Higher education will be fundamentally different in the next millenium. Current pressures—new technology, shifting demographics, rising costs, and changing workforce needs among them—will drive change, although just which direction the industry will go is unclear. To help shed light on how the higher education system may evolve, David Collis, visiting professor of management at the Yale School of Management, applies techniques developed within the field of business strategy to the higher education arena.
Industry Analysis

To move beyond the typical, somewhat ad hoc review of the various drivers of change in any industry, Harvard Business School professor Michael Porter popularized the systematic Five Forces approach (recently amended to include a sixth force, complements), as illustrated in Figure 1 below:

Together these six forces determine the profitability and shape the conduct of competition within any industry, including higher education.

### Figure 1: Elements of Industry Structure

Industry analysis begins with the premise that all industries create value. The key questions are what caps the amount of value the industry can create (the size of the pie), and who captures that value (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.

**Entry Barriers**

In the past, barriers to entry in higher education were high, primarily because of the cost of building a campus and the long time needed to build a reputation to attract students and faculty.

Technology, however, promises to be a vehicle for easier entry into the higher education arena, because much of the educational experience can be replicated by technology at very low marginal costs.
Substitutes
The availability of and the demand for substitutes for higher education is increasing. Perhaps most significant is that many employers no longer regard the one-time provision of an undergraduate (or graduate) degree 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. There is also a proliferation of new courses and initiatives available to students of all ages beyond the traditional extension schools or adult education programs associated with universities.

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

Supplier Power
The power of faculty as a supplier for higher education is in a state of flux. On one hand, the faculty superstar phenomenon has increased competitive bidding among universities for talent, and ratcheted salaries upward. On the other hand, the use of part-time faculty as a less expensive (and more flexible) source of labor has been rising steadily.

Buyer Power
The more options the buyer has to choose from, the more power the buyer has. New substitutes and new entrants erode the monopoly that traditional colleges and universities have enjoyed. Buyer power is also increased to the extent that firms themselves become suppliers of higher education, as they introduce lifelong learning programs for employees, reducing the ability of the universities to capture value.

Rivalry
Rivalry will increase in the future due to entry of new low cost providers into the industry. It is also likely that current institutions will become more competitive. Distance learning removes the capacity constraints that universities have traditionally operated under, so physical facilities no longer need limit the size of the student body. This will lead to increased competitive overlap between institutions, particularly as geography becomes less of a constraint.

Strategic Implications
Industry analysis, as summarized above, suggests strategic moves that current institutions can take to improve performance. The primary observation is that colleges and universities must recognize and accept that it will be more difficult to compete in the higher education business in the future. While 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. Further, it would be valuable for universities to develop strategies that address the threat of entry, substitutes, rivalry, and buyer
Three constraints on entrants and substitutes for higher education can be utilized to mitigate their negative effects. The first constraint is that the higher education experience involves more than just its classroom or paper writing components. To the extent that the formal educational experience involves group activity, mentoring, and other activities that are difficult to standardize or replicate, the threat of new technologies is reduced. The second and related constraint is the socialization process that characterizes the undergraduate experience. 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.

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 must be some external legitimacy accorded every successful institution. Certification of the quality of degrees awarded is one of the major barriers to entry to higher education. Strategies that require high standards for certification and that reinforce the value of brand names should be adopted to deter entry.

Rivalry can be restrained by cooperating on a number of fronts, including, for example, financial aid and faculty compensation. These sorts of strategies, however, are threatened by regulatory changes; to continue to employ them, institutions must lobby strenuously for antitrust exemptions. Another strategy is to form alliances between universities that have complementary assets, which will both improve cost efficiency and reduce rivalry.

Finally, colleges and universities would benefit from reducing buyer power. Perhaps the best strategy to accomplish this is to brand their product. Brand names are extraordinarily valuable as signals of quality, particularly for a product such as education, whose worth is apparent only after it has been purchased and used. While not all institutions can establish premier brand names, many could enhance their reputations by specializing in particular strengths, such as foreign languages, or premed courses.

**Industry Dynamics**

The evolution of the higher education industry can be predicted to some extent by studying other industries that have experienced similar structural change. Today, the future of higher education resembles that faced by industries that have been suddenly opened to deregulation (telecommunications, energy), new technologies (pharmaceuticals, computers), and foreign competition (steel, autos).

The most common transformation that industries facing extensive change undergo is to become more specialized and less vertically integrated. Whenever competition increases because of reduced entry barriers or the improved appeal of substitutes, or when a more economical way can be found to provide a similar service, industries tend to fragment. That is, firms tend to pull back, spinning off many of their functions, and focusing on their strengths. 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.

**Conclusion**

In response to their changing environment, colleges and universities should identify the full set of functions, or products and services they offer—from restaurants to undergraduate degrees to athletics and continuing education. The traditional strategic prescription would be to participate only in markets where an institution’s strengths continue to offer a competitive advantage. This would lead to concession of entire market segments (such as the traditional physical library) to new entrants exploiting new technologies, and a retreat to core educational products that cannot readily be imitated or substituted. On the other hand, it could be argued that institutions should embrace the new technologies, delivery systems, and customer needs that the changing environment is generating by entering new markets such as distance learning. The choice is a dramatic one, and there are no easy answers. However, university governance structures must allow leaders the freedom to act and institute change in time to preserve the vital role of today’s colleges and universities in higher education.

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