winner-take-all” market enter a downward spiral of declining student quality.

The temptation for every institution to offer merit scholarships to attract the best students is, therefore, enormous. Harvard can always ensure that it wins this game, even if it doesn’t initiate the competition, by putting some of its endowment to work in merit scholarships. Giving free tuition to the top three students in every state would cost \$18 million per year; this represents less than 2 percent of Harvard’s budget, a small sum by private sector standards to spend on advertising and marketing.¹⁷

A similar dynamic operates, of course, at the faculty level. Good faculty are easier to recruit when there are other high quality faculty present. Bidding for Nobel Prize-winning professors has already occurred, and not just on the salary level. Packages now include salary, named chairs, minimal teaching requirements, and large research budgets over which the professor has complete control.

“To those that have, shall be given” is the probable result of these dynamics among the leading universities. The richer institutions will pull away from the poorer institutions and will form their own tier at the apex of higher education. How many institutions will be able to make the transition to this nirvana is unclear. What will certainly increase that number is the willingness of top universities to differentiate themselves, not in quality terms, but in terms of adopting a specialization. If it is known that Harvard and Princeton are best for economics, MIT and Caltech for engineering, Yale and Dartmouth for history, and so on, more institutions will be able to be the best.¹⁸ If all try to be all things to all people, many will fall by the wayside in the competition to capture the “best” all-around students.

The strategy of the Harvard Business School will be more consciously expansive. Partly this is because of the missionary tradition of the school, which has always interpreted its role as benefiting society by raising the standard of management around the world.¹⁹ Partly it is because of the profitability of executive education, and partly because of the competitive need to maintain a dominant global brand name.

This expansion will primarily be international. The school will open satellite campuses in Asia (as INSEAD, the top European business school, already has) and Europe, which will offer short courses to local executives. It will also enter the distance learning market, capitalizing on demand for high quality—and high

priced—executive programs that have the convenience and lower cost of local provision.²⁰

This will be accompanied by the mass marketing of self-teaching materials, so that the school earns the royalties from those materials, not the faculty nor third-party publishers. Already the school offers written, video, and CD materials that allow the user to study from the gurus of management education, and it is working with a private sector company, Pensare, to expand its offerings. While it is unlikely that the Harvard brand would ever be used for certificates or degrees that were not controlled by the school, the availability of such materials for other institutions or companies to use in their own programs would still pose a threat to other business schools. When a corporate university can offer an in-house Harvard course, why send managers to an expensive course at another business school?

This is the real threat that high quality institutions pose to other universities. The ability to profit from courses which can now, for the first time, be replicated at zero marginal cost allows institutions with brand names to expand their market share and capture additional profits. Already, Harvard, Wharton, Columbia, Stanford, and Chicago business schools are, one way or another, reselling existing courses beyond their campuses.²¹ This places pressure on second- and third-tier institutions that lack a brand name or other source of differentiation and reinforces an outcome in line with the aphorism "to those that have, shall be given."

In fact, this might well lead to a real bifurcation of the industry. The top-tier institutions could shift back to the tutorial system to differentiate their on-campus education, while capitalizing on their brand name to make the basic lectures and courses available to third parties via the new technologies. Second-tier institutions, in contrast, will have to embrace the Internet and employ lower-cost teaching methods in order to compete with the new distance learning entrants who use those brand name courses to gain instant credibility.

Note that because there is now an opportunity to resell courses outside the university, Harvard will have to alter its policy towards intellectual copyright so that not only research but also course development will become the property of the university. Owning the copyright to courses will be the only way for the university to retain its share of the profit stream generated by course development, and, more importantly, preserve the value of the Harvard brand by controlling its use.

Open University (Distance Learning)

I choose the Open University as the representative entrant into the distance learning market because it has a track record and credibility. It has also recently announced its entry into the U.S. market.

The Open University has a long and distinguished history in the U.K. Today it has over 100,000 students, of whom the majority are over age twenty-five. While many students take individual courses, several thousand graduate with bachelor degrees each year; indeed the Open University graduates one-quarter of all the MBAs in the U.K. each year.

The expected entry strategy for the Open University into the U.S. will replicate many aspects of its U.K. strategy because it will target the same mature student segment. That strategy has always involved a mix of distance learning technologies—originally television and mail correspondence, but now the Internet and e-mail as well—and some limited time on a campus. The primary educational vehicle in this model, however, has been the interaction with a tutor who is a part-time employee of the university and who is, remotely, responsible for review of the regular assignments that accompany the lectures and classes. The result of this model is that while students ostensibly take lectures in huge classes—one television show is viewed by all students taking the course—the more important tutor-student ratio is, at about 15:1, much lower than a typical university class size.

If this sounds like an inferior product, pause for a moment to consider the investment the Open University makes in pedagogy. Full-time faculty are chosen for, and primarily spend their time, on course development, with some time on supporting tutors but very little time actually teaching. Instead faculty devote themselves to finding the best pedagogical approach to a subject and working with the leading experts in a field to capture the current state of knowledge. Typically a course will cost \$1.5 million to develop, with no expense spared if it is deemed educationally necessary. Experts might be flown to South America for filming, computer graphics will be custom programmed, and so on.

I would guess that most of your institutions allocate none of their budgets explicitly to new course development and that none expect research faculty, who have no interest in pedagogy, to develop their own courses. And you still maintain that the Open University product is inferior! How does your institution's university-wide budget on pedagogical developments on the Internet compare to the Open University expenditure of \$1.5 million per course?

How can the Open University support such a huge investment in course development? One answer is that the course material is not updated as often as lecturers update their material (though the wrinkled notes we have all seen professors bring to class might suggest otherwise). But the real explanation is that the Open University cost structure is very different. With the bulk of the teaching performed by relatively low-paid part-time tutors who are paid only for teaching, the cost per hour is closer to \$50 than the \$500 for a research institution.²² While these numbers are obviously grossly simplified, and make the

comparison only with research institutions, the fact is that the cost of paying part-timers just for teaching is much lower than subsidizing the research of full-time faculty.²³ A cost advantage of 90 percent is enormous by private sector standards and obviously will attract entrants who can use the advantage to invest in course development and smaller class sizes (as the Open University does) or take the difference in lower prices and higher profits.

To implement this strategy in the U.S., the Open University is pursuing joint ventures with two-year colleges. Each side can contribute something valuable to the alliance. The Open University will contribute the allure of a reputable undergraduate degree that the colleges can offer.²⁴ In turn the colleges can provide their facilities—widespread and conveniently located—and their faculty, which is an obvious source for tutors. The result could be a high quality, convenient degree program attractive to many mature students. While this threat is most immediate for institutions currently serving that market, the potential for attracting students from universities should be apparent.

The Open University is a hybrid model of distance learning, mixing tutors and campus time with self-study. A pure model of self-study distance learning is even lower cost, if somewhat lower quality. It is reasonable to anticipate entry into this market will occur by firms pursuing a variety of models, which will only increase pressure on institutions serving this segment of the market.

Harcourt General (Publisher)

Harcourt is representative of a number of textbook publishers that could enter this low end of the higher education market by offering a set of courses that students patch together to complete a degree. It has already announced its commitment to do so, hiring the former Massachusetts education commissioner to run its new Internet University (Hechinger, 1999).

The incentive for publishers to enter the market is that they already have a supply of course materials and relationships with faculty that have demonstrated expertise in effective course development. If they can leverage these assets by forward integrating into the educational parts of the value chain, they will be able to appropriate a much larger share of the higher education dollar—textbooks represent only 1 percent of total expenditure on higher education.

Since publishing on the Internet has much lower fixed and variable costs than traditional book publishing, the cost of experimentation is low, as is the break-even sales level for an individual course. As a result, at every academic conference I attend these days, publishers are voraciously competing to put our courses on-line.²⁵ This offer of on-line publishing includes presentation slides, assignments,

and all teaching materials, as well as hyperlinks to relevant literature and other Web sites. Authors are happy to find a profitable outlet for their courses, from which they would otherwise be unable to capture any value, and publishers extend their course catalogue at relatively low cost.

While the current model of on-line publishing supports traditional institutions by providing turnkey courses that still require some element of faculty delivery, it could easily be amended to be more directly competitive.²⁶ Adding staff to grade assignments would begin to replicate the Open University model, even if at inferior quality. Encouraging faculty to cooperate to provide a complete set of courses in a category might follow.²⁷ After that, allowing students to select from an à la carte menu of courses to complete a degree would be a simple step. If this were accompanied by a joint venture with a degree-granting institution that legitimized the product, entry would be complete.

The advantage of this publisher model would be all the benefits of a distance learning degree plus potentially very low cost. The pricing decision for a course would benchmark off the cost of a book (\$60 or \$70—a figure close to the per *class* tuition cost at private universities) because all revenue above that is incremental income for the publisher—and the convenience of distance learning.²⁸

Again, those of you who disdain the thought of receiving an education almost exclusively through self-studying a book should reflect on how much different the educational experience is from that of many students in large introductory courses—even at the major universities.

Bank of America (Corporate University)

One measure of private sector interest in continuing education is that there are over 1,600 corporate universities in the U.S. today, up from 400 in 1988 (Meister, 1998), serving a total corporate training market of \$60 billion and educating 54.5 million students per year. While some universities—like McDonald's U., General Electric's Crotonville, and Motorola, who provides courses for 100,000 employees each year at 100 sites—are well known, others are not so well publicized. This does not reduce their ubiquity. It is estimated that one-third of corporate universities are in companies that employ fewer than 5,000 people, demonstrating that the phenomenon is not confined to large companies. What is perhaps most frightening for traditional universities about their corporate counterparts is that many are intending to sell their services on the open market, with the goal of being 100 percent self-funding. Indeed, 40 percent of Motorola's education budget was already funded by customers and suppliers in 1996 (Meister, 1998).

Corporate universities already play a major role in postsecondary education today, dominating the provision of specific skills training for their own employees. In many ways this is like an old-fashioned apprenticeship, where an employer provides training that was not included during an employee's formal education but is needed for a particular job. However, the entry strategy described here conceives of a corporate university—Bank of America—opening its enrollment to third parties. (I do not actually know whether Bank of America has a corporate university, although I suspect it does.)

The incentive for Bank of America to open classes to outsiders is to generate revenue for an area of the bank that until now has been an expensive overhead cost. Motorola, for example, has a budget of close to \$100 million per year in corporate training. Most corporations are today looking to minimize corporate expenses by outsourcing functions or by challenging in-house units to demonstrate their effectiveness by competing on the open market (Collis and Montgomery, 1997). Corporate universities are unlikely to be immune from this pressure, unless they can convince management that the training they provide is a proprietary source of competitive advantage for the bank. While this might be a feasible argument for some higher level courses, basic courses on topics like computer programming and accounting are unlikely to fall in this category.

Entry for Bank of America into the third party education market would be relatively easy. It already has the courses and materials, many of which have been explicitly designed for self-study²⁹ and which could lead to a certificate in a particular skill. It has the facilities available—not just the campus of the university itself but also the bank branches, which could potentially be used as classrooms after business hours to offer courses in locations that are convenient both to work and home. It has faculty with real-world credentials available from among its own employees. It has a widely recognized brand name that provides instant credibility, at least within a range of banking skills. And it has the extra appeal of being able to offer jobs to graduates from its courses.

Initially entry would focus on specific skills training—mainly basic banking, accounting, computer, and finance courses—but as with the other potential entrants discussed above, a path to sequentially upgrade the product offering is readily apparent. Additional courses in leadership and more general business issues, like marketing, could be offered. Accreditation could be offered by a consortium of banks that recognize one another's courses and might be extended to a range of corporations who collectively legitimize their programs as being equivalent to an MBA. Indeed, firms in the automobile industry in the Detroit area are collaborating to select a set of courses, provided by a variety of universities and other institutions, which they will all recognize.

Regardless of whether corporate universities do end up offering an MBA (which some, such as Arthur D. Little, already do), they threaten to take away from universities some very profitable executive education programs. These might seem to be a small part of university revenue, but I suspect their contribution would be sorely missed.

Other Entrants

Other specialist private sector entrants might include Disney in continuing education. Disney could easily capture part of the alumni market by offering expensive but very upmarket experiential courses, such as woodworking, rock climbing, and photography, at vacation destinations. But Disney could also, over time, migrate from distance learning at the primary and secondary education level, which it entered via educational toys and games, television, and Internet programming, to distance learning for higher education.

Other possible entrants in noneducational parts of the value chain can also contribute to the “deconstruction” of universities. Included here would be professional sports teams launching their own farm teams instead of allowing college teams to make the profit from training; Microsoft acquiring copyrights and making them available on-line to replace the physical library; and Marriott outsourcing the hotel and restaurant functions of the university. Private sector companies increasing their share of research funding would also fall in this category.

Implications

Even if you disagree with the individual strategies I have outlined above, the combination should present a compelling threat.

In fact, I intentionally chose the strategies to paint a picture of the breadth of the threat to universities. Harvard and a small group of elite institutions capture the high end and give instant credibility to new entrants by making their courses available for use; the Open University and other convenience or distance learning entrants capture mature students; Harcourt General and other on-line publishers pick off the low end of the market reselling courses developed by faculty for their own institutions; and Bank of America and the corporate universities take executive education and specific skills training. When the list is extended from these specific names to all the companies of each generic type, the result is the disappearance of huge chunks of the traditionally captive market for universities.

With only a slight exaggeration, it might be possible to assert that the only parts of the traditional educational programs of the university—apart from doctoral training of the next generation of faculty and other advanced degrees—that would be untouched by private sector competition would be the market for residential eighteen-year-olds. This might currently seem a large part of the whole market. After all, a huge share—perhaps up to 75 percent of current income—comes from these students. But how big will that market be when students can choose among a full range of alternatives covering a spectrum of prices? And how high will tuition have to be when all the university’s fixed costs have to be covered by the smaller student body?

Indeed, such an education may become a luxury good for the richest class of society, in much the way that the grand European tour functioned at the end of the last century—a dispensable but nevertheless enjoyable diversion; or it may become a rubber stamp, as undergraduate education has become at top-tier universities in Japan.

Strategies for Universities

How can and should universities respond to the threat of private sector intervention? In Collis (1999) I made a number of suggestions to reduce costs and to deal with the deteriorating “six forces” of industry structure. I believe these suggestions are still relevant.

Mitigating rivalry among existing institutions can be achieved by seeking antitrust exemption for a range of practices, from prohibiting merit scholarships to setting tuition rates and faculty salaries. Horizontal differentiation among universities will also help achieve this goal by establishing unique specializations for each institution. If this were accompanied by alliances among universities so that a group collaborated to provide complete coverage, but each alone specialized in a limited set of courses, efficiencies could be gained and competition reduced.

Supplier power can be reduced by ensuring that universities retain the copyright for course materials as well as inventions.³⁰ Faculty expense can also be controlled by shifting to a compensation scheme that pays separately for teaching and research. Those who do little research would see teaching loads rise under this scenario (or else be replaced by part-timers who only get paid for their teaching), while researchers, particularly those in the social sciences, might have to accept lower salaries because their activities generate no income.

Buyer power can be reduced by universities specializing in particular disciplines because horizontal differentiation reduces student choice within each field,

particularly when combined with aggressive marketing of a university's strength in particular areas. Buyer power can also be reduced by pricing a lifetime's education at a low annual rate rather than charging a huge amount for four years.

The viability of substitutes to a university education, such as high school or other nondegree diplomas, can be undermined by public relations campaigns that attack their credibility and by working with industry associations, professional services groups, and employers to maintain the undergraduate degree as the required qualification for employment or further training. More generally, the value of the traditional liberal arts residential undergraduate degree should be reinforced by explaining that it does not so much teach a particular body of knowledge as it educates students how to learn for the rest of their lives. This can be defended more easily if teaching is done through a tutorial system that is hard to replicate on the Web, rather than in huge classes supported by teaching assistants.

Finally, if the intent is to deter entry, strategies such as preventing the accreditation of new institutions and using the ownership of course material copyrights to prevent their widespread dissemination or prohibiting their use at nonuniversity establishments would be appropriate.

However, the biggest change in the past year is the increasing likelihood of effective private sector entry. If that is indeed inevitable, the operative motto becomes "If you can't beat them join them," and the strategic imperative becomes to quickly enter alliances or joint ventures with credible new entrants.

Alliances become an important part of the strategy because success in many of the new businesses requires a set of skills and resources that one institution or company alone is unlikely to possess. While universities have the reputation, faculty, and pedagogical experience, it is more likely that private sector entrants will have the technological know-how, a culture of innovation and experimentation, experience in different channels of distribution, as well as the dollars necessary to invest in somewhat risky enterprises. Separately the two may struggle; together they may well succeed. Alliances also have the benefit of reducing competition. Instead of two players trying to build a strong position in the new market, the joint venture alone is competing for share.

As mentioned above, many of the new entrants, such as the Open University, UNEXT, and several of the distance learning companies, particularly in the business school arena, have made alliances part of their strategy. For them the alliance speeds up the entry process and co-opts a potential opponent. For the university, the alliance provides a cheap way to benefit from the opportunity, as well as a method of ensuring that important business decisions are not held hostage to the vagaries of faculty oversight or votes. The mutual benefit of cooperation in

new ventures appears to be so compelling that we can only anticipate their increasing usage.

The need for universities to enter alliances also highlights a second strategic necessity that I believe has become even more important than last year: speed. Once all the good alliance partners have been taken, there are no dance partners left for the wallflowers. More generally, the nature of many of the new markets, particularly those that rely on the Internet, is such that early movers are at a big advantage. As Walter Bauer of the Rand Institute wrote, "For E-learning, as for other sectors of e-commerce, the Internet rewards those who enter early, adapt rapidly, and are ready to seize opportunities as they arise" (Baer, 1999).

As you know, despite their glittering valuations, very nearly all the popular Internet companies, like Amazon.com and E*Trade, lose large sums of money each year as they spend cash in a desperate attempt to accumulate customers faster than competitors.³¹ The belief is that only one player will win in each Internet market—the way that Microsoft and AOL have become industry standards—because of the customer loyalty that can be built and the scale economies that can be exploited on-line. While it is not obvious that higher education would ever degenerate into a monopoly, the value of brand name—and the huge fixed cost, low variable cost nature of the new business—suggests that early movers will have sustainable advantages. Conversely, the downward spiral that a late mover can get locked into suggests the penalty for complacency is high.

This implies that universities should attach a great urgency to debates about their future. Rather than sitting back and observing how the market develops, university presidents and administrators should be proactively determining the future of their institutions. Otherwise they will be condemned to be the bystanders that get swept away in the tides of change. And much more than in Collis (1999), I believe those futures must involve an early commitment to enter many of the new market opportunities that are today opening the floodgates of private sector attention and capital. The biggest sin that universities can commit today is of omission not of commission.

Endnotes

1. The chief strategic officer of Sun is keen to publicize the fact that the Internet cuts the variable cost of class time from \$300 to \$0.03 per hour.
2. One indicator of a potentially disruptive technology is that it initially enters at the low end of a market. Most firms will happily embrace high-end technologies that oversatisfy customer needs and offer high margins. Few embrace seemingly inferior technologies that offer low margins and cannibalize sales of existing profitable products.

3. Currently only one thousand distance-learning degree and certificate courses are listed in *Virtual College: Distance Learning Programs* (Peterson, 1996).
4. Of many current publications on “deconstruction” by BCG, some of the more basic statements are Evans and Wurster (1997, 2000). The success of the notion is exemplified by the annual meeting of the Strategic Management Society, whose theme for 2000 is “Winning Strategies in a Deconstructing World.”
5. This raises the ultimate question. If I can get a Harvard education by taking exactly the same courses as if I were attending the university, why go to Harvard? Clearly the argument made about the quality of the peer group would still matter, but how difficult will it be for Internet chat rooms to recreate dorm room conversations? What exactly is intangible about the education that residential students receive? How difficult is it to replicate that educational experience outside the traditional university?
6. It is estimated that one million students will take courses via computer this year (International Data Corporation reported in *Boston Globe*, August 29, 1999, page A22).
7. In 1996 the number was 41 percent; in 1966 it was 15 percent according to the U.S. Census Bureau.
8. College graduates now earn 111 percent more than high school graduates, up from 50 percent in 1980 (Moe, Bailey, and Lau, 1999).
9. According to the U.S. Department of Education, of all undergraduate students in 1995–96, only 13 percent lived on campus and 45 percent were full time, while 36 percent were working full time and 25 percent had children of their own.
10. While 25 percent of individuals considering adult education said distance was a deterrent, 40 percent blamed the time of day courses were offered as a barrier (Moe, Bailey, and Lau, 1999).
11. As I noted in Collis (1999), the increase in leisure time and the length of active retirement also increase demand for a slightly different sort of adult education.
12. By no means have all changes passed by the teaching hospitals. In Boston the two largest Harvard teaching hospitals, Massachusetts General and Brigham and Women’s, merged in 1993.
13. Harvard Business School makes tens of millions of dollars “profit” a year from its executive education programs.
14. The following is the argument developed by Frank and Cook (1996).
15. Those of you who doubt this argument should be aware that the primary reason students choose to attend the Harvard Business School is not the educational program (since most students rank learning low on their list of reasons) but the peer network they believe they will build during their two years on campus.
16. The visibility and importance attached to *U.S. News & World Report* rankings exemplifies this dynamic. Schools whose ranking moves up in a particular issue usually experience a substantial increase in applications the following year.
17. Three students from fifty states for four years at \$30,000 per year.
18. Note that this might also lead to the deconstruction of universities as they specialize in some areas but reduce or even close down other departments.
19. During the 1960s, for example, the Harvard Business School established or mentored the creation of business schools in Iran, Switzerland, Nicaragua, Costa Rica, and Spain.
20. For a short executive program, which at the Harvard Business School might cost \$7,000, the business class flight and hotel accommodation from overseas could easily cost the same again. Providing the course in a company’s own location would effectively halve the total

cost of the course. Or, as the CEO of Lotus puts it, "of the \$62 billion spent last year on training workers, sixty percent is planes, trains and crappy food" (*Boston Globe*, July 30, 1999, page D1).

21. Joint ventures include Harvard with Pensare, Stanford and Penn with Sylvan Caliber Learning, and Columbia with UNEXT.
22. Calculated as a \$60,000 annual salary to pay for four thirty-hour courses each year.
23. One result of this competition will be to pressure all universities to eliminate the research subsidy by more clearly defining a separation between compensation for teaching and research. This can be interpreted as the "deconstruction" of these two activities of the university.
24. One drawback is that all Open University courses were developed for and by the English. Course development customized for the U.S. market is not immediately on the entry strategy agenda.
25. Two examples from the recent Academy of Management meeting include offers from StudyNet to convert original material *even that which is not in digital form* (their italics) for free and from ProQuest to search for articles to accompany a course as well as arrange copyright clearance for those articles.
26. Publishers are already indirect competitors since their provision of ready-made courses substantially reduces the initial investment cost entrants must make in course development.
27. Faculty at a North Carolina nursing school have put together as a private venture a set of materials they have developed at the school that will lead to an accredited associate degree in nursing.
28. In fact, Harcourt intends to charge about the same as a state college, \$1,200 per course (Hechinger, 1999).
29. PriceWaterhouseCoopers, for example, has large parts of its basic training for accountants on disk.
30. At what point research, in the sense of personal intellectual development, should become the university's property will ultimately become an issue. If a history professor earns a salary that is more than just compensation for teaching, why should that individual receive the income from the best-selling book she wrote on the French Revolution? At management consulting firms today, for example, individuals who write books based on research performed while at the firm have to give a substantial share of royalties to the firm.
31. Amazon.com is currently losing about \$250 million per year. In spite of this, its stock market value is close to \$20 billion, and *an announcement* that it was entering the toy business caused its value to appreciate \$1.8 billion—close to the total market value of Toys R Us.

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