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Managing the University:
Why “organized anarchy” is unacceptable in the age of MOOCs

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1. Introduction

Managing a university is arguably more complicated and complex than managing a private for-profit enterprise. There are not only more stakeholders to satisfy/keep in mind—including students, faculty, alumni, parents, boards of trustees, state politicians (in the case of publicly funded universities) and local communities—but there are also hot-button political issues such as free speech, community involvement, and inclusion to deal with. Many societies expect the university to perform complex social and political functions, too. Few private sector CEOs have to manage such a plethora of challenges.

Yet there are also important similarities. Universities, like private firms, operate in an environment subject to unforecastable shifts. Public universities, in particular, face deep uncertainty driven in part by state budget changes, new governance requirements, and, on occasion, political interference.

Moreover, many university presidents manage thousands of employees and budgets of hundreds of millions (if not billions) of dollars.¹ Universities are, in fact, big businesses. But, while they need to be managed in a more businesslike manner, they cannot and should not be run in exactly the same way as a business. To take one obvious example, university faculties have high levels of autonomy and influence over many “workplace” decisions to a degree that has no clear parallel in a corporate hierarchy.

¹ To take a few examples, in FY 2015, the budgets of the University of Illinois system, Stanford, and Harvard were \$4.5 billion, \$5.1 billion, and \$4.5 billion, respectively.

This is not to say, however, that universities will not benefit from modern management tools and frameworks. Given the complexity and scale of their operations, such tools are essential to help guide their allocation of resources and attention. Neglect of any one major constituency can spell disaster; but embracing them each with equal weight will likely also lead to failure.

Moreover, universities face a competitive environment that has become global (Slaughter and Leslie, 1997). Not only is top talent (faculty and students) recruited worldwide, but new technology allows education services to be delivered across borders.

It is critical that priorities be set. Otherwise, campus leaders will be drowned by non-strategic issues. A university president should not settle for the “organized anarchy” that Cohen and March (1974) saw as the norm for university management a generation ago. Perpetuating chaos and crisis (however “organized”) is no longer acceptable, particularly when there is acute resource scarcity. This applies even to leading universities with impressive histories. Old accomplishments will not allow even great educational institutions to coast. As Oxford University Vice Chancellor Sir John Hood (2004) put it, “reputations built on the memorable success of the past do not of themselves provide a stable foundation for the future.” Strategic management is now a necessity for campus leaders to look forward and get ahead of their problems.

This essay explores the applicability of system theory-based framework called dynamic capabilities (Teece, Pisano, and Shuen, 1997; Teece, 2007). Dynamic capabilities can help campus leaders think about managing universities better. After presenting the capabilities framework, I briefly discuss its applicability to the challenges and opportunities of the digitization of education.

2. The past is not prologue

The educational and research landscape has changed dramatically over the last half century.

Technological possibilities have exploded. Students are increasingly from older and previously underrepresented demographics, bringing new expectations. Rising costs and tight budgets have increased internal and external conflicts. Various forms of accountability are receiving greater attention. Strong global competition for research dollars and top faculty and students has grown.

Forty years ago, Cohen and March referred to an American college presidency as “a reactive job,” where the allocation of attention was “largely controlled by the desires of others” (Cohen and March, 1974: 1). They went on to observe that this demand-driven style of decision making “decouples problems and choices” (Cohen and March, 1974: 2).

They were writing right at the end of the period during which post-war economies were booming and funds for operations and research were more readily available. As their book was being published, an oil shock threw most developed countries into an economic crisis and aggravated rising inflation that made university budgeting more complex.

There has not been much effort to measure the extent to which the reactive behavior that Cohen and March described has persisted. Certainly, some university leaders have carved out forward-looking positions in recent decades. But there is a real need for a systematic approach to the proactive strategic management of today’s universities.

A strategic approach to management of the university must be cognizant of the campus ecosystem writ large. A research university is embedded in a larger system that includes supporting institutions (e.g., government agencies such as NSF and NIH in the U.S.) and a

surrounding city that may enhance or detract from the university's brand. Local governments may offer support but sometimes they attack, undermine, and even tax the university.

A university itself is a complex system of interdependent parts. Departments and schools are not islands unto themselves, even if they have substantial autonomy. The reputation of one school within a university affects other schools and departments. Resources flow from department to department directly and indirectly. Successful alumni from professional and engineering schools often make endowment gifts to other parts of the campus (rarely the other way around). Financial surpluses from academic medical schools will sometimes fund other activities on campus. Athletics can be a net profit or loss to the campus. While sometimes individual department "brands" dominate the campus brand (e.g., Wharton versus Penn), sometimes it is the opposite (e.g., U.C. Berkeley and the Haas School of Business²). The exact nature of each interdependency is not always obvious.

If this is a fair representation of the university today, it leads naturally to the question of what management/leadership skills are most needed for a twenty-first-century president, chancellor or rector of a college or university. How should campus leaders manage? How should they balance the needs and issues of academic medical centers and athletics and the arts along with the Engineering and English departments? What, if anything, can management theory, scholarship, and practice offer?

The dynamic capabilities framework, which incorporates many elements of a systems approach, can provide guidance for prioritization of the endless stream of competing and conflicting

² Recognizing this relative brand disparity, Dean Lyons has rebranded the business school as "Berkeley/Haas."

demands. The goal is not short-term efficiency, as in classic management, but rather longer term “ecological fitness,” i.e., an ability to respond and adapt rapidly to threats and opportunities as they arise in the university’s ecosystem. Campus leaders must, of course, pursue both efficiency and dynamic fitness, but fitness matters most. Mistakes with respect to the former get corrected through budgeting; mistakes in the latter lead to a loss of attractiveness to students, faculty, donors, and other stakeholders—a sure recipe for decline.

John Hennessy, the president of Stanford from 2000 to 2016, described his idea of success in catalytic terms:

I view the role of the President as scouting for opportunities, possibly by bringing a group of faculty together that kind of know each other, but need a little inspiration and maybe a little funding and a little incentive to come together and do something. ... The challenge is to do something that creates a synergy among them and enables us to do something larger. It could be because it enables us to do research we couldn't do before. Sometimes it can attract philanthropy that couldn't be attracted with ten individual efforts. So I'm constantly looking at that. For example, neuroscience. ... It's a big frontier in human medicine. You look and you say, “Can I get a group of faculty to get together between the medical school, engineering and biology. Are we missing people who do the following?” And then we'll look for ways in which we can help finance that or establish it.³

In short, university administrators must learn to think like entrepreneurial business managers (Teece, 2016) while protecting their traditional academic and research missions and remaining sensitive to their key constituencies. This means becoming more adept at garnering financial resources and at reallocating resources in order to nimbly seize opportunities. It requires that they prepare their campuses to embrace change and provide leadership when change occurs. In other words, it requires that they strengthen and exercise campus-wide dynamic capabilities.

³ John L. Hennessy, interviewed in April 2017 by David Teece for *California Management Review*.

3. Ordinary and Dynamic Capabilities in a University Context

The dynamic capabilities framework has developed through decades of observing how the most innovative businesses succeed amid change and uncertainty—and how others fail to do so. It can help organizations strategically reallocate resources as they detect threats and opportunities, identifying and developing promising avenues for growth.

The dynamic capabilities framework applied in a university context advises that the top leaders must scan and interpret their external and internal environments, develop fresh approaches to seizing opportunities and confronting challenges such as new mandates, and guide the university through necessary transformations. The framework highlights the importance of a strategic, forward-looking perspective.

This section introduces the capabilities hierarchy, whose primary division is between the ordinary capabilities that lead to efficient operation in the present and the dynamic capabilities that can drive the university into the future. Cutting costs and sharing overhead is everyday business that must be done; but it will rarely save a failing institution or position one for the longer term. For that, strategic management is necessary.

3a. Ordinary Capabilities

Ordinary capabilities permit sufficiency (and, potentially, excellence) in the performance of well delineated tasks. They fall into three categories: administration, operations, and governance.

Ordinary capabilities are embedded in some combination of (1) skilled personnel, (2) facilities and equipment, (3) processes and routines, and (4) the administrative coordination and oversight needed to ensure that the tasks are accomplished. Strong ordinary capabilities allow a firm to achieve “best practices.”

Ordinary capabilities are typically rooted in information and knowledge that, if not in the public domain, can be obtained by contracting with specialist suppliers or consultants. “Ordinary” tasks lend themselves to being measured and thus benchmarked internally or externally. They involve routines that are frequently repeated and can be codified more or less completely.

Most university leaders understand the importance of executing on issues such as rewarding high-quality research and teaching, and using the peer-review process to assess the quality of research. Likewise, the quality of instruction can be enhanced by monitoring and reviewing curriculum and by measuring student learning and achievement. These core issues will never go away, even as their shape is changed by new technology and new priorities and by global competition for faculty, students, and research funds.

An organization’s ordinary capabilities enable the production and “sale” of a defined (but static) set of educational and research services. Strong ordinary capabilities allow these services to be produced and delivered efficiently, regardless of whether the current curriculum, student numbers, tuition levels, admission process are on the best path to follow in the future.

Weaknesses can occur when the relentless pursuit of efficiency drives out the capacity to change. Organizations become sclerotic, as efficiency is easier to obtain if the set of tasks the organization is to perform is fixed. Managers, deans, and faculty who are rewarded primarily for meeting efficiency goals become invested in defending the status quo. Such organizations lack resilience that can allow them to change promptly when the need arises.

3b. Dynamic Capabilities

Dynamic capabilities are activities that contribute to the reconfiguration of a university’s resources in alignment with the changing needs of stakeholders. They allow a university to clear

the hurdles of the present and propel itself into the future. The most important type of dynamic capabilities are three clusters of entrepreneurial activities that take place concurrently throughout the organization: sensing, seizing and transforming. These do not constitute a one-time-and-done process but rather three continuing processes that ensure ongoing institutional renewal.

There are a number of supporting (microfoundational) dynamic capabilities such as systems for forming external partnerships or for lobbying various levels of government. These involve (often idiosyncratic) routines that recur with more or less frequency. But it is the higher order dynamic capabilities on which I will focus here.

It is important to emphasize that astute leadership is the sine qua non of strong dynamic capabilities (Leih and Teece, 2016). Good leadership entails understanding the foundations of the institution's "competitive advantage" as well as its vulnerabilities. Although dynamic capabilities must be embedded throughout the campus in order to be effective, it's up to the top executives to "see around corners", develop and select strategies, and inspire a willingness to transform.

Sensing

The activities for "sensing" include environmental scanning and the generation and testing of hypotheses about the forces affecting the university. Using data and observations from internal and external sources, the university must continuously monitor its environment, prioritize problems, and identify new research opportunities, underserved educational markets, and alternate revenue sources. Peer institutions must be monitored and, in some cases, mimicked, ideally with a distinctive flair.

To develop strong sensing capabilities, university presidents must ensure that relevant information captured from the external environment or other sources by faculty and other members of the campus community will find its way to where it's needed and be properly assessed and handled. The steps to enable such an internal knowledge network include decentralizing authority, creating a collaborative organizational culture, and propagating a shared vision.

Fundraising is, of course, a key measure of presidential success (Cook, 1997). Methods of identifying and calibrating revenue opportunities for education, research, and capital projects are thus especially important. University leaders must be attentive to potential shifts in governmental appropriations and responsive to possible alliances with corporations for joint research activities, grants, or donations.

Other opportunities to leverage existing resources abound. Partnerships with other universities, for example, can help enhance academic programs and recruit additional students (Stein and Short, 2001). The possibilities need to be identified, assessed, and prioritized.

Seizing

Without proficiency in “seizing” activities, a university may sense opportunities and threats but be unable to act on them in a timely manner, if at all. The activities required for effective seizing include the design or updating and implementation of “business models” for various activities. Once opportunities and threats are identified, multiple alternatives must be developed, underlying hypotheses tested, and strategies planned. Strong seizing capabilities involve catalyzing decision makers to ensure timely and proficient selection from among the alternatives.

A business model describes what an organization offers, how it gets paid, and how it manages costs (Schön, 2012; Teece, 2010). There are multiple business models throughout the university such as those for alumni fundraising, the handling of research grants, endowment development and management, the staging of athletic and other events, and technology transfer. Each of these offers opportunities for innovation and readjustment. Effective business model design can make an activity both more responsive to stakeholders and more lucrative for the campus.

New technology is enabling different ways of educating. Seizing the opportunities, about which more will be said below, requires new revenue models, new contractual arrangements with faculty, new pricing policies, and different cost-control measures (Christensen et al., 2011).

Seizing encompasses organizational design, including the consideration of outsourcing options. Since few can be good at everything, a university should focus resources on its strengths and rely on outsourced services in areas where it is weak and unlikely to invest enough to develop a best-practice (ordinary) capability. The private sector is perfectly able to provide many goods and services efficiently, e.g., student housing and cafeterias, although there may be cases where a strategy, business model, or existing advantage calls for internal delivery. Alternative arrangements for infrastructure such as public-private partnerships, should also be considered. Local government may also be willing to partner on developing infrastructure and amenities.

Effective “seizing” requires a systemic view of the university and its environment across a nearly endless number of domains involved, including student enrollment, degrees offered, land use, community relations, fundraising, technology, and internationalization. Because changes in any one area are likely to impact others, an appreciation of the interdependencies is vital. The decision-making process to select from among a set of alternatives must be designed to be

collaborative but as rapid as circumstances allow; a timely consensual decision process is the secret sauce that separates effective management from bureaucratic bloat. Ideally, changes will all work toward fulfilling a unified overall vision. For example, creating a campus climate that encourages and supports student entrepreneurs can foster future alumni contributions.

Transforming

Despite occasional rumors to the contrary, transformations—even radical ones—are possible in the university context. Stanford University’s conscious evolution over a 30-year period from a sleepy regional college to an international powerhouse is a good example, as is the Massachusetts Institute of Technology’s systemic embrace of technology, development, and commercialization. Likewise, Yale’s rejuvenation under the tenure of President Richard Levin from 1993 to 2013 is a salutary example. Minor transformations must be made on a semi-continuous basis to keep the institution aligned with its environment and maximize the benefits to stakeholders from available resources.

The activities involved in “transforming” determine whether plans and models succeed or fail. New policies, procedures, and structures may be required. But more fundamental is the need for a culture that embraces change in the service of a shared strategic vision. Organizational and institutional cultures are slow to change. A cultural shift toward greater flexibility and creativity, while challenging to bring about, can provide a firm foundation for progress.

Maintaining the success of any organization also requires that leaders reallocate resources away from weaknesses toward excellence coupled with growth opportunities. It may involve, for instance, monetizing unproductive assets, such as unneeded real estate, but it more often entails building faculty strength in emerging disciplines and in interdisciplinary activities.

In the business enterprise, “asset orchestration” is the ability to recombine, and, if necessary, reconfigure resources and organizational structures as the enterprise (or the institution) grows, and as technologies, customers, and other stakeholders require (Teece, 2007). In the university context, this means reviving less successful programs and possibly even shutting down poorly performing departments, and starting new ones where possible. Such decisions should never be made lightly, but program discontinuance can allow reallocation of resources to more promising areas (Eckel, 2002). Note that this is not coded language for slashing arts education in favor of STEM disciplines; the metrics for departmental performance must extend beyond the pecuniary to encompass other dimensions, including contribution to campus life and brand image.

Within universities, there are myriad forces that push against strategic changes (Zajac and Kraatz, 1993). Academic governance and the deference given to faculty can limit a university’s agility, creating a bias toward the status quo (AGB, 1996). Other constituencies may stand in the way of change, testing the mettle of campus leadership. Pressures for “reliability” and “accountability” further erode the likelihood of major organizational changes (Hannan and Freeman, 1984: 153).

As compared with leaders at private companies, university leaders operate in a much more transparent, democratic and less hierarchical environment that limits their ability to impose change. This places a premium on their vision, charisma, and diplomatic skills. Successfully transforming a university stands or falls with the ability of its leaders to build a broad base of support. This does not mean trying to keep every constituency happy. Endless pursuit of consensus and capitulation to poor-performing but vocal factions are inconsistent with strong dynamic capabilities and educational success.

4. The Opportunities and Threats of Digitized Instruction

Strong dynamic capabilities are particularly important now because there are signs that technological disruption is coming to U.S. higher education. The digitization of increasing quantities of educational “content” has the potential to undermine existing delivery models, erase the value of many venerable brands, and enable the rise of new entrants and nimble incumbents. It could make an already tough time for many colleges and universities even more challenging.

In the 1960s, economists William Baumol and William Bowen identified the productivity problem at the root of the rising relative cost of service industries, including higher education (Baumol and Bowen, 1966). For centuries, the productivity of higher education was limited by its labor-intensive production function and was therefore not amenable to major improvement through technological advance. They noted that the productivity of a professor in the Middle Ages and that of a professor today are not very different, which is true of a number of other specialized activities, such as playing an instrument in a symphony orchestra.

This longstanding productivity freeze, sometimes called “Baumol’s cost disease,” is finally beginning to thaw as a bundle of Internet-based technologies involving high-bandwidth communications, content management systems, online courses, e-mentoring platforms, and social and collaborative network software start to take hold in U.S. higher education.

The clearest example of the potential productivity effect of these technologies is the arrival of massive open online courses, or MOOCs (Guile and Teece, 2013). MOOCs offered by leading university faculty through platforms such as Coursera demonstrate that a single educator can deliver university-level content to thousands if not tens of thousands of students worldwide simultaneously.

This could prove to be the most significant advance in the pedagogic part of higher education in a millennium. There is still a great deal of experimentation taking place about the best way to design the courses, about determining where they are most suitable, and, most relevant for the university, about the right business model (Burd, Smith, and Reisman, 2015).

Universities in the U.S. and other countries with mature higher education sectors have been struggling to justify the cost and value of a residential degree program. This could become a true crisis if students can get much of the same content and classroom-like experience from an online instructor in another city or across an ocean at much lower cost. Many will be asking what value added comes from supporting a campus when demand for teaching services can be aggregated much less expensively online. Part of the answer for now is the value of personal interaction with professors, assistants, and other students. But virtual reality and the use of artificial intelligence to personalize instruction could potentially erode even that distinction.

MOOCs can be thought of as knowledge modules packaged together with high-quality pedagogy, student-student interaction, and specialized tools for scalable faculty-student interaction. Popular professors can potentially teach independently without even securing affiliation to an institution of higher education. Students can join a course without enrolling in a degree program or paying tuition. They can do so simultaneously in New York City and in farming communities in California's Central Valley. And, of course, in Mumbai, Munich, Seoul, and Tunis.

In the near-term, colleges and universities will be adopting blends of digital and traditional teaching from along a spectrum that runs between the two extremes of the traditional and the virtual university (Ghemawat, 2017). Educational services will likely be unbundled and re-

bundled in new forms before a new dominant design emerges. Faculty, rather than being fully responsible for the preparation and conduct of an entire course, may start to specialize in, for example, course design or the running of online discussions (Lyons, 2017). Colleges and universities with strong dynamic capabilities will be able to develop a brand that may allow them to sell degree-program packages. Some students, on the other hand, will prefer to take instruction from the “best” statistics professor at Caltech, the best nuclear engineer at U.C. Berkeley, the best Shakespeare professor at Cambridge, and the best economist at MIT.

Learning has the potential to become more of a lower-hassle, lower-cost lifetime activity rather than a one-time rite of passage. Following the path of other industries such as telecommunications or computer services, the modularization of higher education into scalable online courses will allow a reintegration of modules with the needs of users, not of course providers, in the forefront. It remains to be seen if a university degree will continue to serve as a valuable signal of achievement. Governments may also play a greater role, rebundling modules for their purposes and populations to create certificates and degrees that meet local needs. There is a great deal of uncertainty in the years ahead.

There is also much potential; the question is whether it can be seized. Online courses can be provided both as part of regular degree programs and as discrete curriculum-independent products. Universities clearly bring valuable assets to the table.

Clearly, MOOCs (and related phenomena employing online methodologies) represent both peril and promise for universities. Those schools with exclusive images and strong dynamic capabilities will find ways to leverage their strengths with innovative business models, updating

their brands for a changed educational environment. Others that are in a less favorable position and unable to develop a successful strategy may face steady decline.

5. There is Still Time

We know from the study of economic history that it can take many years for new enabling technologies (in this case the internet and a plethora of related learning tools and methodologies) to achieve their full impact. As Nobel laureate economist Robert Solow observed about computers in the 1980s “You can see the computer age everywhere but in the productivity statistics.”⁴ Before much of the potential of computers could be unlocked, robust application software had to be developed. The creation and development of the internet then gave a new and significant boost by providing low cost, ubiquitous connectivity.

Economic historian Nate Rosenberg (1963), using the example of machines tools, showed how new technologies have comprehensive impact only after complementary technologies and new uses are developed. Thus, the transistor radio was at first the same old tabletop radio with valves replaced by transistors until Sony miniaturized all the components and created the first truly portable radio.

Similarly, initial efforts at online teaching tended to mimic the standard classroom teaching model. In fact, it was merely a replay of the closed-circuit TV “courses” from earlier decades. It is only now that additional tools and techniques have been developed that faculty and universities are beginning to experiment with completely re-engineering the pedagogic process.

⁴ New York Review of Books, July 12, 1987.

Research universities have benefited from one realm where dramatically improved productivity has already taken hold. Despite its seeming labor-intensive nature, science and engineering research has become far more productive thanks to the development of new tools and techniques. To take just one example, genetic research has become far more productive because of the invention of technologies for sequencing and manipulating genes, advances in data analysis, and large-scale efforts to create publicly available knowledge such as the Human Genome Project. Comparable developments in other fields, such as astrophysics, have greatly expanded the range of opportunities that research universities can leverage.

The looming changes present an opportunity for forward-looking campus leaders to get ahead of the wave. This requires strengthening and exercising dynamic capabilities. Among the first tasks is to examine institutional culture. Does it reward innovation? Does it embrace change? Is it connected to a mission with which all stakeholders identify? Does campus governance provide strong strategic oversight and support campus leadership in continuous resource allocation? Where the answers are negative, strategies must be developed for improving the alignment between the culture, the organization design, the governance, and the pursuit of a strategic vision.

For the implementation of digitized education, a schematic application of the dynamic capabilities framework would proceed as follows. Sensing and sense-making activities begin by assessing the strengths and weaknesses of current course offerings, for which data may already be available. This will help to make clear what resources are available to leverage. The next step is to develop an understanding of the technological possibilities. Technical expertise may be as near as the engineering faculty. Countless external sources are available as well. Many professors across campus may already be experimenting with digitally-enhanced teaching, and

these experiments should be analyzed and shared. This process should help to form concepts for a more concerted application, and small-scale experiments can be run to test their viability.

Discretionary resources can be used to mount the experiments and insulate them from departments that may see them as somehow threatening.

Promising initiatives can then be rolled out (seized) on a larger scale. This may be done alone or in collaboration with one of the many purveyors of online tools and courses. The key lies in what makes an initiative promising. It must be not only its pedagogical merit but also its potential for enhancing a brand image and for making a financial contribution—or at least paying for itself.

Transformation involves adjusting the resource base to support the initiatives. This may involve investing in new equipment or in the purchase of services. Budget imperatives may require accelerating the downsizing or elimination of other activities, and open communication and transparency are needed so that the reasons for this will be self-evident to the parties involved directly or otherwise.

This brief description suggests a linear model. In reality, though, sensing, seizing, and transforming activities are likely to be threaded through various parts of the campus in different ways operating on different clocks. The office of the chancellor or president needs to consolidate and analyze the available information to stay aware of opportunities and threats as they emerge and bears the chief responsibility for guiding faculty, students and administrators toward the future, moving simultaneously on multiple fronts.

Dynamic capabilities are a mindset as much as a set of processes and tools. The goal is not just to think astutely about the present and imagine the future. The goal must also be to plan and execute concrete steps to get there. Words alone are not enough; a bias for action on high priority

strategic issues is required (Peters and Waterman, 1982). A university with strong dynamic capabilities will be effective, agile, entrepreneurial, and resilient.

6. Conclusion

This essay has argued that the dynamic capabilities framework has much to offer university leaders who want a strategic approach to help guide their thinking beyond current crises. The processes that undergird sensing, seizing, and transforming, if well developed, can provide a systematic approach to meeting the opportunities and challenges ahead.

The advent of increased competition and disruptive digital technology in higher education offers a stronger reason than ever for university leaders to seek to strengthen the capabilities of their institutions. Most university executives are already familiar with the improvement of ordinary capabilities for greater operational efficiency. These can be further honed by the outsourcing of ancillary services that can be provided most efficiently by (off-campus) private-sector entities.

Strengthening the more important dynamic capabilities such as sensing, seizing, and transforming is a time-intensive but ultimately worthwhile effort. It requires institutional introspection, cultural change, and the development of effective processes for diagnosing problems and reaching decisions. Strong dynamic capabilities can help a university confront the uncertainty surrounding new technologies and prioritize resource allocation to favor the future. Possibilities must be assessed, calibrated, and winnowed; business models must be designed, tested, and refined; and organizational structures need to be brought into alignment with strategic goals.

There are numerous reasons why these changes are likely to be difficult, and some stakeholders will inevitably feel shortchanged by the process. Nevertheless, they hold out the promise of

unlocking new value for the majority of stakeholders and furthering the university's education and research missions. The reality is that existing structures of departments and institutes are often too rigid; they should be fluid, easing the implementation of interdisciplinary collaboration and other new initiatives. The alternative is relative decline as rival institutions make the necessary transformations, seize the most promising opportunities, and deliver more to their key stakeholders.

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