Introduction

“It was the best of times. It was the worst of times.” While this famous quote from the opening of Charles Dickens’s A Tale of Two Cities may seem overwrought when applied to the state of higher education today, there is a disquieting sense among educators that it might not be far from the truth. The late 1990s certainly are good times, particularly when compared to the bleak days of the ’70s and ’80s. Enrollments are rising as the first echo of the baby boom reaches college. The stock market is at an all time high, boosting the value of endowments and increasing alumni donations. Research continues to advance our stock of knowledge at an exponential rate. Yet beneath the veneer of successful normality, forces are at work that have the potential to revolutionize higher education.

While perhaps not as dramatic as those present at the end of the 18th century, current pressures will nevertheless produce a fundamentally different landscape for higher education in the next millennium. This statement is even true for the traditional research universities that, until now, have been largely insulated from change. Indeed, at the risk of overextending the revolutionary analogy, these institutions might be seen as the elite of an archaic structure, complacently unaware that their downfall at the hands of inexorable societal forces (if not the guillotine) is just around the corner.
Exactly how the higher education system will evolve is, of course, unclear. Will it produce a "new improved" university which, like similar changes to many consumer packaged goods, is superficially altered in appearance but barely touched in substance? Will it dramatically reconfigure the character and composition of degree-granting institutions in ways last seen with the establishment of the land grant universities in the late 19th century and the community colleges (which now constitute over half the institutions of higher education in this country) in the 1950s? Or will it result in a paradigm shift in the whole meaning and system of delivering “higher education”?

This paper cannot answer these questions. Rather, it hopes to throw some light on the issues by applying techniques developed within the field of business strategy to the higher education arena. More specifically, after briefly listing some of the underlying forces driving change in higher education, the paper will introduce a methodology for systematically analyzing how those trends may impact an industry; outline some possibly controversial future scenarios for higher education derived from analogies to other industries; and suggest some steps that forward-thinking higher education institutions could take in response to those developments. The intent is to provoke the audience into crafting a strategy for their institutions which recognizes that the status quo may no longer suffice.

Three provisos are in order. First, I am in no way an expert on higher education. My knowledge of the subject is restricted to my current participation as a professor, my past involvement as a student, and my future parental role as a consumer. I am, therefore, no more than an informed observer applying my understanding of strategy to a specific industry. As a result, the motto of all advertising campaigns—“half of what is spent is wasted, we just don’t know which half”—applies here. Half of what I say will be wrong, I just don’t know which half!

Second, I do not intend to offend anyone by treating higher education as a business. Clearly, education plays a more important role in society than that of just another business. The notions of service, academic freedom, and social responsibility alone set it apart from other industries. However, I do hope that applying tools and techniques that are commonly employed in the private sector to the realm of higher education can produce valuable insights for the audience, even if educators and administrators might be alarmed to see references to their “industry” or “business profitability.”

Third, I do not attempt to draw any normative conclusions from the analysis. Whether the world will be better or worse off as a result of the changes higher education may undergo is a judgment that I leave to the reader.

Drivers of Change

The journals of higher education are replete with articles highlighting the forces at work which, for better or worse, will shape the future of the industry. I cannot hope to list them all in this article, nor take the time to flesh out their details. Rather, the intent is to note the ones that seem most salient, assume that the reader is already reasonably well informed of their nature, and then move on to a discussion of their impact.
My list, which is not meant to be exhaustive or even mutually exclusive, includes (in no particular order) the usual list of suspects:

• new technologies, particularly the digital, broadband, interactive, online technology known as the Internet

• demographics, notably the aging of the population and a concomitant increase in numbers of active retired people, and the increase in ethnic minorities and immigrants

• a change in the nature of the employment contract from lifetime employment with a single company to “free agency” and regular transfers (both voluntary and involuntary) between companies

• cost increases that outstrip productivity growth and so lead to a continuing rise in the real price of education

• debate over the role of affirmative action and universal access in higher education

• exponential increase in the rate of accumulation of knowledge and the consequent fragmentation and specialization of academia

• globalization of academic and educational markets

• new competitors entering the business, both as stand-alone institutions and as companies training their own employees

• changing societal norms.

One of these bare bones bullet points—the changing nature of the employment contract—deserves further elucidation. Because this has a more indirect, but still important, impact on the future of higher education, it may be one with which the audience is less familiar.

While no one believes that lifetime employment ever characterized more than a few major U.S. corporations (nor that Dilbert accurately portrays the attitude of today’s executives), expectations about the relationship between employee and employer have undergone recent change. For our purposes, this can be summarized as a decrease in loyalty and commitment on both sides of the labor market. Employees can no longer expect to be rewarded for seniority alone. Employers must recognize that younger, better trained workers will no longer accept compensation below their marginal contribution without searching for a better paid position (preferably one with stock options at a start up firm). In a world of rapidly advancing knowledge, this tighter link between current individual contribution and compensation requires lifelong learning by workers if they are to continually improve, or even maintain, their income level.

Recognizing the revised employment contract, companies have found that the ongoing provision of training is an effective way to retain valued employees. In the new economy, workers remain with their employer not because of a job guarantee, but because it provides the opportunity to continually upgrade skills and so remain attractive to other employers. Firms retain employees by maximizing the future attractiveness of those employees to other firms!
These labor market changes are, of course, occurring even among the hallowed halls of academia. Tenure no longer appears to represent the lifelong commitment on either side that it once did. Superstar professors are regularly moving across universities to maximize their income and research support, while universities are reexamining the whole notion of tenure—in one recent case gaining the support of the courts for redefining tenure as a position without guarantee of any compensation.

Part of the problem in compiling a list like the one above is that many of the items are interrelated. It is hard to distinguish which are the truly independent and underlying drivers of change and establish a clear logic of cause and effect. As a result, it is difficult to cleanly determine how each of these forces will change higher education. We can hypothesize about the effect of each individual force, but the aggregate impact of the changes is hard to evaluate.

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**Figure 3-1**

Elements of industry structure.

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<thead>
<tr>
<th>SUPPLIER POWER</th>
<th>THE DEGREE OF RIVALRY</th>
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<tr>
<td>Supplier concentration</td>
<td>Concentration and balance</td>
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<td>Importance of volume to supplier</td>
<td>Fixed (or storage) costs/value added</td>
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<tr>
<td>Differentiation of inputs</td>
<td>Intermittent overcapacity</td>
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<tr>
<td>Impact of inputs on cost or differentiation</td>
<td>Industry growth</td>
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<td>Switching costs of suppliers and firms in industry</td>
<td>Product differences</td>
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<tr>
<td>Presence of substitute inputs</td>
<td>Brand identity</td>
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<td>Threat of forward integration relative to threat of backward integration by firms</td>
<td>Switching costs</td>
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<th>THE THREAT OF ENTRY (Entry Barriers)</th>
<th>THE THREATS OF SUBSTITUTES</th>
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<td>Relative price performance of substitutes</td>
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<td>Proprietary learning curve</td>
<td>Switching costs</td>
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<td>Access to necessary inputs</td>
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<td>Proprietary low-cost product design</td>
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<td>Government policy</td>
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<td>Economies of scale</td>
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<td>Capital requirements</td>
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<td>Proprietary product differences</td>
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<td>Brand identity</td>
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<td>Switching costs</td>
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<td>Access to distribution</td>
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<th>INDUSTRY COMPETITORS</th>
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<th>BUYER POWER</th>
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<td>Bargaining leverage</td>
<td>Ability to backward integrate</td>
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<td>Buyer concentration vs. firm concentration</td>
<td>Price sensitivity</td>
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<td>Buyer volume</td>
<td>Price/total purchases</td>
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<td>Buyer information</td>
<td>Impact on quality/performance</td>
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<td>Buyer switching costs relative to firm switching costs</td>
<td>Product differences</td>
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<td>Pull-through</td>
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<td>Substitute products</td>
<td>Buyer profits</td>
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<td>Decision maker’s incentives</td>
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Source: Michael Porter
Industry Analysis

One approach that moves beyond the previous, somewhat ad hoc, listing of various drivers of change in an industry involves a more systematic industry analysis. This approach, popularized by Harvard Professor Michael Porter as the Five Forces but recently amended to include a sixth force, draws from a well established stream of research in Industrial Organization economics on the structural determinants of industry performance (see figure 3-1).

Industry analysis begins from the premise that all industries create value. The questions are what caps the amount of value the industry can create (the size of the pie), and who captures the value that is created (the division of the pie)? Three forces affect the size of the pie—threat of entry, threat of substitutes, and presence of complements. Three forces determine the division of the pie—power of buyers, power of suppliers, and extent of rivalry. Together these six forces determine the average profitability of an industry, and shape the conduct of competition within that industry.

The value of this approach for strategy development in the private sector, where it has been widely adopted as a basic building block of strategic analysis, has been threefold.

First, industry analysis can be used to predict the average level of profitability for an industry. It has been empirically demonstrated that there are systematic and durable differences in the average long term profitability of industries (see figure 3-2).

In the words of Michael Porter, “all industries are not created equal.” Some industries, like pharmaceuticals and soft drinks, are inherently more profitable than others, such as the domestic airline or steel industries, because of fundamental differences in structure. Understanding whether you are competing in an industry in which it is easy or difficult to make good returns is obviously an important input into strategy development.

Second, industry analysis provides a systematic framework for interpreting how underlying shifts in technology, demand, regulation, etc., will affect the nature of competition in an industry. Rather than compiling a long list of drivers of change with no
conception of how those drivers will affect the industry, applying the methodology enables strategists to rigorously and systematically examine their effects. A great virtue of Porter’s framework is that it provides a check list of all the things you need to consider that may affect an industry’s development, and a framework to interpret their effects.

Last but not least, industry analysis suggests strategic moves that incumbents can take to improve their performance. In particular, the framework allows executives to design strategies that capitalize on the forces that improve industry structure and to mitigate the effects of those forces that degrade industry structure. The three main strategic moves of the major U.S. airlines since deregulation in 1978, for example, have been designed to limit entry, constrain rivalry, and decrease buyer power—the three forces that condemn the industry to unattractive rates of return. The airlines have introduced hub and spoke systems in an effort to dominate routes out of hub cities and deter entry; computer reservation systems and yield management software to limit the extent and duration of price competition among airlines; and frequent flyer programs to increase customer loyalty and so reduce their price sensitivity.

What does the application of this methodology suggest about the “profitability” of the higher education industry as we have known it historically? (And here let me concentrate on the high end of that industry—the private institutions and research oriented state universities.) How might that industry change in the future, and with what implications for university strategies?

Past Structure. I would argue that the structure of the higher education industry in the recent past has made it an attractive business in which to compete. Entry barriers were high, primarily because of the cost to build a physical campus and the time needed to create a reputation that attracted both students and faculty and gave credibility to any degree offered. The only possible entrants were state institutions which received direct taxpayer funding and/or benefited from subsidies to in-state students. The threat of substitutes was low in an era when college degrees replaced high school diplomas as the certificate of employability, and other institutions could not offer legitimate degrees. Plentiful complements included the growth of employment and cultural opportunities for staff, students and faculty around universities, which increased their attractiveness as locations to live. Thus there was little cap to the value created by the industry.

Buyer power was historically low as market demand grew; the customer was the individual student or parent who had no ability to negotiate tuition rates; the high degree of differentiation by the premier institutions reduced student price sensitivity; and the intangible quality of education led many to positively correlate their evaluation of quality with price. The exception was, again, state funded institutions whose chief buyer was also its chief source of funds—an increasingly powerful and active state government. The power of suppliers, primarily of faculty, was low since they had few high paying alternative careers outside academia. Lastly, rivalry was reduced by the social goals of the institutions and the existence of fora and mechanisms to discuss
(and possibly also control) excessive competition." Colleges and universities, therefore, should have been able to capture most of the value they created in the provision of higher education.

Evidence for the historic attractiveness of the higher education industry includes the ability of private institutions to raise tuition costs substantially faster than the rate of inflation. Few other industries have been able to consistently increase real prices. Other evidence would include the increase in net worth of private universities over the last decades (although balance sheet accounting for higher education institutions clearly differs from the private sector, net worth remains one indicator of value increase), and the rarity of exits from the industry. Competitive industries, even profitable fast growing industries, experience turnover rates of at least 3 percent per year, yet there have been practically no exits from, or even bankruptcies among major universities in recent years.

You may find it difficult to accept that you have been competing in an attractive and profitable industry in the past. But the fact that few of you would even use the word competition to describe the nature of the interaction among institutions probably best illustrates how accommodating the industry structure has been historically. Those of you with private sector experience would probably recognize that pressures to increase productivity, grow revenues, and continuously innovate are substantially higher there than in higher education.

I do not wish to imply that managing a college or university has been without challenges and difficulties in the past. It certainly has not. But most of those issues have revolved around internal affairs rather than external and competitive threats. The question is, what will happen to this favorable industry structure in the future?

Future Structure. The great merit of industry analysis is that we can determine how all the various drivers of change identified earlier will affect the higher education industry through their influence on the six forces. Rather than considering the impact of individual drivers, such as the Internet, demographics, and changes in the employment contract on the higher education industry, the framework allows us to consider what collective changes they will bring to each of the six forces, and how the resulting changes in structure may reconfigure the higher education industry.

Collectively, the exogenous changes facing the industry will facilitate entry into the higher education business; increase the availability of, and demand for, substitutes for higher education; and increase buyer and supplier power. All of these changes are likely to be detrimental to the long-term structure of the industry.

Entry Barriers

Technology promises to be the vehicle for easier entry into the higher education arena. In particular, the Internet facilitates distance learning by allowing access to materials and interaction with faculty without the physical proximity of the student and his or her institution of higher education. As bandwidth and speed of transmission
increases, it also becomes possible to stream video in real time. The end result may well be the replication of the classroom experience in cyberspace without the physical collocation of students. This implies that the university of the future need not have a physical location, and need not be constrained in pedagogy the way that correspondence schools, or even the Open University in the U.K., have been. Students online in their own homes can get a formal education experience similar in many respects to the one they currently receive at a college or university.

Moreover, technology allows for the replication of much of the educational experience at very low marginal cost. One professor can make his or her entire course available to an almost infinite number of students for the initial fixed cost of preparing the traditional class. The lectures, class notes, and reading lists can all be transmitted at close to zero cost.

The net result is that entry barriers have been substantially reduced. A virtual institution without having incurred the capital cost of constructing a campus, in principle, can offer the educational experience of the best teachers around the world. The economics of such an entry strategy into the currently very attractive educational market suggests that it will not be long before such an enterprise is pursued. As Eli Noam pointed out at the Forum’s conference last year, with tuition rates of $50 per student per hour being more expensive than a Broadway show, can it be long before entrepreneurs, like Chris Whittle, or corporations, like Time Warner, enter a business with such a potentially lucrative payoff?

Substitutes

Changes are also increasing the availability of, and the demand for, substitutes for higher education. With respect to availability, the same technology that allows for new entrants into higher education also creates the opportunity to develop educational programs that provide alternatives for parts of the traditional higher educational experience. Rather than providing an entire four-year residential degree, entrants can pick off the most attractive parts of the market with educational products that are not the typical undergraduate or postgraduate degree.

On the demand side, employers no longer regard the one time provision of an undergraduate (or postgraduate) education as sufficient for the lifetime learning needs of their workforce. Increasingly they are meeting these ongoing training needs in-house or with third party suppliers. In the market I know best, it is estimated that the total revenue from executive education at universities today, including MBA and in-career education, is perhaps $6 billion. In contrast, the in-house company education market is estimated to be about three times that size, or $18 billion in the United States. GE’s Crotonville training center, for example, is renowned for its leadership training, which has made GE the source for many CEOs of major industrial companies.

Employees are also responding to the appeal of alternative educational programs that will upgrade and update their occupational skills, such as computer literacy. However much universities may disparage the provision of courses like computer programming or video film-making as merely the output of trade schools, the fact is that such courses
are increasingly demanded as alternatives to, as well as supplements for, the basic liberal arts undergraduate education because of the need for continuing training in contemporary skills.

Other substitutes for traditional higher education will also become increasingly popular. For the increasing share of the population with wealth and leisure and/or the retirement time to pursue a specific interest or hobby, there are a profusion of new courses and initiatives available in addition to the traditional extension school programs or adult education programs that have been offered by universities. One example of this kind of nontraditional learning is the Disney Institute, which offers everything from Cordon Bleu cooking to fly fishing and literary criticism.

It might be argued that these nontraditional programs represent incremental demand for new forms of education, rather than substitutes for traditional higher education. If that is the case, they represent an opportunity for growth and not a threat. The risk with this argument is twofold. First, the credibility providers of such programs can build over time might allow them to extend their product offerings and become more direct competitors of higher education. Imagine if, after ten years of providing a set of very high quality English literature courses, Disney offers a degree in English. How “Mickey Mouse” would that degree be perceived by society?

Second, and more speculatively, it is possible that short courses that support lifelong learning represent the future of higher education. Rather than learn everything at once in a four-year undergraduate degree, education will be provided in smaller chunks as required. If this occurs, then to ignore such courses is to act as the railroads did in the early 20th century when faced with the threat of substitution from automobiles and airplanes. Sticking to a narrow definition of their business as railroads, and failing to define their domain as “transportation,” cost the railroads their dominant position in the economy.

Failing to recognize short nontraditional courses as a viable substitute for higher education might spell the demise of the traditional institutions of higher education.

Complements

Less change is occurring among complements for higher education, although the importance of the higher education to many of its complementors, such as personal computers and local industry, is declining.

The potential changes to the structure of the industry outlined above reduce the amount of value that higher education can add. But universities and colleges also face threats to their ability to appropriate the diminishing value that they do create.

Supplier Power

Most obviously the power of faculty as a supplier has shifted. The advent of technologies that allow one professor to leverage his or her ideas through books, videos, seminars, and Web pages has created the superstar phenomenon and the enormous incomes of celebrity “gurus.” The commercial value of academic knowledge and ideas has also increased, along with a recognition that faculty them-
selves should earn a share of the rents produced by their ideas.

When a colleague recently won the Nobel Prize and was asked what he would do with the money, he looked embarrassed and did not reply. The media interpreted this as a penurious academic overwhelmed by the size of the prize. The truth was that to him the money was spare change! The value of his share in a hedge fund partnership that utilized the financial techniques for which he was winning the prize far outweighed his half million dollar share of the prize.

Competitive bidding among universities for talent ratchets salaries upwards. This does not imply that all academics will become millionaires. Supply and demand will still equilibrate salaries at low levels. However, it does limit any rents that universities can earn from their faculty. It also encourages the use of part-time faculty who are a cheaper source of labor because they are only compensated for their teaching time.

Buyer Power

The power of buyers increases as the options the customer has to choose from increases. As substitutes and new entrants appear, the monopoly that traditional institutions have had on the provision of higher education erodes. This will at some stage start to limit the ability of colleges and universities to push through tuition price increases at will, particularly because many of the new providers will use new low cost delivery mechanisms.

The price sensitivity of consumers is heightened by the absolute size of the purchase. As tuition rates, after years of rising faster than inflation, exceed $100,000 for four years, a degree becomes the second largest purchase an individual makes in his or her life. No wonder customers are exceedingly careful and increasingly price sensitive in their purchase decision.

Buyer power also increases as the degree of backward integration by customers rises. To the extent that firms become suppliers of higher education themselves as they introduce lifelong learning programs for employees, they reduce the ability of higher education institutions to capture value. Even if they do not enter the education business themselves, companies are inherently more powerful and price conscious than individuals. Several of the major management consulting firms, for example, are no longer asking new employees to independently earn an MBA. Rather, they are contracting directly with business schools to provide a short (several week) course to serve in lieu of the MBA. Instead of receiving two years’ tuition per student, the business school receives a hard bargained few weeks of revenue.

Rivalry

Rivalry is also set to increase in the future. While the entry of new low cost providers into the industry will increase rivalry, it is also likely that current incumbents will become more competitive. Regulatory changes may directly contribute to this since mechanisms developed over the years to limit competition, such as financial aid agreements,
appear to be under threat. If antitrust legislation is rigorously applied to colleges and universities, not only will price competition for students increase, but also supply-side agreements, such as on faculty compensation, could be examined.

Moreover, distance learning removes the capacity constraint that a single institution has traditionally operated under. The physical facilities of a single campus need no longer limit the size of the student body. Since education has become largely a fixed cost business (and the new technology will only hasten the shift from variable to fixed costs), there will be enormous pressure on every institution to leverage its investments by expanding class sizes. This will increase the competitive overlap between institutions, particularly as geography becomes less of a constraint. Cambridge and Harvard have historically not competed for undergraduates, but with increasing globalization facilitated by the new technologies, they probably will do so in the future.

Finally, the secular drop in enrollments after the echo of the baby boom graduates will create spare capacity and so will exacerbate competition. The only light on the horizon for the industry is the potential growth in demand for higher education, broadly defined, as lifelong learning increases the consumption of education.

**Strategic Implications**

The result of the impending changes will be a profound deterioration in the structure of the higher education industry. This implies that things will get tougher for participants. That means you! This is particularly troubling because as Warren Buffet has observed, “when an industry with a reputation for difficult economics meets a manager with a reputation for excellence, it is usually the industry that keeps its reputation intact.”

What can you do about this sorry state of affairs? What are the strategic implications from this analysis? What are pointers for institutions to follow in developing their strategies?

The first recommendation is to recognize and accept that it will be more difficult to compete in the higher education business in the future. While this acceptance will not by itself solve any problems, plans that realistically reflect the future have a better chance of succeeding than those that merely project the past.

The second observation is that just as the airlines developed strategies to mitigate the worst effects of their industry structure, it would be valuable for universities to develop strategies that address the threat of entry, substitutes, rivalry, and buyer power—the four main drivers of deteriorating industry structure.

**Raising Entry Barriers and Deterring Substitutes**

There are three constraints on entrants into and substitutes for higher education, and colleges and universities will need to utilize these constraints in mitigating the deterioration of their industry structure.

The first constraint is that the higher educational experience involves more than just the classroom or paper writing components. To the extent that the formal educational experience...
involves group activity, mentoring, role models, and other difficult to standardize and replicate activities, the threat of new technologies is reduced. What cannot be costlessly scaled up on the Internet is one-on-one student-faculty interaction. Differentiating the product offering of universities around these aspects of education, therefore, can potentially deter new entrants. More specifically, it means that huge freshman lecture classes run by a well known professor who never meets a student but leaves the teaching to graduate student TAs, will leave universities very vulnerable to competitors exploiting low cost Internet delivery systems. In contrast, the English tutorial system will probably be the last bastion of traditional higher education.

The second and related constraint on entry is that much of the undergraduate experience involves more than formal learning, particularly the socialization process that occurs when teenagers live away from home among peers for four years, and the development of work habits for lifelong learning. Again, the more universities can do to reinforce the traditional liberal arts notion of educating the whole person, the lower will be the threat of entry and substitutes because they cannot replicate those components of the higher educational experience.

The third constraint on the success of new entrants and substitutes is the credibility of their certification process. Because education is an intangible product, there has to be some external legitimacy accorded every successful institution. That legitimacy centers around the recognition accorded the holders of a certificate from the institution. While certification processes and reputation in general are only built over time, to the extent that those who are seeking alternatives to higher education sponsor their own certification bodies (as professional bodies like CPAs, lawyers, and doctors have in the past), this constraint is eroded. If major companies, for example, created a body that certified the quality of a degree from their in-house training centers, higher education would lose control of one of its major barriers to entry. Clearly, strategies that require high standards for certification, and that reinforce the value of brand names should be adopted to deter entry.

Limiting Rivalry

A number of strategies can be employed to restrain rivalry within higher education, the first of which is to lobby strenuously for antitrust exemption. The looming threat of competition from new delivery systems can be used as an argument for relief, in addition to arguments about the special nature of the education business.

The second is to embrace mergers and acquisitions. This might be anathema to alumni, but it makes perfect economic sense. The big eight accounting firms are now down to the big five, with further consolidation likely, in part because it reduces price competition for the limited number of desirable large multinational clients. Hospitals are merging to reduce excess beds and share facilities for expensive surgical specialties. Whenever organizations have complementary assets, it is rational to consid-
er a merger. In any other business, Harvard and Stanford would not compete with each other but would merge to offer students the option of (and here I reflect my past affiliation) Harvard East and West Coast (“same great education, but now you have the choice of two great locations!”).

If you do not wish to be that ambitious, why should every university in the Boston area have an engineering department, or the facilities for empirical research in astrophysics? Why not collaborate to share expensive activities and specialized departments? What opportunities are there for cooperation and alliances among institutions that will both improve cost efficiency and reduce rivalry?”

Rivalry is reduced the more differentiated the strategies of industry participants. In the U.K., particular universities are known for their strength in particular subjects. Why do not U.S. universities specialize, so that a high school graduate who wanted to attend an Ivy League school would know that Yale was best for one subject, Brown for another, and Columbia for a third. To some extent there is a geographic segmentation in the United States. There is also what economists call vertical differentiation—a tiering in the perceived quality of universities. But with the exception of institutes of technology and small liberal arts colleges, the industry has not, by and large, pursued horizontal differentiation by specializing in different product offerings. Yet, the more segmented the products institutions offer, the less direct the competition.

Offsetting Buyer Power

If companies can raise the cost to customers of switching their purchases, they reduce the bargaining power of those customers. Dedicated Apple users have paid price premia for years because of their unwillingness to incur the perceived expense of switching to the Wintel platform. Universities already employ devices to raise switching costs—for example, by limiting transfers of credits between schools to ensure that once students begin degree courses they cannot readily switch to another school, or by implementing early admissions procedures that commit a student to accept a place if offered. But more could be done. Offering tuition reductions if a student had signed up at birth would lock them into an even earlier purchase decision.

Trying to make the choice of institution less price sensitive by reducing the initial cost of a degree would also help offset buyer power. Rather than charging $25,000 for a four-year degree, the expansion of lifelong learning, in principle, would allow universities to charge, say, $3,000 per annum for life in return for free access to courses at any time after the initial degree. A 3 percent price increase seems far more justifiable, and much less worth bargaining over when it is $90 and not $750! (By the way, such a pricing policy would have the additional benefit of creating lifelong switching costs.)

Alternatively, strategies can be devised to shift the buyer to one who is inherently less price sensitive. Cereal is sold primarily to children because they do not respond to price promotions. In the educational arena, this suggests selling to the student and not the parent (assuming that it is parents that nor-
mally foot the bill). The more guilt a parent can be made to feel when they do not fulfill their child’s desire to attend a particular college or university, the less price sensitive the customer becomes.

But perhaps the best strategy for reducing buyer power is branding the product. I know that when companies receive the Harvard insignia on an executive education course, they pay a premium over the exact same course offered privately by the exact same faculty of up to 150 percent! Not many products or services enjoy this kind of brand value. Indeed, it is equivalent to the premium received by Coca Cola—the most valuable brand in the world—and it sells just sugar and water! With an experience product, whose worth is apparent only after you have used the product, brand names are extraordinarily valuable as signals of quality. Clearly, all institutions cannot be above average quality, but a strategy of specialization allows for the creation of brands as the “best premed course” in the country, the “best Italian language program” in the country, etc.

Industry Dynamics

But how will the system of higher education itself evolve under these pressures? In this paper I cannot hope to describe all the feasible scenarios for the future of higher education, even if contemporary theory allowed me to be that intellectually exhaustive.26 What I will do is suggest one scenario that seems likely to me, and then suggest appropriate strategic responses for colleges and universities by referring to successful examples from other industries that faced similar changes.

The impending degree of change to the structure of higher education can be likened to that facing industries suddenly opened to deregulation (telecommunications, energy), new technologies (pharmaceuticals, computers), and foreign competition (steel, autos). Andy Grove, CEO of Intel, calls such junctures strategic inflection points.27 These occur when exogenous influences lead to a fundamental reconfiguration of industry structure. In the computer industry, the introduction of the PC and then the emergence of the Internet represented strategic inflection points that disrupted the industry’s trajectory and overthrew previously dominant competitors in a gale of “creative destruction” initiated by entrepreneurial innovators.

We can, therefore, look to other industries that have experienced such strategic inflection points to help predict the future evolution of the higher education industry. While less precise and theoretically valid, the strategy field is beginning to understand industry dynamics by developing typologies of transitions from the use of analogy (or pattern recognition).

Specialization and Vertical Disintegration

One of the most relevant transformations of industries facing extensive change (particularly entry and substitution) is to become more specialized and less vertically integrated. At the extreme, an industry reconfigures itself from a limited number of vertically integrated entities into horizontal layers of firms that specialize in one specific activity. More generally, an industry alters from exploiting vertical scope to exploiting horizontal scope.
Historically, for example, electric utilities were responsible for the generation, transmission, and distribution of electricity to every customer in their region. They also provided the full range of customer services—marketing, billing, repair, and often even the sale and installation of electric appliances. Deregulation and the consequent flood of new entrants has led to the reconfiguration of the industry. Utilities are now spinning off their generating units to specialist companies with a track record of efficient plant operations. They are outsourcing billing to companies, like credit card processors, that have billing experience. They are concentrating marketing efforts on particular segments of the business, while allowing new entrants that specialize in wholesale electricity trading to establish long-term contracts with major industrial users. And most utilities have now exited the appliance sales and service business.

Two related trends drive the emergence of specialists and the consequent vertical disaggregation of industries. First, specialists enter those stages of the value chain and those segments of the product line which offer the highest profit potential. They pursue what is called the “cherry picking” strategy, ignoring the less profitable products that incumbents offer, in order to pick off those parts generating the highest return. MCI began the breakup of the telephone industry when it entered the long distance telephone market, because AT&T was required to use profits from its long distance business to subsidize “universal” service. Not being subject to any legal constraints, MCI sensibly chose to compete in only the most profitable segment of the industry.

Second, specialist providers emerge to meet the needs of the different functionalities within the industry because each functionality requires a different set of skills and capabilities. In the electric utility industry, for example, the skills required to safely and efficiently run nuclear power generating facilities are very different to those required to trade electricity futures, or market electricity to residential customers. Under the traditional regulatory regime, one firm undertook all these activities. In the new deregulated and competitive world, companies are specializing on one or other of these competencies, and exiting businesses that do not draw from their particular competence. To compensate they are leveraging that competence across industries. Enron, for example, began as a trader in the oil and gas market, but has recently leveraged its unique trading capabilities to enter the electricity business, offering a full product line.

For universities, any similar pattern of evolution toward a more disaggregated and specialized set of providers will challenge the tradition of the integrated provision of higher education. Universities will then need to reconsider the rationales for being vertically integrated into every activity that must take place to deliver the educational product, and for offering a full product line.

To help them do so we must identify the functionalities—the set of different and potentially discrete needs—that higher education currently offers, and see how alternative institutions and new entrants might provide these same functionalities.
using different technologies and skills to create competitive advantage.

Again, I cannot hope to derive a complete list of the products and services that colleges and universities offer. What I can do is note the more obvious categories, illustrate how each category would be affected by specialist competitors, and let you extend or amend the list at your leisure.

It seems to me that colleges and universities offer (again in no particular order):

- socialization through the experience of living among peers away from home for four years
- liberal arts education as a renaissance man (or woman) appreciating the value of learning and being capable of pursuing independently guided learning throughout life
- professional certification and specific skills training for particular careers
- academic research
- postgraduate training of the next generation of researchers and university teachers
- signaling to the labor market the intrinsic quality of the individual by the granting of a degree
- library
- sports teams
- physical facilities for large and small group gatherings and living accommodations.

Physical Facilities. Let's start by examining the physical facilities that have traditionally been required for universities and which have been one of the major barriers to entry into higher education. First, the library need no longer exist as a service offered by the university. Online access to written (and other forms) of material can replace the stacks and hard copy books we all know and love. If that happens, why should the online library be provided by the university? A more likely provider would be a Bill Gates (who is already buying up the electronic rights to famous works of art), who would own the copyright of all important materials and could charge a low per use fee for every book or article accessed. Colleges and universities have no great skills in electronic access, and they surely would appreciate not having a library's operating and acquisition costs in the annual budget!

Second, universities are already competitors in the hotel and conference center business, renting out housing and classroom facilities to third parties during periods of low capacity utilization (notably in the summer). Unfortunately, they are not particularly cost efficient providers of such facilities. We are already seeing a trend to the outsourcing of restaurant services by universities—why not outsource the management of other physical facilities to a Marriott? The logical extension would then be to sell off the building and real estate to partnerships that can exploit a tax break, just as most hotel and conference center chains lease the underlying assets from REITs. If universities have no competitive advantage in the provision of housing and conference facilities, why not let firms that do so gradually take over the business?

Currently university sports teams are either for the physical education of the average student, or are
feeder teams for the professional leagues. The latter is an unsustainable role for universities because of the goal conflict it produces among student athletes. NCAA violations, low graduation rates, bribery and corruption, are all results of the quasi professional nature of major college sports. The resolution would seem to be the separation of education from professional sports by the establishment of farm teams which are independent of any academic institution, as occurs today in baseball in the U.S., or soccer in the U.K.

Educational Products. Turning to the various educational products that universities offer, I would argue that there could be a dramatic unbundling as focused and specialist competitors enter each of the fields in turn.

The most vulnerable educational product of universities is professional skills training. I suspect, on the evidence of the size of endowments and my business school experience, that professional schools are the most profitable part of the university. They, therefore, represent the most attractive market for “cherry picking” entrants. Unfortunately, professional skills are also the easiest part of the educational market for firms to enter as they can readily backward integrate into the internal provision of training. Short computer courses are offered by thousands of private sector companies. More extensive professional skills training and certification is already provided by other institutions (e.g., accountants, realtors, investment advisors), and many firms provide their own campus-like training centers. Some companies are even entering into the external provision of full time professional courses. In the U.S., the consulting firm Arthur D. Little offers an open enrollment MBA course. In the U.K., a number of private sector institutions, including Cranfield and Ashridge, flourish as providers of many residential business courses. Some of these institutions even use teaching faculty from universities, paying out some of the profits as higher per diem compensation than the university offers. Long term, it is hard to see how universities can hold onto a share of the expanding market for teaching technical skills, if they continue to price them to subsidize other parts of the institution.

The second most vulnerable university product offering would seem to be those courses that enrich and educate individuals throughout their life. The ready availability of distance learning and nontraditional educational institutions, such as the Disney Institute, will allow individuals to educate themselves whenever, and on whatever topics they choose. The potential cost advantage of the new methods of learning will lead them to displace the traditional university delivery system. As a result, a more economically rational consumption pattern of continuous part-time education might emerge to replace the full-time four-year undergraduate degree.

What would remain as the core product and differentiating feature of universities, because it is difficult for alternative providers to offer, would be as the initial provider of the skills needed for lifelong learning. Everyone needs to be taught how to learn and how to independently guide themselves through a process of continuing personal development. This
can only be provided with the methodologies and mechanisms of a traditional university, which can influence behavior and motivate students. Whether fulfilling this role requires the traditional four-year undergraduate education is another question. Perhaps a two-year (or as in the U.K., three-year) undergraduate degree would suffice.

Similarly, universities may be the best providers of the socialization skills we expect young adults to acquire. However, that need not necessarily be the case since there are now many institutions like the military, Peace Corps, Outward Bound, boot camps for juvenile offenders, and residential counseling programs of various sorts that can be seen as providing an environment where young people can learn life skills that family and high school have not exposed them to. Moreover, universities have never made it their primary purpose to teach these skills, rather they have always been a byproduct of the "in loco parentis" role they play during the undergraduate experience. In the future, unless colleges and universities consciously provide this training, they may be attacked by specialists who focus their attention on this function alone.

This suggests that the traditional liberal arts education will be the last bastion of universities. Teaching young adults life skills and the appreciation and ability to pursue lifelong learning, rather than transmitting any particular body of knowledge or content, may well be the greatest strength of the traditional institutions of higher education.

Finally, the educational product that is perhaps least threatened is postgraduate education—that which is not related to training in specific professions or trades, but to the training of the next generation of academics as researchers and teachers. I suspect that this is the least profitable university product—if not actually a money losing proposition. I am certain that the apprenticeship nature of the educational process cannot be provided by alternative technologies or distribution systems. New academics have to learn at the feet of existing academics, and there can be no replacement for that education.

Research. Academic research has always been somewhat ungainly paired with education within universities. Debates about faculty promotion criteria and the quality (and interest) of top researchers in teaching are all too familiar. While some institutions, notably the professional schools, have to some extent solved the problem by employing effective teachers with practical experience but no research track record as adjunct or clinical professors, the tension remains. We are all familiar with the arguments of the symbiotic relationship between the two activities, but for many faculty, and the arguments of comparative advantage, suggest that, if not a separation, at least far more specialization of activities is required.

Moreover, student fees are currently subsidizing research. This is unsustainable in a competitive market. Entrants who compete only in the market from which the subsidy is derived can undercut incumbents and gain share. An entrant that paid faculty just for their teaching and did not compensate for their research activities would have a substantial cost advantage.
The result of teasing apart the research and educational functions of the faculty could result in substantially less research being performed at universities. Already today, the vast majority of scientific research is not done in universities but in companies. The pharmaceutical companies alone spent $20 billion on R&D last year—a number that is greater than the entire budgets of the Ivy League schools. Moreover, universities are looking to make their research budgets pay off by commercializing discoveries and inventions. Given this commercialization of research, why not go the whole way and establish for-profit research entities, which could bid for government funds, and establish them in research parks alongside their existing commercial brothers?

**Strategic Implications**

The underlying driver of all these potential changes, of course, is competition. Whether it is introduced by deregulation, technological innovation, or foreign competition, whenever competition increases because of reduced entry barriers or the improved appeal of substitutes, or when a more economic way can be found to provide a similar service, industries tend to fragment.

Universities therefore need to take the new competitive threats seriously and become more competitive themselves. How can you achieve this? One way is just to improve the cost efficiency of everything you do. Part time, teaching-only faculty reduces costs and matches new entrants who compete in only a few educational programs. Introducing a year-round academic calendar will reduce cost by improving utilization of the university’s fixed assets. It will also match private sector entrants who are not constrained by the old agriculturally determined timetable that higher education still operates under. Benchmarking against other organizations, within education and in industry at large, will facilitate the adoption of best demonstrated practices in all the universities activities. The list of steps that will strengthen the current way of doing business goes on.

However valuable all these initiatives may be, none is strategic. They may all improve the operational effectiveness of the organization—they enable you to “do things right”—but none addresses the critical strategic question of what is “the right thing to do?” As Michael Porter has suggested, strategy involves choice. Choosing what to do, and choosing what not to do is the essence of strategy. This is particularly true when facing, as you do, the potential disaggregation of your business.

It seems to me that the fundamental strategic choice that universities face is whether or not to embrace the new technologies, new modes of distribution, and new product offerings and remain a full service provider, or whether to retrench to the core by sloughing off activities and products until all that remains is something like a small liberal arts college (with postgraduates), in which traditional universities will continue to retain a competitive advantage.

The traditional strategic prescription for firms in your situation would indeed be to identify your current competitive advantages and to participate only in markets that require those strengths. This would
lead you to concede entire market segments to new entrants and retreat to the core product that cannot readily be imitated or substituted.

It is also the prescription that the U.K. motorbike industry pursued in the 1970s. Faced with Japanese competition in mopeds and small (<100cc) motorbikes, the British producers—BSA, Norton, and Triumph—chose to concentrate on bikes above 250cc where they believed they had a competitive advantage. When the Japanese entered those markets, the U.K. producers retreated to the superbike segment until the Japanese successfully invaded that market, thus ensuring that no U.K. motorbike industry exists today. This sad example illustrates the risk to universities of a strategy that concedes markets to new entrants and substitutes.

The alternative strategy is to aggressively adopt the new technologies and distribution mechanisms in order to compete head on with new rivals. While extremely challenging, both in developing the skills required to be successful in the new markets and in managing profound change within the organization, the payoff can be large. Rather than acting like the railroads under the threat of trucking and airlines, confining themselves to a shrinking market segment, a strategy to expand and embrace the new technologies can ensure the survival and growth of the traditional institutions of higher education. This survival and growth may come in a very different form, perhaps as a host of discrete entities, each offering a unique product and employing a unique technology.

Conclusion

In conclusion, I would argue that the leading institutions of higher education are today faced with a deteriorating industry structure and the need to make a fundamental strategic choice. With respect to the deteriorating structure, I outlined a few steps that might be considered. I also suggested that attempts to improve the cost efficiency of current operations will become increasingly valuable in holding off the attacks from lower cost entrants.

However, universities must also make a decision as to who they want to be in the future. They can either choose to hunker down and retrench to the segment of the industry in which they retain the strongest competitive advantage, or they can broaden their scope and embrace the new delivery systems and customer needs that the changing environment are generating. This is a dramatic choice.

The benefit of retreating to a core is that it is the most defensible and most profitable part of the current industry, and it is the one most compatible with the traditions of higher education. The risk is that, like the U.K. motorbike industry, the retreat is to an untenably small and unsustainable part of the market—that the broad sweep of competitors ultimately overwhelms an institution that clings to the past.

If, instead, colleges and universities expand their domain and enter the emerging parts of the higher education market, they can potentially
retain their leadership position even as the face of education changes. The risk of that strategy is that the institution may be unable to make the transition to the new industry and unable to build the capabilities to compete successfully in the new world. In the attempt to do so, it loses the distinctive competence and the heritage that supported its past success and role.

There are no easy answers to strategic choices like this. These are the domain of managerial judgement, of leadership, and of broader concepts like mission and heritage.

Whatever the choice made to address the coming changes in higher education, nothing will happen until those strategies are implemented. This paper focuses on what colleges and universities might do to meet the challenges ahead, but as a last word I should also comment on the process of implementing strategic change.

One of the invidious aspects of the sort of industry changes potentially facing higher education is that they will come slowly and haltingly. It will be possible at times to argue that dramatic strategic responses are not necessary. The threat will be interpreted as a temporary disruption or a cyclical downturn, not a long term trend. Incumbent leaders often face this problem of interpretation, and many fail to make strategic adjustments in time.

What triggers fundamental change in such institutions is either a crisis that compels action; an acquisition or other major organizational disruption; or a new transformational leader who often comes from outside the institution. Unfortunately, the first usually happens too late to save the company. The second is atypical of colleges and universities, and the third will run foul of their governance structure.

A contorted governance structure that constrains a university president’s freedom of action may be the ultimate barrier to dramatic strategic change in higher education. Lacking a recognized crisis, driving through the sort of farsighted strategic changes to universities that may well be required to succeed in the next millennium, may well be impossible, even for the most able leaders. Unlike the private sector, there are multiple constituencies represented in the various levels of governing bodies—faculty, administrators, alumni, state governments, federal government—all have representation on the councils of governance. Reacting to industry changes in time to preserve the vital role of colleges and universities may require as much change in governance as in the strategies of universities themselves.
Endnotes


2 College endowments rose between two and three times from 1990-1997, according to a study by the National Association of College and University Business Officers (NACUBO).


4 This is, however, a role I comfortably adopt whenever I begin a consulting assignment with a new client.


6 Of the many recent cases that of a famous economist who ultimately rejected a move to Columbia University stands out.

7 Adam Brandenburger and Barry Nalebuff, Coopetition, (New York: Doubleday, 1986). The “sixth force” introduced by Brandenburger and Nalebuff is that of complements to the industry.

8 The research, carried out within the Structure—Conduct—Performance framework, began with the work of Bain and Mason in the 1950s and has been continued and extended since then. For a fairly recent summary of the findings see F. M. Scherer Industrial Market Structure and Economic Performance (Boston: Houghton Mifflin, 1989) and R. Schmalensee and R. Willig, Handbook of Industrial Organisation, (Amsterdam: Elsevier, 1989): chapter 10.

9 One study measured the seven-year average return on equity for the pharmaceutical industry as nearly 30 percent, the soft drink industry as over 25 percent, the domestic airline industry as 8 percent, and the steel industry as 4 percent. Study conducted by Monitor Consulting Co., 1992, Cambridge, MA.

10 Defining an industry’s boundaries requires a book unto itself. Are luxury cars, for example, a discrete industry or part of the broader automobile market? The essential issue is the cross price elasticity of demand and supply between products. See Derek Able, Defining the Business, (Englewood Cliffs, N.J.: Prentice Hall, 1980).

11 So-called experience goods, like consulting services, whose value can only be determined after their consumption, often produce markets where price and perceived quality are positively related.

12 Obvious examples include the recently challenged Ivy League agreement on financial aid and
the NCAA athletic rules, which in other contexts might be considered restraints of trade.


18 The best known recent example is Ralph Bossidy who left GE to successfully turn around Allied Signal.


20 No one has yet compiled the list of highest earning academics, but certain superstar business school professors regularly earn incomes in the high seven figures.

21 Offsetting this is the trend toward virtual universities with low fixed costs where the pressure to cut price and fill capacity is reduced.


24 For a discussion see R. Schmalensee and R. Willig, Handbook of Industrial Organisation: chapter 16

25 The exception might be the small liberal arts colleges, which aim to provide a different educational experience than large state or private institutions.

26 The best attempt at this is Rumelt’s list of types of industry dynamics. See A. Slywotzky, D. Morrison, T. Moser, K. Mund, J. Quella, Profit
27 A. Grove, Only the Paranoid Survive (New York: Doubleday, 1997).


29 The strict economic conditions that facilitate vertical disaggregation and specialization are that focused competitors are able to achieve a minimum economic scale within a single niche, and that the transaction costs involved in purchasing items separately or contracting for their provision from outside suppliers are minimal.


31 Noam, “Electronics and the Decline of Books.”
