

Chapter 1

The Educational Innovator's Dilemma

Threat of Danger, Reasons for Hope

No one could doubt that U.S. Education Secretary Margaret Spellings meant business. In upbraiding the nation's universities and colleges, the 2006 report of her commission on the future of higher education used the language and metaphors of business:

What we have learned over the last year makes clear that American higher education has become what, in the business world, would be called a mature enterprise: increasingly risk-averse, at times self-satisfied, and unduly expensive. It is an enterprise that has yet to address the fundamental issues of how academic programs and institutions must be transformed to serve the changing educational needs of a knowledge economy. It has yet to successfully confront the impact of globalization, rapidly evolving technologies, an increasingly diverse and aging population, and an evolving marketplace characterized by new needs and paradigms.

History is littered with examples of industries that, at their peril, failed to respond—or even to notice—changes in the world around them, from railroads to steel manufacturers. Without serious self-examination and reform, institutions of higher education risk falling into the same trap, seeing their market share

substantially reduced and their services increasingly characterized by obsolescence.¹

Not surprisingly, such confrontational, business-oriented language provoked controversy. During its drafting, the Spellings Commission report had been described by one of its own members as “flawed” and “hostile.”² Higher education officials and lobbyists agreed when they read the official report. Many saw it as a politically motivated attack that overlooked the fundamental mission and spirit of higher education. The report’s comparison of higher learning to railway transportation and steel manufacturing was, at the individual level, an inapt analogy: the process of smelting steel offers little insight into the delicate task of molding a mind. And to speak of universities and colleges as having market share is to imply disregard for higher education’s non-economic role in creating knowledge and promoting social well-being.

Yet it was difficult to rebut many of the Spellings Commission report’s most serious indictments—that fewer U.S. adults are completing post-high school degrees; that the costs of attending college are rising faster than inflation; that employers report hiring college graduates unprepared for the workplace.³

THE GLASS BEAD GAME



In his novel *Das Glasperlenspiel* (*The Glass Bead Game*), Nobel literature laureate Hermann Hesse describes an isolated community of scholars in fictional Castalia, a political province set apart as a sanctuary for learning, where the scholars run a boarding school for boys.⁴ For the most elite of these scholars, however, the real interest is an abstract intellectual game that rewards individual contemplation. The Glass Bead Game, which takes years of training to master, is said to have existed from time immemorial. Its procedures and rules are described as a strict “secret language.” It forbids “private,” value-based judgments, recognizing

only “legitimate,” objective observations. In the words of Hesse’s narrator, “Any enrichment of the language of the Game by addition of new content is subject to the strictest possible control by the directorate of the Game.”⁵

Hesse’s protagonist, a young student named Joseph Knecht, enjoys the nurturing of scholarly mentors who assume the stature of saints in his eyes; one of the most influential is the kindly, optimistic Father Jacobus. With the help of these mentors, Knecht becomes a master of the Glass Bead Game. It is the highest of intellectual honors. Yet with the passage of time and a growing personal awareness of the turmoil outside of Castalia, Knecht begins to wonder about his institution’s role in the world. The questions with which he grapples, and the answers to which he comes, offer insights useful in higher education today. We will revisit Castalia and its Glass Bead Game from time to time throughout this book.

Voices of Warning from Within

The Spellings Commission was not a lone voice of criticism in 2006. That same year two distinguished academics, Derek Bok and Harry Lewis, both of Harvard, published books critical of higher education. Though eschewing—and, in Lewis’s case, rejecting—the business terms and competitive logic of the Spellings Commission report, these seasoned academic administrators were no less vocal about the shortcomings of higher education. Bok, a former president of Harvard University, titled his book *Our Underachieving Colleges: A Candid Look at How Much Students Learn and Why They Should Be Learning More*. Lewis, a forty-year veteran and former dean of Harvard College, the sub-unit of the university that serves undergraduate students, detailed its defects in a work called *Excellence Without a Soul: How a Great University Forgot Education*.

Bok’s work was the more diplomatic of the two, as befitting a senior Harvard statesman who twice presided over the university. Yet Bok sounded his alarm with language reminiscent of the Spellings



The Innovative University

Commission's allusions to market forces. Having summarized the growing threat of global competition, he warned:

In view of these developments, neither American students nor our universities, nor the nation itself, can afford to take for granted the quality of higher education and the teaching and learning it provides. To be sure, professors and academic leaders must keep proper perspective. It is especially important to bear in mind all the purposes universities serve and to resist efforts to turn them into instruments preoccupied primarily with helping the economy grow. But resisting commercialization cannot become an excuse for resisting change. Rather, universities need to recognize the risks of complacency and use the emerging worldwide challenge as an occasion for a candid reappraisal to discover whether there are ways to lift the performance of our institutions of higher learning to higher levels.⁶



After exploring the important noneconomic purposes of universities and noting the general satisfaction of students and recent graduates, Bok nonetheless leveled an indictment similar to that of the Spellings Commission:



Despite the favorable opinions of undergraduates and alumni, a closer look at the record . . . shows that colleges and universities, for all the benefits they bring, accomplish far less for their students than they should. Many seniors graduate without being able to write well enough to satisfy their employers. Many cannot reason clearly or perform competently in analyzing complex, non-technical problems, even though faculties rank critical thinking as the primary goal of a college education.⁷

Harry Lewis likewise pulled few punches in *Excellence Without a Soul*. But in arguing that Harvard had “forgot[ten] education,” Lewis took a different tack than Bok. Rather than warning of the forces of



global competition, he accused Harvard and its peers of being driven too much by their own competitive ambitions. In particular, he noted how scholarly activity tends to distance professors from the undergraduate teaching and learning process. At the same time, he argued, the desire to attract and satisfy students as though they are mere customers leads to academic coddling, in the form of easy grades and expensive facilities and entertainments, such as intercollegiate athletic teams. In the process, Lewis concluded:

Universities have forgotten their larger role for college students . . . Rarely will you hear more than bromides about personal strength, integrity, kindness, cooperation, compassion, and how to leave the world a better place than you found it. The greater the university, the more intent it is on competitive success in the marketplace of faculty, students, and research money. And the less likely it is to talk seriously to students about their development into people of good character who will know that they owe something to society for the privileged education they have received.⁸

Lewis's prescription for solving this problem was for universities to be less businesslike:

Changing direction requires . . . leadership that views the university idealistically, as something more than a business and something better than a slave to the logic of economic competition.⁹

Pressures from Without

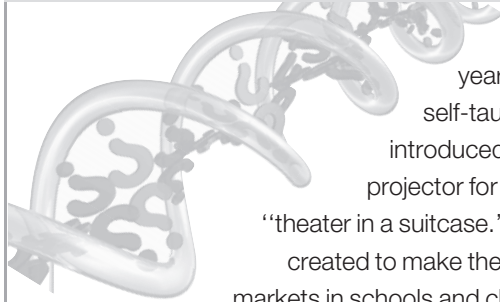
Ironically, Lewis's call for transcending economic competition sounded on the eve of the deepest financial crisis since the Great Depression. By 2009, the universities and colleges that the Spellings Commission

had characterized as self-satisfied were struggling to fill budget gaps left by dramatic drops in their endowments and state appropriations. Even mighty Harvard was forced to suspend a major construction project and to lay off staff after its endowment, which had been producing one-third of its operating revenues, shrank from \$37 billion to \$26 billion.¹⁰ The budget crisis was particularly acute for universities modeled after Harvard, with expensive commitments to graduate schools and research activities spanning a wide array of academic disciplines. Unfortunately, few of these schools enjoyed Harvard's financial clout. Endowment losses and decreases in state funding led inevitably to budget cuts and tuition increases.

Meanwhile, new federal government attention and dollars flowed to public two-year colleges, which were perceived as offering the better near-term investment in economic revival; in the decade before the downturn, their prices increased only one-fifth as fast as those of their four-year counterparts.¹¹ The enrollments of these two-year colleges swelled, as did those of rapidly proliferating for-profit higher education companies.¹² Many of the for-profits in particular applied the power of online learning technology. Online courses offer the benefits of greater convenience and also lower total cost, as much of a student's expense in getting a traditional higher education is not in tuition but in leaving the workplace and relocating to a residential campus.

Online offerings grew in popularity throughout the decade but especially when times got tough. The downturn that knocked the wind out of the traditional universities billowed the sails of the for-profit educators. The University of Phoenix, for example, recognized revenues of \$2.5 billion in 2007; by the end of 2009 that figure had risen to nearly \$3.8 billion.¹³ In that year it enrolled 355,800 new students, roughly 150,000 more than the total enrollment of the ten campuses of the University of California.¹⁴ Investigations of student-recruiting abuses and proposals to tighten regulatory standards slowed the for-profits, but it would be unwise to dismiss the disruptive power of their educational model, especially the use of online learning technology.

A PRIVATE SECTOR EDUCATIONAL INNOVATOR



In 1912 the thirty-six-year-old German immigrant and self-taught engineer Herman DeVry introduced a cutting-edge silent movie projector for the classroom; he called it a “theater in a suitcase.”¹⁵ The company that DeVry created to make the projectors found its biggest markets in schools and churches. In 1925 he opened the DeVry Summer School of Visual Instruction in Chicago, to which he invited educators and religious leaders, to explore the potential of motion pictures in classroom instruction.¹⁶

In 1931 DeVry created what would later become DeVry University. Initially a training school for electrical and motion picture technicians, the institution granted its first associate’s degree, in electronic engineering technology, in 1957; it introduced a bachelor’s degree in that same field in 1969.¹⁷

By 2010, regionally accredited DeVry University operated 90 campuses and served more than 80,000 students, many of them via online technology partly descended from Herman DeVry’s early educational movies. DeVry students can earn technical certificates as well as associate’s, bachelor’s, and master’s degrees, in fields ranging from technology to business management and health care. Courses are offered face to face, online, and in hybrid form. A trimester system allows bachelor’s degree-seekers to graduate in three calendar years.

In 2010 McKinsey & Company found that DeVry was 50 percent more efficient in administrative functions than typical universities, thanks to a high degree of process automation and operations management training—for example, the person responsible for financial aid was a Six Sigma Black Belt, the highest level of certification in a business management system designed to improve the quality of process by identifying and removing the causes of defects and minimizing process variability. DeVry also saves money by eschewing nonacademic functions such as food services and athletics. Quality is

monitored through rigorous learning outcomes measurement and via a “Net Promoter Score, the percentage of students and employees who would recommend the institution to a friend.”¹⁸

In most industries, technology-enabled competition is deemed healthy and vital. Accustomed to a hyper-competitive modern world, we expect even the largest and most prestigious companies to be continually challenged by nimbler, more creative upstarts. Economists teach that disruptive innovation by newcomers and creative destruction of entrenched incumbents leads to better products and services.¹⁹ When a century-old auto company, airline, investment bank, or newspaper files for bankruptcy or disappears altogether, we regret the attendant human suffering but count the loss as the price of progress, knowing that without competitive innovation and destruction we would enjoy a standard of living no better than our great-grandparents did.

Higher education, though, has been different. Large universities rarely cease to operate. Nor are the prestigious ones quickly overtaken. Part of the reason is a dearth of disruptive competition. The most innovative would-be competitors, for-profit education companies, find great success among working adults, many of whom care more about the content and convenience of their education than the label on it. But many young college students still seek the assurance of traditional university names and the benefits of campus life. Because of loyal support from this large group of higher education customers, the incumbents have felt little pressure from the for-profits’ use of potentially disruptive online technology.

Meanwhile, the terms of competition among traditional institutions, the public and private not-for-profit universities, have been set primarily by those at the top. The strategy of most schools is one of imitation, not innovation.²⁰ Little-known and smaller institutions try to move up in the ranks by adding students, majors, and graduate programs, so as to look more like the large universities. They also task their faculty with research responsibilities. In the process the emulators

incur new costs and thus must raise tuition. This blunts the price advantage that they began with. They are stuck in a dangerous competitive middle ground, neither highest in quality nor lowest in cost. The great schools, rather than being discomfited by the imitation, seem all the more desirable because of it.

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THE CARNEGIE CLASSIFICATION SYSTEM, OR "THE CARNEGIE LADDER"



The inclination to become more Harvard-like has been reinforced for the past four decades by something colloquially known as "the Carnegie ladder." The Carnegie Commission on Higher Education was created in 1967 by the Carnegie Foundation for the Advancement of Teaching, established by Andrew Carnegie in 1905.

To guide its work in aiding different types of institutions, the Carnegie Commission produced a classification system that listed first four types of doctoral degree-granting institutions, ordered according to their emphasis on research and doctoral programs. Next came two tiers of "Comprehensive Colleges," ranked by their breadth of disciplines and number of degrees granted. A third group, "Liberal Arts Colleges," were divided into two camps according to student selectivity. Below them came "All Two-Year Colleges and Institutes," as well as "Professional Schools and Other Specialized Institutions."²¹

The Carnegie Commission's intent was to segregate the schools so that unique policies could be crafted to support each type in its unique educational mission; the commission saw the diversity of U.S. higher education as an asset to be preserved and enhanced, given the diverse

needs of the huge population of post-high school students. However, the classification put all of the most prestigious schools into two categories: doctoral institutions with a heavy emphasis on research (elite private and public universities) and highly selective private liberal arts colleges such as Williams and Amherst. These represented the top rungs on what became known as the “Carnegie ladder.”

The unintended effect was to create a widely accepted scorecard for Harvard emulation, or “Carnegie climbing.” What had been a matter of general academic ambition became an intense competition with real financial ramifications, as noted in a 2005 Carnegie Foundation report:

Foundations sometimes use the classification as an eligibility criterion for grant programs; some states use the classification (or a derivative system) in their funding formulas; and in its annual college rankings, *U.S. News & World Report* bases its comparison groups on categories of the classification. With each of these, an institution can have a very tangible interest in maintaining or changing its classification, and the stakes can be high.²²

The Educational Innovator’s Dilemma

In their defense, the institutions that emulate Harvard and strive to climb the Carnegie ladder are doing just as conventional business logic dictates—trying to give customers what they want. The great universities such as Harvard inspire not just administrators, faculty, and alumni at other schools. They also excite the most elite prospective students, who want to win admission to the most Harvard-like institution they can. Thus, less prestigious schools emulate Harvard’s essential features, such as graduate programs and expert faculty researchers and research facilities. They also give students costly noneducational amenities such as intercollegiate athletic teams, which Harvard no longer supports at the level of the most competitive schools.

The result of this competition-by-imitation is to solidify past educational practice among traditional universities, making them increasingly more expensive but not fundamentally better from a learning standpoint. The great-grandparents of today's students would easily recognize the essential elements of modern higher education. Though the students are more diverse, the shape of classrooms, the style of instruction, and the subjects of study are all remarkably true to their century-old antecedents. Great-grandpa and Grandma would likewise recognize the three schools atop *U.S. News's* 2010 college rankings: Harvard, Princeton, and Yale. In fact, asked to guess, they'd probably have picked just those three.

Only the costs of a higher education, one can argue, have kept pace with the times. In the ten years after 1997, the inflation-adjusted cost of a year of college at the average public university rose by 30 percent, while the earning power of a bachelor's degree remained roughly the same.²³ Cost increases derive partly from higher faculty salaries, but more from activities unrelated to classroom instruction. Scientific research, competitive athletics, and student amenities require both large operating outlays and the construction of high-tech laboratories, football stadiums, and activity centers. As a result, the cost of higher education grows faster than faculty salaries or other instruction-related costs.²⁴

The problem is not unique to higher education. In fact, in products ranging from computers to breakfast cereals, history reveals a pattern of innovation that ultimately exceeds customers' needs. Hoping to get an edge on their competitors, companies offer new features, such as faster processing speeds in a computer or increased vitamin fortification in cereals. These enhancements are sustaining innovations rather than reinventions: the product becomes better while its basic design and uses remain the same.

The catch, as Clayton Christensen has shown in *The Innovator's Dilemma*, is that these performance enhancements at some point exceed even the most demanding customers' performance needs

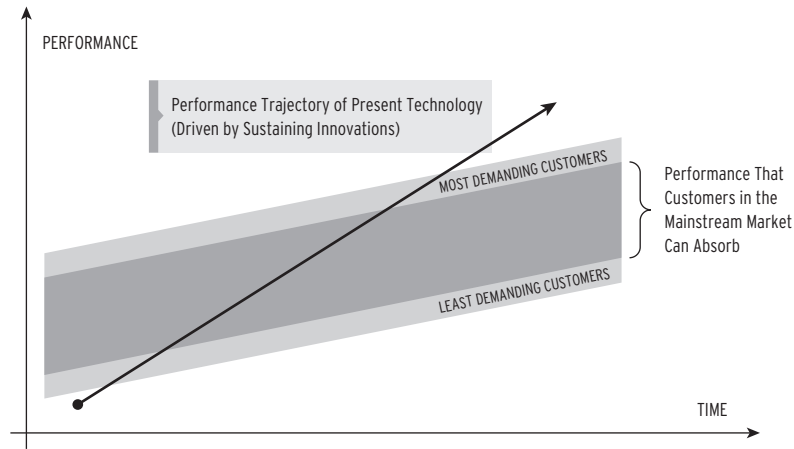
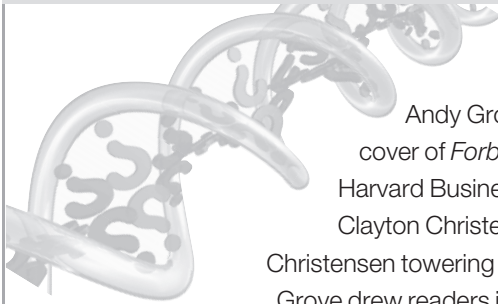


FIGURE 1.1 The Path of Sustaining Innovation.

(see Figure 1.1). The producer is incurring greater costs and thus must raise prices. That leaves the typical purchaser of a \$5,000 laptop or a \$5 box of cereal paying more than they want to, given what they actually need.

Universities tend to innovate and set prices in similar ways. Those in a particular tier attempt to match one another's services; the ambitious ones also emulate the more prestigious institutions above them. To offset the cost of new offerings and activities, such as additional majors and graduate degree programs, they raise tuition, their most easily controllable source of revenue. In setting tuition levels, the primary question is not what students are willing and able to pay. Thanks to government grants and loans, the students are less price sensitive in their higher education choices than in other purchase decisions. Because third-party financing reduces student price sensitivity and most schools offer similar curricula, higher education prices can be set on the basis of institutional peer comparison. The most elite institutions charge nearly identical rates and stay in step with similar annual rate increases. The other schools maintain a set discount to the tuition of the elite ones, raising their rates confidently under this steadily rising price umbrella.

THE INNOVATOR'S DILEMMA GETS A BOOST FROM INSIDE INTEL



In 1999 one of the world's most respected executives, Andy Grove of Intel, appeared on the cover of *Forbes* with a relatively unknown Harvard Business School professor named Clayton Christensen. The photo of 6-foot-8 Christensen towering over the highly recognizable Grove drew readers inside to learn about a book, *The Innovator's Dilemma*, that had been in print since 1997. Grove wasn't the first high-profile executive to discover and apply the principles of disruptive innovation, but his compelling articulation of them powered *The Innovator's Dilemma* to notoriety all but unheard of for a book based on a doctoral dissertation. In a 1997 presentation made by Christensen to Intel's senior managers, Grove recognized that the innovation by steel mini-mills that disrupted powerful companies such as U.S. Steel was set to occur in computer chips, and he and his team responded to assure Intel's continued competitiveness. *Forbes* quoted Grove as saying, "What's valuable about Clayton's ideas is that they give you a framework. They allow a business to learn from the experience of others. The specifics are different, but you can move the generality over to your business and then go down into your specifics."²⁵

The popularity of *The Innovator's Dilemma* derived both from the broad applicability of its innovation theory to many industries and also from its optimistic premise that the best institutions actually aren't prone to be disrupted because they lose their way or make outrageous mistakes. Christensen told *Forbes*, "I thought, 'These people are at least as smart as I am. There must be a reason why such smart people make bad decisions.'"

Working from this generous assumption allowed Christensen to make the counterintuitive discovery that the sustaining innovation made by established companies on behalf of their best customers can set institutions up for disruption. Kodak Chairman George Fisher described

Christensen's finding this way: "Even good people get locked into processes that may be totally inappropriate to deal with a new technology attacking from underneath."

The Risk of Disruption

Much of what universities are doing is standard management practice: improve the product; give customers more of what they want; watch the competition. But it leads even great enterprises to fail, as detailed in *The Innovator's Dilemma*. Inevitably, while the industry leaders focus on better serving their most prized customers and matching their toughest competitors, they overlook what is happening beneath them. Two things are likely to be occurring there. One is growth in the number of would-be consumers who cannot afford the continuously enhanced offerings and thus become nonconsumers. The other is the emergence of technologies that will, in the right hands, allow new competitors to serve this disenfranchised group of nonconsumers, as shown in Figure 1.2.

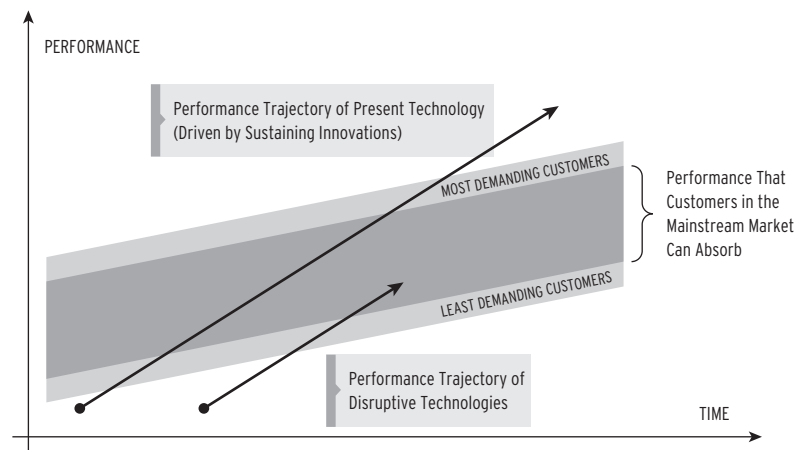


FIGURE 1.2 The Path of Disruptive Innovation.

In most industries, the pattern of sustaining innovation is broken by a disruptive technology. The first Apple computer was such a game-changing technology. Before the Apple, only university professors and graduate students at large universities had access to the bulky mainframe or minicomputers operated by specialists to whom computational requests, such as statistical analyses of data, were submitted. The high cost of these computers meant that they had to be shared by hundreds or even thousands of users. A data request could take days to be filled. If the output data revealed a flaw in the original request or an intriguing outcome calling for follow-up analysis, the user had to repeat the time-consuming process.

The Apple, by contrast, was affordable by high schools and families. Of course, it had only a tiny fraction of the power of traditional computers and was thus useless for universities and large companies. But, through continuous innovation and improvement, its performance improved over the years; so did the performance of its cousin, IBM's PC (personal computer). In time, what had been products acceptable only to nonconsumers of mainframe and minicomputers unseated these incumbents. The minicomputer disappeared entirely, the victim of a disruptive technology.

Historically, higher education has avoided such competitive disruption. There are several reasons for this past immunity. One is the power of prestige in the higher education marketplace, where the quality of the product is hard to measure. In the absence of comparable measures of what universities produce for their students, the well-respected institutions have a natural advantage; because they have been admired in the past, they are presumed to be the best choice for the future.

A related stabilizing force is the barrier to disruptive innovation created by accreditation, a process by which representatives of established universities periodically participate in judging the fitness of established institutions and would-be newcomers. In doing so, they tended to apply the standards of practice in their own institutions. Thus,

conformance to tradition became the price of continued accreditation and of entry to the industry.

Another reason for the lack of disruption in higher education has been the absence of a disruptive technology. Since the time that universities first gathered students into classrooms, the learning technologies—lectures, textbooks, oral and written examinations—have remained largely the same. Even when computers were introduced into the classroom, they were used to enhance the existing instructional approaches rather than to supplant them. Lectures, for example, were augmented with computer graphics, but the lecture itself persisted in its fundamental form.

Until the relatively recent emergence of the Internet and online learning, the higher education industry enjoyed an anomalously long run of disruption-free growth. In times of economic downturn, there were cries of alarm and calls for reform. But for the elite, well-endowed private schools, a bit of budget tightening sufficed until the financial markets recovered. The demand for the prestige the elite schools confer far exceeds the supply, allowing them to cover rising costs with tuition increases and fundraising campaigns. Even many less prestigious universities benefit from accreditation, which has elevated them over nonaccredited institutions. Public universities also enjoy the long-term commitment of taxpayers. In the absence of a disruptive new technology, the combination of prestige and loyal support from alumni and legislators has allowed traditional universities to weather occasional storms. Fundamental change has been unnecessary.

That is no longer true, though, for any but a relative handful of institutions. Costs have risen to unprecedented heights, and new competitors are emerging. A disruptive technology, online learning, is at work in higher education, allowing both for-profit and traditional not-for-profit institutions to rethink the entire traditional higher education model. Private universities without national recognition and large endowments are at great financial risk. So are public universities, even prestigious ones such as the University of California at Berkeley.

Price-sensitive students and fiscally beleaguered legislatures have begun to resist costs that consistently rise faster than those of other goods and services. With the advent of high-quality online learning, there are new, less expensive institutional alternatives to traditional universities, their standing enhanced by changes in accreditation standards that play to their strengths in demonstrating student learning outcomes. These institutions are poised to respond cost-effectively to the national need for increased college participation and completion.

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For the vast majority of universities change is inevitable. The main questions are when it will occur and what forces will bring it about. It would be unfortunate if internal delay caused change to come through external regulation or pressure from newer, nimbler competitors. Until now, American higher education has largely regulated itself, to great effect. U.S. universities are among the most lightly regulated by government. They are free to choose what discoveries to pursue and what subjects to teach, without concern for economic or political agendas. Responsibly exercised, this freedom is a great intellectual and competitive advantage.

Traditional universities benefit society not just by producing intelligent graduates and valuable discoveries but also by fostering unmarketable yet invaluable intangibles such as social tolerance, personal responsibility, and respect for the rule of law. Each is a unique community of scholars in which lives as well as minds are molded. Pure profit-based competition would produce fewer of these social goods, just as increased government regulation would dampen the great universities' genius for discovery.

The DNA of the University

Ideally, the faculty members, administrators, and alumni who best appreciate the totality of the university's contributions to society will, in the spirit of self-regulation, play a leading role in revitalizing their beloved institutions.²⁶ They have the capacity to determine their own fate and in so doing take the indispensable university to new heights. In performing that critical task, they must understand not only current realities, especially the threat of competitive disruption, but also how universities have evolved over the past several hundred years. Even more than most organizations, traditional universities are products of their history. That history is shared, because most universities have emulated a handful of elite American schools that began to assume their modern form a century and a half ago. Prominent among them were Harvard, Yale, Johns Hopkins, Cornell, and MIT. Together, they have evolved to share common institutional traits, a sort of university DNA.²⁷

Much as the identity of a living organism is reflected in its every cell, the identity of a university can be found in the structure of departments and in the relationships among faculty and administrators. It is written into course catalogs, into standards for admitting students and promoting professors, and into strategies for raising funds and recruiting athletes. It can be seen in the campus buildings and grounds. These institutional characteristics remain the same even as individual people come and go.

Pioneering institutions such as Harvard and Yale first began granting Ph.D.s in the mid-nineteenth century. As graduates of their doctoral programs joined the faculties of other universities, they took their experiences and expectations with them. With the support of ambitious university presidents, they strove to make their new academic environments like those from which they had come. This internal drive was reinforced by external systems for accrediting, classifying, and ranking universities. It also became embedded in a common academic culture. As a result, even the smallest and most obscure universities bear many of the essential traits of the greatest ones.

University DNA is not only similar across institutions, it is also highly stable, having evolved over hundreds of years. Replication of the DNA occurs continuously, as each retiring employee or graduating student is replaced by someone screened against the same criteria applied to his or her predecessor. The way things are done is determined not by individual preference alone but by institutional procedure written into the genetic code.²⁸

There is evolution in the university, though its mechanism typically is not natural selection of random mutations. As a general rule, the university alters itself only in thoughtful response to significant needs and opportunities. Entrepreneurism occurs within fixed bounds; there is rarely revolution of the type so often heralded in business or politics. This steadiness is a major source of universities' value to a fickle, fad-prone society.

Yet the university's steadiness is also why one cannot make it more responsive to modern economic and social realities merely by regulating its behavior. The genetic tendencies are too strong. The institutional genes expressed in course cat-

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alogs and in standards for admitting students and promoting faculty are selfish, replicating themselves faithfully even at the expense of the institution's welfare. A university cannot be made more efficient by simply cutting its operating budget, any more than a carnivore can be converted to an herbivore by constraining its intake of meat. Nor can universities be made by legislative fiat to perform functions for which they are not expressly designed. For example, requiring universities to admit underprepared students is unlikely to produce a proportional number of new college graduates. It is not in the typical university's genetic makeup to remediate such students, and neither regulation nor economic pressure will be enough, alone, to change that.

Bigger and Better

In at least one critical respect, organizations are like living organisms: they seek not only to survive, but to grow. Once the typical organization has more than a few employees and has experienced a degree of success, predictable genetic tendencies switch on. These tendencies start to dominate planning and investment processes, driving the organization to make things bigger, better—or both. To diminish in size or quality is to violate the genetic code, to introduce a mutation unlikely to survive the natural institutional response. Becoming bigger and better is “in the genes.”

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Members of the university community readily recognize this tendency. With rare institutional exceptions, quantity and quality in the academy continually grow. Courses become more numerous and more specialized. New degree programs are created. More qualified faculty are sought, as is entry into more prestigious athletic conferences. New buildings are added and older ones upgraded.

Proposals for focusing effort or economizing, by contrast, are rare, particularly when there are valid concerns for quality. The aversion to shrinking or simplifying is more than just a matter of personal preference; it is driven by institutional decision-making systems, individual rewards, and culture. For example, no risk-averse department chair can think seriously about cutting courses or degree programs; even if such a proposal could be pushed through the curriculum committee, the only reward to the chair would be ostracism by his or her colleagues. For similar reasons, no athletic director can view dropping a popular sport or moving into a less expensive conference as a good career move, nor can a university president take lightly the risk of offending a major donor who has a building dream. Through mutually reinforcing formal and informal systems, the university continually demands bigger and better.

Though the Carnegie classification system supercharges this tendency, it is by no means unique to higher education. Most established organizations, including for-profit companies, readily adopt new technologies that show potential for enhancing their size and standing. However, they are much less likely to see the value of innovations that would reduce the price a customer pays, especially when quality might be adversely affected. As an illustration, the established makers of X-ray equipment, General Electric, Siemens, and Phillips, quickly adopted CT, MRI, and PET imaging technologies as they were developed.²⁹ Each of these new technologies allowed them to make enhanced, more expensive equipment that vaulted them ahead of the competition and generated better profit margins. However, for thirty years they persistently overlooked the potential of ultrasound technology, which was simpler and more affordable for customers. The bigger-and-better tendencies built into their institutional DNA—through systems such as profitability-based compensation for executives and salespeople—made ultrasound seem unattractive, particularly in its infancy, when the image quality was relatively low.

Because new entrants to an industry typically begin at the bottom of a market, selling simple, affordable products to easily satisfied consumers, the bigger-and-better tendencies in established institutions can blind them to disruptive technologies such as ultrasound. This tendency on the part of incumbents gives innovative entrants time to operate out of harm's way; they can perfect the new technology without interference from resource-rich competitors. Thanks to this competitive grace period, products that initially could be sold only to low-end customers of no interest to the incumbents steadily improve in quality.

A familiar example of the bigger-and-better cycle can be seen in automobiles. When Toyota entered the lowest tier of the car market with its subcompact Corona, it was secure from General Motors (GM), because GM's institutional DNA was driving it upward, to make bigger and better vehicles such as SUVs and trucks. Toyota had decades to improve its subcompacts to the point that they were recognized as



something better than just the cheapest car on the market. Beginning in the 1980s, GM finally took notice of Toyota. GM tried to respond with smaller cars of its own, but by then Toyota had the edge. GM watched Toyota grow to become the world's most profitable car company.

Toyota upended the global auto market by embarking on an upward march of its own. The Corona was followed by the Tercel, the Corolla, the Camry, the Avalon, the 4-Runner, and ultimately the Lexus. The bigger-and-better tendency found expression in Toyota's institutional DNA and began to drive Toyota's decisions just as it had GM's. Toyota's attention to the Lexus, for example, made it more difficult for the company to see and respond to what is happening in the world below it. New competitors such as Hyundai have been the beneficiaries, though the bigger-and-better tendency now drives them as well. This genetic tendency is similarly embedded in retail companies, telecommunication equipment manufacturers, steel companies, hospitals, computer producers, and companies in scores of other industries—with the same results we see in automobiles. They are obsessed with bigger and better, and all but paralyzed from moving toward simpler and more affordable.



Two Schools of Thought

As we'll see in the stories of Harvard and BYU-Idaho, *The bigger-and-better tendency is powerful in higher education. Still, it can be overcome.* The first step is to understand Harvard better.

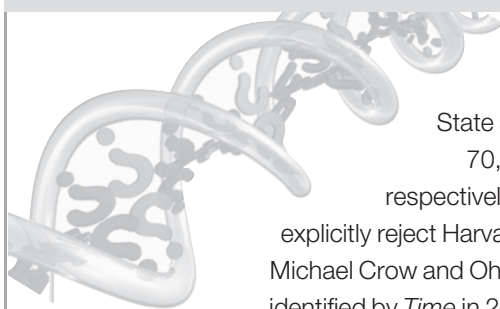
Though a prodigious innovator and an unrivaled trend-setter, Harvard was not first with every key university feature. Well into the twentieth century, it adopted practices and policies both from the great European universities and from elite American ones.³⁰ Nor can all of the most prominent and costly features be traced back to it. For



example, Harvard has few of the financial and behavioral problems associated with intercollegiate athletics at other universities. Likewise, its undergraduates uniformly complete their bachelor's degrees in four years, in contrast to the majority of students elsewhere, who take longer or fail to graduate altogether. In fact, the costs that many universities bear in emulating Harvard are greater because they have adopted the Harvard DNA imperfectly; as in the biological world, university clones inevitably suffer from defects not present in their donor. A case study of Harvard's evolution to greatness is a good way not only to explore typical university DNA but also to discover what has been lost in the process of institutional imitation.

Another helpful step in changing the university's DNA is to study institutions that are in the process of making such changes. The tendency to emulate Harvard is widespread, but it is not universal. To varying degrees, many institutions are taking different paths.

TWO UNIVERSITIES WITHOUT HARVARD ASPIRATIONS



Two of the country's biggest universities, Arizona State and Ohio State, which enroll 70,000 and 64,000 students,³¹ respectively, are led by presidents who explicitly reject Harvard imitation. Arizona State's Michael Crow and Ohio State's Gordon Gee were identified by *Time* in 2009 as among the country's ten best college presidents; Gee, in fact, topped the list.³² Both are leading efforts to make their giant, well-respected institutions different from Harvard.

Michael Crow describes Arizona State's intent to become a "New American University," one more accountable for educational attainment, math and science educational outcomes, and national competitiveness. He points to a lack of institutional differentiation as a liability in American higher education: "[I] don't know if it's necessarily good for every private university in the United States to think that its mission is to

emulate and ultimately topple Harvard as the number one university.” Arizona State’s goal, by contrast, is to augment rather than copy the nation’s top universities, by striving for academic excellence while still being widely accessible to students and engaged in its local community.³³

Gordon Gee, whose Ohio State is one of the sixty-three members of the elite, research-oriented American Association of Universities, nonetheless celebrates its commitment to the values and purposes of the “land-grant” colleges created by the federal government in the darkest days of the Civil War. The congressionally stated function of these colleges is to teach not only “scientific and classical studies,” but also “agriculture and the mechanic arts . . . to promote the liberal and practical education of the industrial classes.”³⁴

Gee takes pride in Ohio State’s land-grant heritage:

We embrace it, and we treasure the enormous contributions made in agriculture, engineering, medicine, law, veterinary sciences, and so many other fields of study And we make no apologies for also working to ensure that our graduates have the skills needed to thrive. Truly, the great universities of today and tomorrow will honor their histories while also changing for the future.³⁵

In addition to touching lightly on the stories of more than a dozen institutions that are changing for the future, we’ll study one at the same level of detail as Harvard. That school, BYU-Idaho, began as a frontier academy with an eye on Harvard, and soon had adopted many of its bigger-and-better tendencies, including the tendency to abandon the less educated students it was originally created to serve. However, the university’s leaders, including a number with firsthand understanding of the Harvard model, altered the university’s course. The faculty, administrators, and students of BYU-Idaho, like their counterparts at other universities and colleges, know that organizations must drive to

improve, or else lose their vitality. But BYU-Idaho has adopted a unique definition of bigger and better.

The headline-grabbing genetic changes at BYU-Idaho, made in 2000, included the elimination of a successful intercollegiate athletic program and the creation of a year-round academic calendar designed to serve as many students in the summer as in the fall and winter. These outwardly visible modifications paled, though, in comparison to the effects of other alterations of the traditional university DNA. BYU-Idaho's creators made unusual decisions about the three choices that determine the productive capacity of a university community: which *students* it serves, what *subject matter* it emphasizes, and what types of *scholarship* it pursues.

Specifically, BYU-Idaho determined to serve only undergraduates, with the goal of providing even ordinary students a first-class education via a focused set of academic offerings. Scholarly activities were focused on the scholarship of teaching and learning rather than traditional discovery research. These choices stand in stark contrast to the most prevalent definition of bigger and better in higher education, which favors graduate students over undergraduates, expansive course catalogs over selective ones, and specialized discovery scholarship over more integrative or applied forms.

The administrators and faculty members of BYU-Idaho also chose unique *success measures* to align their activities and incentives with these strategic choices. For example, among BYU-Idaho's most watched statistics is the percentage of students admitted, rather than the percentage denied. Likewise, the institution's goal is to decrease tuition relative to inflation, rather than increase it. The university is designed, at the cellular level, to achieve these goals. Serving more undergraduate students at higher quality and lower cost is an objective built into the university's organizational design, into its standards for admitting students and promoting faculty, and into its year-round academic calendar, course catalogs, and pedagogical approaches. It is also the driving reason behind the university's emphasis on online learning.

Rather than incorporating wholesale the genetic code of the great research institutions, BYU-Idaho is a product of genetic reengineering. It benefits from many of the educational innovations of Harvard, including some commonly ignored ones. But instead of imitating the most prestigious universities, it is designed to play a complementary role, serving students who seek a different kind of educational experience. Much of BYU-Idaho's genetic design was put in place before Spellings, Bok, and Lewis raised their concerns about the quality, cost, and accessibility of undergraduate education, though it was precisely those challenges that BYU-Idaho's founders sought to address. It is not only students who have benefited. The university's operational efficiency allows it to pay its faculty members more; by McKinsey's analysis, they make roughly 15 percent more in total compensation than their peers at comparable institutions.

The Power of Uniqueness

BYU-Idaho is of course a unique case, and some might doubt its usefulness as a model for other institutions. For example, short of *force majeure*, few university communities would accept the wholesale elimination of intercollegiate athletics or the implementation of a year-round academic calendar. Likewise, few tenured university professors would willingly bear teaching loads equivalent to those of community colleges, as BYU-Idaho faculty members do.

Yet, owing to a potent combination of financial downturn and looming competitive disruption, *force majeure* is a growing reality for many institutions. Moreover, much of what BYU-Idaho has done, especially its innovative use of online learning technology, was being done by other universities even before the downturn. Innovation at forward-looking institutions is now accelerating; many are considering heretofore unimaginable changes.

As we'll see, the key to successful innovation is not to imitate what BYU-Idaho—or any other university—has done. To the contrary,

success in an increasingly competitive higher education environment requires each institution to identify and pursue those things it can do uniquely well. A strong sense of uniqueness has long been a driving force behind Harvard's success. Even when Harvard borrowed traits from other institutions, as it did from the great European universities in the 1870s, it did so with innovative twists that accounted for its unique strengths and needs. Harvard succeeded in becoming Harvard in large part because it never tried to become anything else.

Due to their uniqueness, Harvard and BYU-Idaho provide useful case studies for the many universities seeking a sustainable future in an increasingly competitive environment. So do the other innovative schools we'll encounter. Little-known features of these unique institutions offer hope for others as they seek to find their niches.

A NONCONFORMIST'S UNIVERSITY



In *Winning by Degrees*, McKinsey urged policymakers to foster uniqueness even as they seek increased higher education productivity. "Grant policies," the authors said,

should foster productivity innovatively, for example, through sharing best practices, or introducing competitive grants and results-based funding. But they should not dictate how better productivity is achieved. This report shows that creative institutions can improve productivity in different ways, as long as they stay focused on the goal of educating more students for the same cost while maintaining or raising quality and access.³⁶

All of the eight schools profiled in *Winning by Degrees* achieve their superior productivity in different ways, but one in particular, private, nonprofit Southern New Hampshire University (SNHU) has, like

BYU-Idaho, created a unique blend of the traditional and emerging models of higher education. SNHU's eclectic blend of old and new reflects the background of its nonconformist leader, Paul LeBlanc, who once led an effort to unseat the president of the college where he taught and departed academe for a time to do a stint as vice president of new technology at book publisher Houghton Mifflin.

In addition to its 300-acre residential campus in Manchester, SNHU operates five extension centers, a large online program, and a variety of low-residency programs. Almost all of its courses and programs are available online, allowing students to choose not only their preferred place of study but also the learning medium. Nearly half of its roughly 7,300 students work through SNHU's extension centers and online learning channels. (SNHU distinguishes its learning sites as "On Campus," "On Location," and "Online.")

SNHU's curriculum is both liberal in the traditional sense and also employment focused. The curricular focus on what comes after graduation, combined with a well-supported internship program, helps SNHU place more than 95 percent of its students by the time they graduate.³⁷ None of these students graduate with more than five years' worth of credits, compared to 20 percent of students at peer institutions.³⁸

To see both the dangers of imitation and the potential to innovate and thrive in the new higher education environment, we'll move back and forth between urbane Cambridge, Massachusetts, and rural Rexburg, Idaho. Like the other innovative institutions we'll see, BYU-Idaho is not a finished product. Nor is it entirely immune to the expensive inclinations of traditional universities. But, having abandoned its early strategy of Harvard imitation, it is now focused in its choices of students, subjects, and scholarship and designed to produce effective learning at low cost. By selectively borrowing the best practices of others while pursuing its own unique mission, BYU-Idaho has established a sustainable competitive position and secured a bright future. Other institutions, from the largest research universities to the smallest colleges and institutes, can do the same. Many already are.