

Creating Institutional Space for Business Model Innovation

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From college campuses to the halls of Congress, there is broad agreement that higher education is experiencing a major wave of innovation. Some observers emphasize the rise of massive open online courses (MOOCs), others the expansion of competency-based degrees, and still others the emergence of strangely-named firms selling web-based services, but few contest the basic claim of widespread change.

There is great debate, however, about the nature and likely impact of such change. Some observers believe that higher education is undergoing “disruptive innovation,” and argue that the result will be an upheaval of the kind that has transformed the publishing and music industries.¹ Others dismiss such scenarios, and point to previous predictions of dramatic change that did not come true.

This article holds that the changes are significant, but that the resulting threats to existing institutions are manageable if key leaders understand them and if institutions adapt to the new environment. The key to successful adaptation is business model innovation, and schools of continuing, professional, and online education are particularly well situated to provide

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the “innovation space” that business model innovation requires.

What kind of business model innovation is needed to succeed in the face of rapid technological changes and a newly emerging competitive and regulatory environment?² We argue that the answers for most institutions are as follows:

- redefine the value proposition to meet the needs of today’s students;
- unbundle and personalize the services provided;
- leverage new synergies among instruction, research, and public engagement within institutions;
- and develop new service-delivery partnerships with external content and technology providers.

Most readers are well aware of the major changes taking place in higher education today, so we need not say much about them. At the same time, we wish to make explicit our own analysis of them, both because appropriate responses require accurate understanding and because that analysis forms the basis for the recommendations we will provide for business model innovation.

UNDERSTANDING THE NEW ENVIRONMENT: TECHNOLOGICAL INNOVATION

The most obvious changes in the environment are those enabled by recent advances in science and technology, especially cognitive science, information and communications technology, and “big data” analytics. These include massive open online courses (MOOCs), adaptive learning systems such as the courses developed by Carnegie Mellon’s Open Learning Initiative, and a wide variety of new, web-based applications and tools, from learning management systems to student tutoring and guidance systems.

The changes hold considerable promise for increasing productivity in higher education, both by improving learning outcomes through more personalized instruction and by reducing costs through economies of scale. Distance education has existed for decades, but for most of that time there was a significant tradeoff between the richness and the reach of information. That is, small college classes did not reach many students at one time, but offered quite personalized and richly textured instruction, with students getting to know their professors and each other. By contrast, distance education, especially its online version, offered large numbers of students instruction anyplace and increasingly anytime and did so at potentially

much lower cost due to economies of scale, but it sacrificed the richness of the classroom experience.

The major consequence of recent technological developments is that the tradeoff between the richness and reach of information is declining dramatically, just as Evans and Wurster anticipated in their seminal article in 1997.³ Numerous studies show that virtual education is achieving learning outcomes equal to or better than those achieved in the traditional classroom.⁴ That means that the traditional classroom is losing its privileged position as the superior setting for instruction.

Some hold that “blended” classrooms that integrate online and classroom instruction or “flipped” classrooms, where class time is used to discuss or apply ideas, information and skills learned online, are superior to either traditional lecture classes or pure online education, and they may be right. Yet ongoing advances in information and communications technologies, including social media and big data analytics, are reaching the point where even blended or flipped classrooms will offer few if any advantages over sophisticated online instruction that features chat rooms, individualized tutorials, and support services. In the meantime, highly subscribed online courses enjoy substantial cost advantages, thanks to their huge economies of scale. These economies are especially applicable to the major introductory or “gateway” courses that are critical sources of revenue at many institutions.

In short, campus-based education can no longer rely on claims of superior classroom instruction to justify charging much higher prices than online options. Some institutions may be able to compete on the strength of their reputation for selectivity and rigor. They may be able to compete by offering a unique community of scholars and students infused with the ideals of higher learning and personal growth. They may be able to compete on the value of the social connections that get established at residential colleges and their long-term value for careers, marriage and friendship. Yet many of them will find it increasingly difficult

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to fill their classrooms and residence halls unless they develop new ways to add value and cut costs. In short, most institutions need to develop a new value proposition for the campus-based experience in light of the challenges presented by new technologies.

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**UNDERSTANDING THE NEW ENVIRONMENT:
A CHANGING MARKET**

The other highly visible change in the higher education landscape is in the market for educational services. The most important development is the rise of what Louis Soares aptly calls “post-traditional” students.⁵ According to the latest federal data, just 15 percent of all students fit the familiar description of traditional undergraduates—18-22 year-olds who are full-time students at four-year residential institutions. By contrast, post-traditional students attend college part-time, commute rather than live on campus, and struggle to balance the competing demands of jobs, courses, and their dependents. They are a much more diverse group than traditional students, especially regarding their prior education. Some lack a high school degree, others have some college, and a small but growing number have a college degree but seek more career-related credentials. This diversity of learning backgrounds makes it all the more desirable to personalize the services provided to them.

The main reason these students make the sacrifices they do to pursue further education is to improve their position in the labor market. To do that they need the kinds of knowledge and skills that will help them in their careers. They also need experience integrating and applying that knowledge and those skills in authentic work situations. They need such experience because far more than in the past, today's employers are looking for evidence that those they hire can apply their skills in their firm and quickly become fully productive in a world where people change jobs often.⁶ The background that employers seek includes experience in learning new skills and applying them to new work tasks using e-learning and performance support systems and other tools now found in many workplaces. This suggests a new value-adding role for institutions that we will examine in more detail as the starting point for a new value proposition.

The market is changing in other ways as well. It is far more global than

it was 20 years ago, creating new opportunities to enroll foreign students (who usually pay the full, out-of-state tuition), to set up satellite campuses abroad, and to export online courses at virtually no marginal cost to the provider. There is also a rapidly growing market for master's degrees, as students with bachelor's degrees seek additional credentials to help them compete in the job market.

At the same time, the competitive situation is becoming more complex and challenging, as new providers—or old ones that have developed new services—emerge. A good example is Western Governors University, a competency-based, all-virtual, accredited institution. It is growing rapidly, presumably because it able to achieve good results at substantially lower cost than traditional four-year schools, making it appealing to students and state governments. Yet the challenge of new competitors comes not only from new or highly innovative colleges and universities. It also comes from more specialized service providers, almost all of them private, such as StraighterLine, Knewton, EduConnect, Pearson, and many more that are expected to soon play new roles in the higher education market. The question is whether these new providers are potential competitors or partners, or some of both, and how to leverage them in developing a competitive strategy in a rapidly changing competitive, funding, and regulatory environment.

UNDERSTANDING THE NEW ENVIRONMENT: OTHER CHANGES

These changes in technologies and markets are unfolding in an economic, credentialing, and regulatory environment that is itself evolving in ways that will only intensify their implications for higher education. The evolution of the economic environment has been widely discussed, so we need not say much about it. The basic trend concerns the growing financial squeeze that institutions face. The traditional business model assumes that colleges and universities will be able to continue attracting enough students to cover the costs of educating them—students who are able and willing to pay rising tuitions and fees.

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That, however, seems increasingly doubtful.

The decline in state support for public higher education is well documented. Some hope that a rebound in the economy will strengthen the fiscal outlook for state governments, in turn prompting states to restore per-student funding to previous levels.⁷ Yet that seems unlikely in the face of the long-term pressures on government finances. The greatest source of these pressures is the high and growing costs of providing medical care to the poor and the old, the latter being a rapidly growing category that includes retired state employees and prisoners. It also includes large unfunded pension liabilities and mounting infrastructure needs.

In the face of declining state support, public colleges and universities have increased enrollments and raised tuition and fees repeatedly, aided by the willingness of students to borrow substantial sums to invest in their “human capital.” More recently, however, students, their parents, and policymakers have expressed growing concerns about rising student debt levels, the underemployment of many college graduates, and the value of investments in higher education.

Moreover, the underlying economic reality is that the real incomes of average Americans have risen far more slowly the past two generations than the effective price of higher education, making it increasingly difficult for them to even make their monthly loan repayments, much less pay for college up front. It is true that for the average graduate, higher education pays off over a lifetime, but the earnings differential does not so much reflect real increases in the return on investment as increases relative to the falling average incomes of those who have only a high school degree.⁸ And the lifetime earnings differential itself appears to be substantially less than often claimed.⁹

In short, it is becoming increasingly difficult for all but the most selective colleges and universities to raise net tuition. The alternative is to reduce costs, but that is difficult for many reasons, from the inherent difficulty of obtaining productivity increases within the traditional business model—Baumol’s famous disease—to the fact that many institutions have gone about as far as they can in turning over instruction to far cheaper adjunct professors.

The result of these various developments is a growing revenue-cost squeeze that threatens the viability of many institutions. According to a recent survey by Moody’s, “a third of public and private universities project that net tuition revenue will decline or grow by less than two percent for FY

2013, a level below the average rate of inflation.”¹⁰ This survey also shows that nearly half of all universities are reporting lower enrollment this past academic year, with these declines especially pronounced among smaller and less selective institutions that are highly dependent on tuition. In short, “pressure on net tuition revenues continues to mount for both public and private universities.” One result is likely to be lower bond ratings and thus higher costs for financing capital improvements. But the key point is that the pricing power of universities is weakening and the revenue-cost squeeze intensifying.

The credentialing environment is also changing in ways that may exacerbate the challenges that colleges and universities face. The traditional higher education business model is based on a credentialing environment that for decades has clearly distinguished between credit and non-credit courses, with the dominant credential being the credit-based degree offered only by accredited institutions. This situation is evolving rapidly because of the growth of the noncredit credentialing market and alternative credentials such as industry and profession certificates, certifications, and most recently “badges.”

Moreover there is growing pressure to grant credit for courses taken at other institutions and for prior experience. Recent initiatives in California and by the State University of New York illustrate a much broader trend. All this means that universities are facing new competition when it comes to providing recognized labor market credentials, the very thing that motivates post-traditional students to pursue post-secondary education.

Finally, the regulatory environment is also changing. The traditional business model in higher education has long been supported by state and federal policies and regulations regarding financial aid, accreditation, and the role of credit-hours in measuring student loan eligibility. Today, however, there are growing indications that regulators will recognize some forms of competency-based education, as evidenced by recent guidance from the Department of Education. And there is growing uncertainty about financial aid reform and the prospects for alternative accreditation that will open the door to new competitors. One likely outcome, however, is the lowering of what economists call “barriers to entry” in providing higher educational services.

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BUSINESS MODEL INNOVATION

It is common to think that innovation is largely about advances in science and technology, most recently in information and communications technology; witness the fascination with MOOCs and their growth. Yet technological innovation is only one of the enablers of large-scale change in an industry or sector, according to Clayton Christensen, the Harvard Business School professor who developed the theory of “disruptive innovation.” Christensen points to three other enablers: business model innovation, “value network” compatibility, and a supportive standards and regulatory environment.¹¹ His argument is that business model innovation is needed to harness the potential of new technologies, and that such business model innovation is facilitated or impeded to the degree that the value network and regulatory environment are conducive.¹² This article focuses on business model innovation, both because it is so critical and because it is the only enabler over which a college or university leader has much influence.

What exactly are business models? A good definition is that they are blueprints for creating and delivering value and generating the revenue needed to continue doing so. Different experts offer slightly different lists of the key components of a business model. The following represents our effort to synthesize these in a way that applies well to higher education:¹³

- *Customer value proposition*: How an organization addresses the targeted customers’ needs (“job-to-be-done”) through its products and/or services and how those will be accessed and priced. It is important that colleges and universities not define the student’s job-to-be-done in terms of the services they currently provide, for they may address only a portion of that job.
- *Value chain*: How a firm or institution organizes and delivers services, uses faculty and staff, and engages external partners in delivering the value proposition. “Open” business models, which we will emphasize, involve far more external partnerships than found in most colleges and universities today.
- *Revenue formula*: How an organization generates enough revenue to cover the costs of delivering its services, including the associated pricing strategy. It is important that revenue formulas at institutions of higher education take into account the volume of activity needed over spe-

cific time periods—the role of velocity and more or less continuous flow in making the numbers work, and how all this relates to not only “time to degree,” but “time to full productivity.”

- *Competitive strategy*: How an organization chooses to compete with existing or potential rivals. Traditional strategies in the higher education sector may not be effective if changes in the environment are breaking down the pricing power of traditional institutions, challenging their dominance in credentialing, or reducing barriers to entry by innovative newcomers. We will suggest a new competitive strategy that leverages the advantages of “placed-based” delivery, including physical campuses and strong relationships with employers, in ways that provide students with opportunities to integrate and apply their knowledge and skills in authentic workplace settings.

Whether for-profit or not-for-profit, a manufacturing firm or a liberal arts college, an organization’s business model is a major determinant of its success. In mature industries, the same or similar business models are found in most organizations because that model has proven most effective. In this regard, higher education is no exception, notwithstanding its diversity in other respects. The value propositions, value chains, revenue formulas, and competitive strategies of colleges and universities, whether two-year or four-year, large or small, public or private, comprehensive or specialized, are remarkably similar across the sector.

In times of rapid change, however, new business models may prove much more effective. From Amazon to Southwest Airlines, business model innovation was the key to extraordinary growth, often at the expense of less innovative rivals. Yet there is little discussion of business model innovation in higher education. That is unfortunate because the changes in its environment—in technologies, markets, economics, credentialing, and regulation—have major implications for the relative effectiveness of various business models. This is especially true for their value proposition and value chain, so the following discus-

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sion focuses on those components of higher education's business model.

The value proposition at most colleges and universities targets students coming directly from high school, and views the job-to-be-done as providing them structured opportunities to learn about themselves and the world around them, to develop foundational knowledge and skills in a particular field, and to obtain credentials that will help them succeed in their post-college careers. This value proposition is usually provided by "bundled" services for learning and credentialing, and related developmental experiences—extracurricular activities, counseling services, etc.—for on-campus students. There is one, fixed price for the entire bundle of services, with tuition and fees based on a credit-hour system and with similar pricing for on-campus and online modes of delivering instruction.

Most of today's students, however, are older, have already embarked on careers, and are focused on career advancement. For them, the job-to-be-done is not simply to pass a set number of courses, obtain a degree, and have an interesting time along the way. It is to obtain career-relevant knowledge and skills, learn to integrate and apply them in real-world contexts, develop a portfolio or body of work that documents their performance and productivity, and perhaps obtain access to ongoing professional support after they leave college. Many of these students would also welcome a more personalized bundling of services, with prices based on use.

Today's colleges and universities help students in varying degrees with internships, but often these are neither well integrated with the student's academic program nor provided in ways that engage students in authentic real-world applications, much less ones that involve students from other disciplines. They rarely offer more intensive "last-mile" services, such as those that facilitate "on-boarding" in a new job or provide ongoing professional support. They also do not offer personalized packages of services, with prices adjusted accordingly. There is an opportunity for higher education institutions to modify their business models to tackle these challenges.

The typical value chain is similarly misaligned with recent developments in higher education's environment. Its service delivery system features a course-based, credit-hour arrangement, with courses usually offered on standardized, semester-based schedules and few opportunities for work-based learning. Its modes of delivering instruction include on-campus and online variants, but the latter is usually based on the former rather than incorporating adaptive learning systems or otherwise taking advantage of new technologies. Its credentialing system is usually based

on a wide variety of grading schemes rather than competency-based credentialing, and it provides limited opportunities to transfer credits from other institutions or obtain credit for prior learning. Its professional staff of tenured, tenure-track, and adjunct faculty are responsible for all learning services, including curriculum development, teaching, and assessment.

The typical college value chain also involves much greater emphasis on enrollment management than on the transition to careers and employment, and assigns these two functions to different offices—a mistake in our view.¹⁴ Finally, library, technology, and student learning support services at most institutions are still provided largely in-house, rather than purchased from and managed by external vendors.

It is time to rethink the value chain, including more personalized and competency-based delivery of learning and credentialing with a stronger focus on real-world application at both on-campus and off-campus locations. It is time to rethink faculty and staff roles, and to consider greater synergy between research, instruction and public engagement. It is time to explore what Henry Chesbrough calls “open” business models that involve more extensive buying of services from—and selling services to—external partners.¹⁵

It also is time to rethink the revenue formula focusing more on velocity and continuous flow and time to application and full productivity. In this new formula, pricing power would be maintained through high-value application opportunities, whether on-campus or with employers and other public and private partners.

Finally, it is time to rethink the traditional competitive strategy in ways that more fully leverage the competitive advantages of physical campuses and partner networks and the potential synergies among research, instruction, and public engagement functions at traditional institutions. This strategy should also leverage the potential synergies between the wide variety of colleges and programs at most traditional institutions compared to more specialized competitors. These synergies are necessary given the growing need for students to have experience in addressing real-world problems in cross-functional and interdisciplinary teams involving students from

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business, engineering, sciences, communications, and public policy. This strategy involves a new vision of the integration of online and in-person instruction with in-person services focused on real-world applications supported by state-of-the-art e-learning and performance support systems.

CREATING “INNOVATION SPACE” ON CAMPUS

It is easy for outsiders to say, “Change your business model.” It is quite another matter for leaders within institutions to do so, for they face serious constraints. Those constraints are well analyzed by Clayton Christensen in *The Innovator’s Dilemma: Why New Technologies Cause Great Firms to Fail*. One

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of that book’s key points is that the leading firms in an industry undergoing disruptive innovation usually fail to undertake the business model innovation needed to harness the power of the disruptive technology.

Why? To begin with, they are too focused on providing their current customers with ever better versions of their existing products or services in order to maintain or expand their current market share. In the process, they do not take seriously the potential for developing new markets by using new technologies to produce cheaper, more convenient products that will appeal and be affordable to today’s “non-consumers.” Rather, it is new firms with new business models that arise to seize that opportunity.

Christensen gives many examples but dwells on the computer industry. He shows how the makers of mainframes “ignored the minicomputer for years, allowing a set of entrants—Digital Equipment, Data General, Prime, Wang, and Nixdorf—to create and dominate the market.”¹⁶ Subsequently, the personal computer market was created by another set of entrants, and the portable computer market by yet another. In each case, the entrant began by producing low-end products that appealed to customers who previously did not purchase computers because they were too expensive and complex, but moved up the value chain quite rapidly.

The great exception to this pattern was IBM, the only leading maker of mainframes and minicomputers that succeeded with desktops and laptops. It did so, according to Christensen, by creating “an autonomous organiza-

tion in Florida, far away from its New York state headquarters, that was free to procure components from any source, to sell through its own channels, and to forge a cost structure appropriate to the technological and competitive requirements of the personal computing market.”¹⁷ Hewlett-Packard did something similar with inkjet printers, and like IBM, survived where other leading firms failed.

Why do existing organizations need to create an autonomous division if they are to succeed at pursuing disruptive innovation? Christensen and his co-authors of the book, *Disrupting Class*, put it well when they write:

To win the support of all the powerful entities within the organization whose endorsement is critical to getting the innovation funded, the innovative idea morphs into a concept that fits the business model of the organization, rather than the market for which the innovator originally envisioned it. In the language of disruption, here is what this means: unless top managers actively manage this process, their organization will shape every disruptive innovation into a *sustaining* innovation—one that fits the processes, values, and economic model of the existing business—because organizations cannot naturally disrupt themselves. This is the core reason why incumbent firms are at a disadvantage relative to entrant companies when disruptive innovations emerge.¹⁸

In other words, to pursue disruptive innovation successfully, leading firms need to create an autonomous space where innovators have the freedom to develop their ideas unimpeded by the practices and processes of the “mother ship.”

Does this generalization apply to higher education? The answer is yes, but with qualifications. First, education is not an industry like any other, though it would be a mistake to dismiss the lessons to be learned from the large literature on industry analysis and competition. Second, it is not clear that online learning constitutes a disruptive technology, though Christensen believes it does. It may be years before we know that. Finally, it is the leading universities that have pioneered the development and deployment of

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MOOCs, suggesting either that MOOCs are not a disruptive technology, or that Christensen is wrong about the inability of the old regime's leading organizations to lead and prosper under a new regime, or that the elite universities are unwittingly sowing the seeds of their own destruction.

Nevertheless, the point about the need for freedom to innovate is valid. It is worth noting that when the University of Minnesota wanted to try out some major new approaches to education, it established an entirely new school in Rochester; Southern New Hampshire University established a separate college; Western Governors University had the advantage of starting from scratch, and now governors of states not initially involved are asking it to set up operations in their states because of the difficulty of changing existing institutions.

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None of this is to question the claim that higher education in general and research universities in particular are innovative by nature, in the sense of being open to new ideas and developing new knowledge. On the other hand, many deans and presidents will testify to the difficulty of introducing major changes in their institution's business model such as revising the academic schedule from two fifteen-week semesters to a quarterly or year-round system.

The larger point is not that universities should do what IBM did, i.e., set up a separate organization in a different place. Rather, it is that they should take seriously the lessons from other sectors and find a way to provide the "innovation space" needed for visionary leaders to experiment with new business models without being smothered by the parent institution's existing culture and resource priorities. It is here that schools and divisions of professional, continuing, and online education can play a critical role, for they already have greater autonomy and freedom to innovate than their counterparts elsewhere on campus.

Some long-serving UPCEA "elders" explained this relative freedom in the "Parting Wisdom" session at UPCEA's annual conference in April. One put it humorously, saying that "we in continuing education have more freedom to innovate because we operate at night." Others suggested that the rest of the university is so keen to keep its distance from continuing

education that they don't know what is going on. One added a more positive reason: the continuing education unit is the only one on campus that makes money, and as long as does, it is relatively free to experiment. Another noted that he detects in his colleagues from other parts of the university a new respect for the continuing education unit and a degree of envy for its freedom to innovate and build something new and good.

It is not only that the leaders of professional and continuing education units are relatively free to innovate. They also have extensive experience serving post-traditional students. They have broad experience with online learning. They often work in both the traditional credit and the noncredit worlds. They have relationships with employers and other potential new partners outside the institution. They have experience in organizing off-campus engagements. Finally, they have experience reaching across campus silos through their work with faculty from different departments and schools.

All this leads us to conclude that professional and continuing education units are well positioned to create the innovation space that universities will need if they are to adapt successfully to higher education's changing environment. Assuming that is so, the question then becomes: What kinds of business model innovation should they be testing?

BUSINESS MODEL INNOVATION ON CAMPUS

Where to start in experimenting with new business models depends on the particular institution, including its existing competitive strengths, weaknesses, and resources. In general, however, most institutions, especially the non-elite schools facing financial stress, should start by developing a new value proposition for all students, including the post-traditional student. It should focus not just on time to degree but also on time to full integration, application, and performance within authentic work contexts. These work contexts should be provided through partnerships with regional employers, whether in industry, government, or the nonprofit sector, depending on the mission of the institution and its programs and on the goals of students. As previously noted, this is the basis for a new competitive strategy that

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captures value from place-based delivery. It also supports a new revenue formula that leverages the associated pricing power.

This new value proposition will require a major rethinking of how most institutions now deliver instructional and credentialing services within their traditional value chain. First, it will require moving application and performance to the center of instruction and reducing the time it takes to get to the point of application through technology-enabled, personalized, competency-based learning systems. This could involve experimentation with more comprehensive e-learning and performance systems used in many workplaces.

What would these systems look like? They may look like what some experts are forecasting will soon be found in many modern workplaces—systems that provide 24/7 “wrap-around” learning and performance support services that some have called “e-learning and performance systems”:¹⁹ These services usually involve some combination of the following services:

- E-learning: on-demand learning units and courses with assessments that are mapped to project and task requirements for maximum retention and transfer at the point of application
- Information services: instant access to information to support decisions and performance.
- Performance tools: software tools for managing work, analyzing data and communicating results
- Professional mentoring and networking: performance coaches and access to experts that can provide needed information and support
- Portfolio management: evidence of what workers have done to demonstrate critical competencies

Second, the new value proposition will require a new value chain with stronger external partnerships with employers and others who can provide opportunities for authentic applications in real-world projects involving students from different departments and disciplines. This will necessitate new synergies between internal departments and between research and public engagement units so that all external partnerships are fully leveraged. It also will require new roles for faculty working with other faculty from multiple departments to support application and performance outside the traditional boundaries of the classroom. This could be done on campus, at new third-party innovation spaces, and at employer locations

within service regions or throughout the world. This speaks to the need to leverage traditional campuses and institutional relationships in ways by which they can add the most value and which cannot be easily done virtually in the foreseeable future. This is leveraging the value of “place-based” services that can be complemented by e-learning and performance support services.

Of course, this will cost money, and most institutions will not be able to raise tuition to pay for additional “last mile” services. Some cost savings can be realized through new synergies between departments and instruction, research and public engagement functions on campus, but they will go only so far. The real solution is new, open business models that can leverage the economies of scale that flow from partnering with firms that provide back-end services that include the learning content (online courses, library and information services) and technology (system platform and technical support) services needed for new e-learning and performance support systems—systems that have the capacity to reduce time to application and do so relatively cheaply. Also needed are new partnerships with employers and industry and professional associations for providing front-end services to their employees and members as well as to students.

Third, this new value proposition will require rethinking how institutions bundle and price all of these services for current students as well as alumni who may want some or all of these services at different stages of professional development. This also may involve thinking about how to bundle and price these services for employers who may want to provide them to their employees and customers through one or more institutions.

In the end, we think that this new business model offers institutions a promising way to compete—one that both leverages the place-based advantages of physical campuses and local partnerships and captures the economies of scale and scope provided by advances in technology. However, every institution must tailor the new value proposition and open business model to reflect its own mission and competitive position as well as leverage its existing strengths and resources. This is what must be done with the institutional innovation spaces of existing colleges and universities throughout the country.

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CONCLUSIONS

The changes taking place in higher education today represent a disconcerting combination of threats and opportunities. We have argued that the key to adapting successfully to these changes is business model innovation. That in turn requires space where innovators have the freedom to develop and test new business models that do not fit well within the larger university's prevailing culture and processes. Professional and continuing education leaders can play a major role in creating such space because their schools and divisions already have considerable autonomy.

Business model innovation should respect an institution's mission and leverage its competitive strength. At the same time, it should address the job-to-be-done of post-traditional students in the form of more personalized, competency-based services. These services should include opportunities to apply acquired knowledge and skill in real-world contexts that leverage the institution's place-based assets and relationships. These services should be enhanced by a new generation of e-learning and performance support systems, not just today's learning management systems.

Finally, these services should be provided through open business models that harness economies of scale through relationships with external partners. 

ENDNOTES

1. In the cover story of the Jan.-Feb 2013 issue of *The American Interest*, Nathan Harden writes: "In 50 years, if not much sooner, half of the roughly 4,500 colleges and universities operating in the United States today will have ceased to exist."
2. For a more detailed and theoretical analysis of business model innovation, see our article, "Harnessing the power of information technology: Open business models in higher education," *EDUCAUSE Review* 47:2 (March-April, 2012).
3. Evans, P. & Wurster, T. "Strategy and the new economics of information," *Harvard Business Review* (Sept.-Oct. 1997).
4. See Bowen, W. G., Chingos, M. M., Lack, K. A. & Nygren, T. I., "Interactive learning online at public universities: Evidence from randomized trials," Ithaka S+R, May 22 2012 and the US Department of Education's *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. Its conclusion (p. xviii) is that "When used by itself, online learning appears to be as effective as conventional classroom instruction...."
5. See Soares, L., *Post-traditional Learners and the Transformation of Postsecondary Education: A Manifesto for College Leaders* (Washington, DC: American Council on Education, January 2013).
6. In the words of Jaime S. Fall, a vice president at the HR Policy Association, young employees "are very good at finding information, but not as good at putting that information into context; ...they're really good at technology, but not at how to take those skills and resolve specific problems." Quoted in Alina Tugend, "What it takes to make new college graduates employable," *New York Times*, June 28, 2013.

7. See Jeffrey Selingo's discussion of "the disappearing state in public higher education" in his *College (Un)Bound: The Future of Higher Education and What it Means for Students* (Boston: New Harvest, 2013).
8. See *Is College Worth It?* (Washington, DC: Pew Research Center, 2011); Chapter 5 shows that from 1976 to 2010, median earnings of 25-34 year-old, full-time, full-year workers with only a high school degree fell from \$40,000 to \$30,000, while earning for those with a bachelor's degree remained stable at \$46,000.
9. Pilon, M., "What's a degree worth?" *Wall Street Journal*, Feb. 2, 2010. See also the many relevant publications of the Center for Education and the Workforce at Georgetown University. One major point is that the value varies widely by school and major.
10. Moody's Investors Service, "More colleges face stagnating enrollment and tuition revenue, according to Moody's survey," Special Comment, January 10, 2013.
11. Christensen is best known for his book, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail* (Harvard Business School Press, 1997), but for the best example of his application of this analytical framework, see Christensen, C. M., Grossman, J., & Hwang, J., *The Innovator's Prescription: A Disruptive Solution for Health Care* (McGraw Hill, 2009). On education, see *Disrupting Class: How Disruptive Education will Change the Way the World Learns*, co-authored with Horn M. & Johnson, C. (McGraw Hill Books, 2011/2008); *Disrupting College: How Disruptive Innovation can Deliver Quality and Affordability in Postsecondary Education*, co-authored with Horn, M., Soares, L., & Caldera, L. (Center for American Progress, Feb. 2012), and *The Innovative University: Changing the DNA of Higher Education from the Inside Out*, co-authored with Eyring, H. (San Francisco: Jossey-Bass, 2011).
12. The value network is the set of organizations a firm depends on to supply and/or distribute its products and services. In higher education, it includes the providers of learning management systems, content and technology services, admissions and retention services, and student loans and grants.
13. For a list of business model books and articles, see our previously cited article, "Harnessing the power of information technology: Open business models in higher education."
14. There are now vendors that offer "inquiry-to-graduation support," including coaching, process expertise, analytics, and technology to increase enrollment and graduation rates and enhance student experience, including post-traditional students. One is Insidetrack, which partnered with UPCEA's Center for Research and Consulting on surveys and reports in 2012 and 2013 on institutional progress in measuring post-traditional student success.
15. See especially his books *Open Business Models: How to Thrive in the New Innovation Landscape* (Boston: Harvard University Press, 2006); and *Open Services Innovation: Rethinking your Business to Grow and Compete in a New Era* (San Francisco: Jossey-Bass, 2011). See also Osterwalder, A. & Pigneur, Y., *Business Model Generation: A Handbook for Visionaries, Game Changers and Challengers* (New York: John Wiley & Sons, 2010); and Johnson, M. W., *Seizing the White Space: Business Model Innovation for Growth and Renewal* (Boston: Harvard Business Press, 2010).
16. *The Innovator's Dilemma*, p. 126. See also *The Innovator's Solution*, co-authored with Raynor, M. (Boston: Harvard Business School Press, 2003).
17. *The Innovator's Dilemma*, p. 127.
18. *Disrupting Class*, p. 75.
19. Rosenberg, M. J., *Beyond E-Learning: Approaches and Technologies to Enhance Organizational Knowledge, Learning and Performance*, (San Francisco: Wiley & Sons, 2006).
18. Owen Johnson, *Stover at Yale* (1912; Boston: Little, Brown, 1926), p. 234.