Creating a Culture of Innovation

The Challenge in Becoming and Staying a World-Class University

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EXECUTIVE SUMMARY

In the 21st century world-class universities will need to be much more focused on innovation, rather than on stability and standardization. An innovative organization is different from a stable one. It requires different skills from its participants, and it functions in a different way from a stable organization. A focus on innovation will necessitate a different kind of university from what exists at most institutions today. Those who want to create and maintain a world class university will need to develop a culture of innovation in their organizations. I first outline an organization's barriers to innovation that retard creativity. I then consider seven topics central for an innovative organization:

1. **risk-taking**
2. **personal autonomy**
3. **goal-setting**
4. **decision-making**
5. **teamwork**
6. **fiscal and temporal resources**
7. **organizational excitement**

The aim of tertiary organizations ought to be to build collaborative environments based on stable goals where individuals have the autonomy to pursue experiments that ultimately will improve the organization. Universities that are able to build a culture of innovation are more likely to develop and maintain world class status than those institutions that use the past as a guide to the future.

INTRODUCTION

All too often, observers of tertiary education assume that the way the academic world functions today is the way it always has been organized. Nevertheless, colleges and universities have always have been in a state of change. If "world class rankings" had been compiled in the late nineteenth century, no institutions in the United States would have likely made the list. In the 2013 Shanghai Jiao Tong Rankings of World Universities, however, American universities held 17 of the top 20 positions, in addition to 52 of the top 100 spots.

With this constant state of flux in the academic world, the institutions that are most successful are those which are able to manage change and innovation. Those who adhere to a principle of "staying the course" are likely to run aground, due to the rapidly changing conditions of the larger environment. The challenge is to neither accept that a university must maintain the status quo nor assume that only entirely new universities will succeed.

My purpose here is to outline what the conditions are for an organization to be innovative so that it might enhance the creative talents of its participants. As I elaborate below, an innovative organization is different from a stable one. It requires different skills from its participants, and it functions in a different way from a stable organization. In talking about the importance of innovation, I am departing from some, such as Jamil Salmi (2011), who have offered insights about the "the road to academic excellence" (p. 323). Although there is much to agree with about how excellence might be defined, I am aiming for a different focus and interpretation. In the 21st century, my assumption is that world-class universities will need to be much more focused on innovation, rather than on stability and standardization. Moreover, a focus on innovation will necessitate a different kind of university from what exists at most institutions today.

Accordingly, I will first set the stage for why we need universities to be innovative and then consider what the conditions for innovation might be. In doing so, I will not be concerned with a specific innovation (e.g. on-line learning); rather, I wish to consider how universities might achieve and sustain world-class status by creating what I shall define as a culture of innovation.

ANALYZING THE CURRENT STATE OF TERTIARY EDUCATION

Organizations exist within states and national systems that, in large part, help determine their focus and framework. Only a decade ago, bookstores were ubiquitous. Today, people order books online, as well as from a bookstore. For those older than 30, newspapers and print publications were the way one learned to read and acquire information, whereas today young learners use iPads and smartphones. The post office used to be the primary purveyor of information for friends, family, and businesses, yet today information comes at us via cyberspace.

Many of these recent changes have been technological in nature, but they speak to different capacities that are now enabled. Time is important. Consumers no longer want to drive to a shop, find a parking spot, enter a store, look for a book, find that it is missing, wait in line, order the book, repeat the procedure when the book arrives, and finally return home weeks later with the purchase. A decade ago, readers were content to learn about the previous day's news with the morning newspaper. Today, they want to know about events as they happen in real-time. Individuals no longer want to spend the time, energy, or cost in writing a letter to an individual when, with the click of a mouse, the sender can reach the individual in a matter of seconds.

Higher education is not impervious to such changes. Why would those of us who work in universities assume that what has happened to the newspaper industry could not happen to us? Why should the definition of the public good (Tierney, 2006) be maintained in one arena when it has changed in virtually every other? Why would a particular type or mode of work not be disrupted and transformed, just as it has been changed in other arenas? If the definition of expertise has shifted in the larger public sphere, then why would it not also shift within academe? When time, speed, and capacity become valued commodities in the larger society, then why should academics assume that academe is impervious to similar concerns?

The sorts of changes I am referring to pertain to what I will call disruptive technology. We are at a moment when disruptive technology has the potential to significantly change higher education. Such changes are out of the norm.

Traditional organizations, such as universities, generally try to adapt to the times and meet the needs of their customers. They do so by calling upon what Clayton Christensen (1997) has defined as "sustainable technology." A sustainable technology improves upon the current technology that exists in a traditional organization. The clearest example of a sustainable technology is the electric typewriter. Anyone who can remember the days of manual typewriters will remember the excitement as electric typewriters were adopted. What we were doing suddenly got easier and faster.

A sustainable technology improves performance for the existing market, and conceivably brings in additional customers who may desire the current product. The customer has a variety of companies from which to choose, and, if the product does not keep up to date, the company will find itself in trouble or out of business. The governing board of the company is likely to applaud improvements, especially if they expand the customer base. Obviously, a company that only sells manual typewriters a decade after its competitors have already introduced electric typewriters would find itself in trouble.

Although public and private tertiary institutions are lampooned for their perceived inability to change, universities adopted sustainable technologies throughout the 20th century. Chalkboards gave way to boards that utilized magic markers. Ancient gymnasiums morphed into student centers, with multiple activities and state-of-the-art fitness centers. Xerox machines replaced Mimeograph machines. Slide projectors became more advanced audiovisual projectors, and then PowerPoint became the software of choice for displaying information. The faculty, administration, and boards each adapted to the times and their competitors by utilizing sustainable technologies.

A disruptive technology is different. Although companies and their boards are trying to meet the needs of their customers, those who work on disruptive technology are likely, at first, to not have any customers. Two men who work in a garage on something called a computer are trying to invent a product that does not exist. Christensen has pointed out that whether the technology is in the steel industry, the car industry, or the telegraph, the pattern is similar. The initial technology appeals to a very small group of individuals, the technology is expensive, and relationships to standing companies are not seen by those in the traditional industry or the start-up company. Steve Jobs did not set out to destroy typewriters.

However, the pattern is clear. The technology improves over time, the customer base expands, the costs of the invention drops, and, at some point, the disruptive technology swamps companies focused on sustainable technologies (Christensen, Horn, & Johnson, 2008). Boards focus on improving their product, not on inventing a new one. Frequently, traditional companies fail to see new technologies and their organizations as competitors not only because they are miniscule, but because they are after different markets. The result, however, is that in a matter of years computers make typewriters obsolete, and the telephone does the same for the telegraph. Traditional companies belatedly try to adapt, but they cannot compete. Apple and Microsoft drive Olivetti and Smith Corona out of business.

Christensen and his colleagues argue that "the theory of disruptive innovation has significant explanatory power in thinking through the challenges and changes confronting higher education" (Christensen, et al., 2011, p. 2). These challenges pertain not only to what needs to get done, but to who should be making change happen and how individuals ought to work together. To be sure, when we think about failure and success, the discussion needs to begin with these items in mind.

Who is responsible, for example, for a company going out of business? Ultimately, a Board oversees the operations of the organization. To the extent that a company fails, one might plausibly blame the Board. Others might argue that the President should be held responsible. At the same time, many well-run Boards and successful senior administrators have focused on improvement through sustainable technologies. Disruptions are innovations that cost time, money, and focus. Not all disruptions are successful. When disruptions take off, they also expand rapidly. One could conceivably claim that an administration ought not to be criticized for focusing on improving basic operations. Risky experiments could take the company in an entirely different and unprofitable direction.

How those in higher education have spoken about and used online learning up to this point is in line with initial declarations about disruptive technology and how senior managements and Boards have looked at such innovations. Even proponents of online technology initially thought of it as a poor imitation of the "real thing": the model of the "sage of the stage." The users of the nascent

technology were people who were overlooked by traditional institutions - perhaps the individual who was too far from a campus to take classes, or the individual who worked at times that most college classes were offered. The providers were not mainstream institutions but those on the periphery - largely for-profit providers. Initially, the more prestigious the university, the more likely it was that the implications for distance learning were irrelevant. From this perspective, World Class Universities need not be bothered with digital learning. Just as with examples from the steel and car industry, leaders of successful organizations - in this case, the Harvard's and Oxford's of the tertiary world - could not see how a peripheral provider had anything in common with the campus-based classroom experiences that students received.

By the second decade of the 21st century, however, online learning has started to follow the trajectory of other disruptive technologies. Just as computers became ubiquitous through improvements in quality and performance, the growth in online learning underscores how a technology can quickly adapt. Not only working adults, but the broad panoply of postsecondary students desire to use online learning. In 2003, about 10% of students took at least one online course; according to Fall 2012 data, 26% of degree-seeking students now take at least one online course (U. S. Department of Education, 2012).

If I am correct about online learning being a disruptive technology, and disruptive technologies have forced changes with other products and services in other fields, then what other changes might come about that will impact tertiary institutions? For one thing, online learning is a model that changes the notion of "seat-time." One might expect a greater emphasis on learning outcomes, rather than on credits earned simply because a student spent a specific amount of time attending a class once or twice a week over a set number of weeks. Inputs, such as credit hours, are likely to be replaced by outputs, such as what has been learned. Even degrees may become less important than what is learned. A collection of faculty assessments over a four- or five-year time horizon that attest to a student having a particular grade point average (GPA) has been, until now, a proxy for whether the student learned anything while attending college. Ultimately, however, the mastery of the tasks graduates undertake tells employers and others whether the student learned anything. The other possibility with online learning is that costs could come significantly down as massive numbers of students use the disruptive technology.

What other changes might come about that will impact tertiary institutions?

The implications for faculty work, administration, and governance are significant but unclear. We know, for example, that the fastest growing faculty group is part-time and contingent faculty. I do not envision that will change in the near future. If the cost for faculty is decreasing, and online learning is able to tap into literally thousands of students, when previously institutions were tied in a manner to Baumol's cost disease (Brewer & Tierney, 2010), then the expense for faculty will go down. At some point, the rationalization for administrative costs also will no longer be tenable, even if that discussion has just begun; significant, unsustainable overhead costs are not viable as product costs decrease with one's competitors.

My assumption is that most of our universities are wedded to sustainable change and are going to face a twofold problem. On the one hand, a state or nation is going to be unwilling or unable to fund institutions in a manner that they once did. Although funding from new sources, such as private

donors, may help in part to close the gap, a public regulatory system that is neither efficient nor effective may slow down change precisely at a time when innovation and experimentation become paramount.

On the other hand, disruptive technology is a challenge for institutions which are most immune from change. Disruptive technology has the potential to create significant change. My point here is neither to suggest the end of higher education nor to imply that these changes are all great and good. However, a commitment to the status quo or a lethargic response to the changing conditions pertaining to technology, social media and the changing nature of the state and external environment will present significant problems for any university and certainly will not enable the institution to improve or maintain its world class status.

BUILDING CREATIVITY AND INNOVATION INTO THE CULTURE OF A UNIVERSITY

The concept of change is a topic that has long intrigued theorists and practitioners alike. An impressive number of scholarly treatises have examined how societies change, how cultures change, and how organizations change. Their suggestions range from the notion that change can be managed and purposeful (Peters & Waterman, 1982) to those that argue change is anarchic and whimsical (Cohen, March, & Olsen, 1972; March, 1984; Weick, 1982). Leaders may be able to bring about change, or they may be irrelevant (March & Cohen, 1974; Sample, 2002). Change is most likely due to environmental conditions (Levinthal, 1991), or it derives from strategic decision-making. Change may be destructive and bring about uncertainty and decline (Haveman, 1992), or it may unleash energy and renewal.

Given the wide swings in the research literature about how to think about change, one wonders what might be said with any sense of certainty - other than that there is a great deal of uncertainty about how change occurs. We do know that organizations have different needs and processes because of their foci and their lifespan. Some organizations thrive on stability, and others have a greater need to change. Karl Weick's work on loose-coupling (1976), in part, plays into the idea of stability and change. Tightly coupled organizations are more top-down and directive; loosely-coupled organizations are more decentralized, where one part of the organization may not know what the other is doing. A manager of a McDonald's restaurant franchise, for example, is much more likely to know what his or her workers are doing and what the goals and outputs for the day, month, and year will be; the president of a university may not know what or how a particular instructor is teaching in a class or what the "output" will be.

To be sure, a university produces graduates, and, to a certain extent, the institution may be direct with regards to estimating how many students are likely to be retained and eventually graduate. Yet, the precision will be less than that of an organization where stability is a given, even necessary, ingredient for success. Both the research activity of the faculty and the hiring of new appointments are also much more likely to impact the organization than when a fast-food chain hires a new worker to replace someone else.

We also know that organizations have different needs based on their timeframe. Start-up companies operate in a different manner from long-standing institutions. The transition of a long-time leader is likely to be different from an organization that experiences change at the top every few years. A company that merges has different challenges than one that files for bankruptcy, but stays in existence.

Those who work in universities increasingly acknowledge the importance of changing various aspects of academic work, even though colleges and universities have existed for centuries (Chaffee & Tierney, 1988). Indeed, even though individuals like to criticize postsecondary institutions as reluctant and slow to change, a great deal of reform has occurred over the past generation.
The manner in which we conduct research has been reconfigured. How we communicate and interact with one another has moved in a manner entirely unexpected only a decade ago. What one means by the "library" and how we undertake scholarship and acquire knowledge has experienced a sea-change; technology, for example, makes a trip to the library today a rare occurrence, rather than routine. How academe funds itself, the relationship between the state and public institutions, and the rise of for-profit institutions all signal an environment rife with change.

One way to understand the environment is through mechanisms such as economic forecasting and environmental scanning. Although not always accurate, a concern for organizational externalities or a consideration about future trends frequently can be useful when considering how an organization's culture functions. An additional way to think about change is by way of the internal structure of the organization and an assessment of how well it is configured to deal with change. Thus, we are not merely concerned with understanding change, but we are instead trying to put forward ideas toward positive and planned change. We do not seek an explanatory model of why change brings about failure (or success), but instead consider how change might be able to engender successful outcomes.

Hence, I am interested in the idea of creativity. Creativity is a bit like other elusive terms such as leadership – its meaning is unclear, and its variables uncertain. Just as some scholars old and new suggest that the traits of a leader are something with which an individual is born, creativity is frequently thought of as a unique characteristic (Carlyle, 1897; Sternberg & Lubart, 1999). Creativity is seen as a positive asset: "She's very creative" has as positive a ring as does "He's a great leader." "He's not very creative" sounds as negative as "She's a follower, not a leader." Such perspectives paint a picture of an individual. The organization is irrelevant. As Williams and Yang (1999) note, "the major focus in creativity research has been on the individual creator and his or her personality, traits, abilities, experiences, and thought processes" (p. 378). And yet, the individual's creativity also exists in different intellectual styles (Zhang, 2013; Zhang and Sternberg, 2005). The challenge within an organization is how to enhance creativity across these different styles.

When we consider organizations, a discussion of creativity most often is painted in negative terms: the organization stifles creativity or kills the creative spirit. The assumption is that a creative individual enters the organization, but, through bureaucratic policies and procedures, the individual is made to conform. Creativity then dies (Whyte, 1956).

What if creativity is not a unique trait of an individual? What if an organization is able to foster creativity in its workers? Such questions turn the lone wolf portrait of creativity on its head. From this perspective, creativity can be enhanced in many individuals via the social environment (Amabile et al., 1996, p. 1155). What would it mean if we referred not only to creative individuals, but also to creative organizations? Woodman, Sawyer, and Griffin (1993) have defined organizational creativity as "the creation of a valuable, useful new product, service, idea, procedure or process by individuals working together in a complex social system" (p. 293). The definition is useful,

for it thinks of creativity as the development of something new by a group. Sternberg and Lubart (1999) offer a slightly different interpretation by defining creativity as "the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints)" (p. 3).

From this perspective, the import remains on a new creation, but the expectation is not that it must come only from a group; organizations can foster creativity in individuals. Such a distinction is useful for loosely coupled systems, such as a college or university, where a researcher or teacher may be working in isolation from other co-workers. Thus, if we are to think of creativity in universities, we will look for organizations where individuals or groups are able to develop a new product, idea, or process. One key aspect of the organization, then, becomes the development of talent. As I will elaborate later, such an observation suggests that, from a cultural perspective, socialization is important.

Laird McLean (2005) makes the useful point that a creative organization also needs to be an innovative one. Creativity and innovation are related, but distinct, terms. Creativity, as defined above, refers to inventions and breakthroughs. Innovation pertains to the implementation of the new idea. McLean goes on to state the following:

> The focus here, particularly, in the context of the organization, is on taking a creative idea and bringing it to fruition. For example, in the life of an organization, many brilliant ideas never see the light of day. To bring an idea from concept to market, it must be recognized for its potential (p. 227).

Amabile et al. (1996) follows this line of thinking by stating "we define creativity as the production of novel and useful ideas in any domain. We define innovation as the successful implementation of creative ideas within an organization" (p. 1155). Such a point is important because it highlights some of the more critical issues facing postsecondary institutions. A generation ago, the linkage of creativity and innovation would have been relatively unimportant. In the 21st century, however, issues such as technology transfer, intellectual property, and the relationship between postsecondary organizations and businesses have taken on increased importance. Whereas a university once may have been thought of as a repository and conveyor of knowledge, the new stance suggests that colleges and universities need to be more engaged with the external environment; they not only create new products, but also help bring them to market.

The inter-relationship between creativity and innovation, however, is different for a postsecondary organization than it is for a business. When a college fosters an environment for experimentation in the classroom or a philosopher works on a topic in solitude, creativity is focused on an act (writing a poem) or an event (teaching a class). Those who work at the cutting edge of biotechnology, neuroscience, and even educational technology are likely to find avenues not simply for the creation of a novel idea, but also for its implementation. Those who write a series of poems may publish a book or start a publishing company, just as those who teach an innovative class may take the curricula design public. Individuals also may be creative in their research or pedagogy, but their creativity does not generally go beyond the boundary of the campus or the printed page.

Richard Florida has detailed the importance of creativity for the country to maintain its economic and social well-being (2002; 2004). He maintains that the university plays a critical role not merely in being creative itself, but in fostering creativity in the larger environment. While Florida and his

colleagues (2006) acknowledge that a university should have a creative role to play in economic development, they argue that the creation of talent and the fostering of new ideas and diversity are also central activities for a university. They conclude with the following statement:

> The role of the university goes far beyond the "engine of innovation" perspective. Universities contribute much more than simply pumping out commercial technology or generating startup companies... In short, the university comprises a potential – and in some places, actual – creative hub that sits at the center of regional development (p. 38).

Thus, the import of the university to be creative is not merely so that, as an organization, it can remain relevant. The well-being of the country and region is, in part, dependent upon the ability of a tertiary institution to be creative. Creative universities, then, are (a) places where an individual is creative; (b) where a creative act or invention may be implemented; and (c) where ideas and people help generate creativity in the larger environment. Such an observation moves us far afield from a portrait of a cloistered community that passes truths down from one generation to the next. Most scholars of innovation will point out that, more often than not, creativity is stifled rather than supported (Amabile, 1998). Their argument is that organizations function because of coordination, productivity and control – and those very measures frequently destroy creativity. How, then, do we create an organizational culture of creativity and innovation? Is such a question even appropriate, or as foolhardy as previous cultural questions linked to organizational performance? To answer these questions, I first turn to an overview of how we have thought about culture, and then consider what universities might do to create a culture of innovation.

CREATING A CULTURE OF INNOVATION

Considering an Organization's Culture

Stinchcombe's (1965) classic definition of an organization is a set of "social relations deliberately created, with the explicit intention of continuously accomplishing some specific goals or purposes" (p. 142). Obviously, organizations have different formalized managerial and bureaucratic structures that enable tasks to get accomplished. From this premise, I am suggesting that an innovative organization will function in a different way from a stable one. Nevertheless, whether the organization is stable or innovative, it still operates within a culture. Although he studied firms rather than universities, Gerard Tellis (2013) has concluded, as have I, that "the internal culture of a firm is the most important driver of a firm's innovation" (p. 7).

Organizations have symbolic structures and interactions. On the one hand, an organizational chart with lines of authority and decision making might be thought of as a formal structure, and, on the other hand, how individuals communicate with one another might be considered symbolic interaction. We know, for example, that the United States Marine Corps has a formalized decision-making structure that differs significantly from a Department of English at a small liberal arts college. We also know that individuals in the Marine Corps are likely to use formal terms when addressing one another, and members of an English Department are not.

Most students of organizational culture, however, will acknowledge that these formal and informal structures and interactions help define organizational culture in some manner (Tierney, 1988). To

go much further and provide a concrete definition of organizational culture has proven elusive. My purpose here is not to offer a history of organizational culture, but it is useful to acknowledge that, at least since the early 1980's, a great many theorists have been arguing about the meaning of culture in formal organizations (Hallett, 2003). Jelinek, Smircich, and Hirsch (1983) state that the quarrels and differences over the meaning of organizational culture in part reflect the tensions in fields such as anthropology, where structural, functional, and interpretive definitions of culture had vied for prominence since World War II. The preeminent anthropologist of the early 20th century, Franz Boas, proposed the idea of cultural relativism, which held sway for some time; cultural relativism, however, was eschewed by the 1940s, and no other singular definition of culture has taken its place.

If we believe that colleges and universities need to move toward creativity and innovation, what sorts of actions might be proposed?

Conceptual confusion also pertains to what one studied in an organization. Most individuals acknowledge that symbolic forms, such as nomenclature, fall into the cultural column. Symbolic artifacts, such as myths and rituals, also could be investigated from a cultural framework (Tierney, 1989). Through such investigations, researchers have collected data about whether leaders used first or last names when they spoke with individuals, and if events, such as birthdays and retirement parties, have received attention. But is an organization's budgeting process also part of an organization's culture? When the board develops a strategic plan, is that a cultural act? And if budgeting and strategic planning are part of an organization's culture, then what is not?

If we believe that colleges and universities need to move toward creativity and innovation, what sorts of actions might be proposed? The strength of using a cultural perspective is to think about creativity neither as a set of instrumental activities that need to be developed, nor as a fool's errand because it is impossible to orchestrate. An integrated approach suggests that change agents need to hold multiple points of view simultaneously, as they seek to bring about organizational transformation.

Tim Hallett (2003) defines "organizational culture as a negotiated order that emerges through interactions [among] participants, a negotiated order influenced by people with symbolic power – the power to define a situation" (p. 135). Hallett employs the work of Pierre Bourdieu (Bourdieu, 1977; Bourdieu, 1986; Bourdieu, 1989) to suggest that symbolic power is the ability to define a situation as it is contextualized and negotiated. Contextualization refers to the larger enacted environments in which the organization resides, and negotiation is an ongoing interaction that is often invisible and unclear, even to the actors who are involved in the undertaking. Such a point of view, although clearly non-linear and non-functional, nicely captures a more protean view of culture. "We" exist in an organization, although how "we" gets defined is in constant rearrangement and re-articulation. Beliefs are not necessarily shared as if everyone interprets an act or communicative message in the same manner; instead, different perspectives are viewed such that integration and conflict are in co-existence with one another. Insofar as organizations have histories and enacted environments that are in constant reinterpretation, the researcher is more likely to come to grips with not simply stability at a point in time, but instead able to understand change processes. Because the researcher acknowledges that symbols and interpretation are central to organizational life, an understanding of instrumental activities is

viewed as more than simply bureaucratic actions or segmented decisions.

The result is that I return to what I stated at the outset of the text: colleges and universities are not static entities; they are in constant definition and redefinition. The presumption that everyone will agree or care about a particular definition is as presumptuous as to conclude that differences are so significant that no one will understand or agree with one another. Bertalanffy, the founder of general systems theory, posited that an end (rather than a goal) may be reached by various routes (1968). To be sure, causality exists in certain scientific, or empirical, situations. If I turn the light switch on, light appears. If it does not, something is wrong. In culture, however, systems operate quite differently. Different early experiences in an organization may have similar outcomes; similar experiences and interpretations by individuals may have different outcomes. Organizational predictability becomes difficult, if not impossible. Cultural interpretations always have been mistaken when they have tried to create causal relationships – as if when a manager walks around, then every employee will agree on its meaning.

However, the ability to take into account the constructed environments in which a tertiary institution exists also suggests clues for organizational transformation. In Weick's (1976) loosely coupled organizations where respondents have a significant degree of latitude, the point differs from Goffman's total institutions, where a strict chain of command exists. A university is loosely coupled; a mental institution or prison is tightly coupled. Thus, I am arguing for a more complicated view of the organization - one that acknowledges constant reinterpretation, but also suggests that concerted action is possible.

Steps for Creating and Maintaining an Innovative University

If innovation is a mixture of creativity, risk-taking, and experimentation, then, to a certain extent, some universities have had moments when they have enabled successful experiments. But most analysts of tertiary education are likely to say that tradition, rather than innovation, is the prevailing cultural norm, whether a university is in Europe, Latin America or the United States. And yet, society needs good ideas to flourish. Universities need to be incubators.

Barriers for Innovation: Why, then, aren't universities more innovative? What are the problems that lead organizations to be wedded to cultural norms, rather than to take risks? To be sure, from one perspective – that of an organization invested in sustainable technology – if the actions of yesterday have been successful, then there is little incentive to change. Thus, a first barrier to change is a weak incentive structure that does not reward experimentation.

Further, organizations frequently adopt strategies to penalize action. Organizations, as well as the systems in which they are embedded, tell employees what not to do. Regulation and standardized processes creative disincentives to be innovative. Organizations are often more geared towards assuring that all individuals function in the same manner and obey the rules, rather than in fostering creativity. The more rules and layers of bureaucracy that exist, the less likely it is that an organization will be innovative.

A corollary to regulation and standardization is micromanagement. If an organization wants individuals to take risks but checks on them every day, or constantly evaluates them, then the conditions

for creativity will be nil. Evaluation is, of course, important in any organization, but a constant system of oversight lessens creativity. Evaluation should enhance performance, rather than monitor individuals for infractions or flaws. A different sort of culture exists when evaluation is geared toward improvement rather than penalization. Individuals need a climate within the organization that rewards experimentation. If supervisors are constantly checking up on individuals, then their behavior is antithetical to a culture that rewards high performance.

Table 1. Barriers to Organizational Innovation

Weak Incentives to Change	Regulation
Micro-Management	Standardization

Conditions for Innovation: To create an innovative environment a university needs incentives to act – a culture of innovation. Innovation suggests experimentation. Based on my own research (Tierney, 2012, 1988) and that of others (Amabile, 1998; Christiansen, 1997; Page, 2007; Tellis, 2013), seven conditions for innovation within an organization's culture seem to exist.

1. Develop a Culture of Risk and Enable Motivation

Gerard Tellis (2013) has noted that one of the largest problems for stable organizations is that they are risk-averse. Although he does not employ the language of "sustainable technology," he is working from the same vantage point. He refers to the "deep cultural traits" that exist in stable organizations that create disincentives for change. The reward for innovation is modest, and the penalty for failure is steep. The result is that innovators and potential innovators alike shy away from taking risks.

One particular challenge is to match people's skills and abilities with the needs of the organization. To enable people to utilize their skills in an optimum manner, supervisors must know individuals and know how to create an environment that is supportive, yet demanding. The perception of a supportive environment will shift from individual to individual since not all individuals operate in the same manner. Engineering professors, for example, think and work differently from faculty who are in the social sciences. The point is not that the organization must get engineers to work more like social scientists, or vice versa. Rather, an innovative culture is one where all of the organization's actors understand the rewards associated with taking risks, and the line supervisors for individuals are cognizant of the communicative actions that need to occur to motivate and support individuals.

2. Provide Individuals the Freedom to Control the Means to an End

One of the curiosities of organizational life is the assumption made by many supervisors that to reach a goal they must control the means of production. In an innovative organization, that premise is not true. People need autonomy. Do not create environments where people work in routine fashion. Create a culture where people are encouraged to control the means to reach an agreed upon goal.

Innovation is not a singular act or entity. A culture that encourages innovation empowers idea champions. Universities need to create the conditions that retain and empower innovation champions, and the way to do that is not simply by monetary rewards, but also by creating a culture where risk is seen as positive.

3. Create Stable Goals

If we are to enable individuals to think creatively, then the goals of the organization cannot change from day to day, leader to leader. When a university vice chancellor or rector says that community involvement is important, and then five years later a new president says that actually research is paramount, confusion is created. When a dean or department chair says that teaching matters, but the provost says research matters, then a culture exists where individuals are unable to control the processes because the goals constantly shift.

When an organization is committed to entrepreneurial activity, the reward structure will be clear. And when the rewards are clear, individuals have a sense of what they need to do to succeed. If senior leaders constantly shift goals from one idea to the next, individuals are less likely to be committed to participate in risk-taking.

4. Enable Individuals to Have a Sense of Autonomy and Ownership

We want people to be invested in their environment and to care about what occurs on a daily basis. An ethic of care and concern suggests that the culture of the organization matters. In American higher education, we have coined the term "distinctive colleges" (Clark, 1992) because the basic processes of these organizations are distinct – they are different from other institutions. A visit to a distinctive college conveys the sense that individuals care about their organization in a way that is different from a culture where an individual's voice is irrelevant.

In loosely structured environments, individuals require a degree of autonomy. As I noted with the previous point, however, individuals also require a sense of where the organization is headed. These dual actions – strategic direction and personal autonomy – create a culture where individuals have a sense of what needs to get done, and they are responsible for creating the best possible activities to reach these goals. Such an environment is fundamentally different from a production line mentality that has workers meet particular standards throughout their workday.

5. Ensure that the Fiscal and Temporal Resources Necessary to Accomplish Tasks are Available

Contradictory signals are sent when a task or goal is designated as "important," but monetary support is not provided. I am not saying that an organization simply needs to throw money at a project, or that all resources need to have been secured for an experiment to begin. However, resource allocation is a potent signal about what is important. Incentives point people in a direction; they tell the organization's participants what matters. If an organization has an "innovation fund" that enables good ideas to get going, then individuals will likely view innovation in one way. If an organization penalizes individuals who seek external funding, then they are likely to view innovation as secondary or unnecessary.

Another kind of resource is time. Of course, time pressures and deadlines can stimulate creativity. They also can help individuals accomplish tasks. Research also shows that if people are constantly working under deadlines, they do not look for creative solutions; they are not innovative. They 'satisfice' – they simply choose a decision that will enable them to meet a deadline. If innovation is important, then it should be factored in to the way the organization thinks about how individuals should spend their time. A university that has individuals teach 100% of their time or finds that

the cheapest way to have teaching covered is by hiring adjuncts may be solving one problem, but they are not creating a culture of innovation. A culture of innovation suggests that a particular part of an individuals' work is geared toward innovative activities.

6. Create the Conditions for Teamwork

A conundrum of academic environments is that professors are often isolates and introverts. Individuals tend to work alone. At the same time, the "academic community" exists as a composite group. If we wish to create an organization geared toward innovation, then we have to pay careful attention to the kinds of communities we create, insofar as 'group-think' works against innovation. As Scott Page (2007) has noted, "distributed problem solving can be thought of as a form of innovation. The opening up of innovation activities is sometimes called 'distributed co-creation'" (p. xvii). The organization needs various intellectual foundations and approaches to work. Different expertise, different thinking styles, and different age levels enrich an innovative environment.

We underestimate that a sense of a shared vision can be exciting, and that shared vision comes through a diversity of perspectives. As Page has noted in his important work on organizations, "diversity means differences in how people see, categorize, understand and go about improving the world" (p. xiv). From this perspective, the organization, on the one hand, needs to create the conditions for multiple perspectives and ideas to occur. On the other hand, the organization also needs to be able to orchestrate those perspectives into a cohesive unit. Some might liken this to an orchestra where individuals play different instruments. They have different tasks and interpretations, but ultimately they need to come together to create music. From an organizational perspective, if people do not coalesce around a vision, then a commitment to innovation will lessen. If we do not respect alternative styles or what a person brings to the team, then the organization ends up with an isolated culture where people go their own way.

7. Develop a Sense of Organizational Excitement

In an environment where fiscal resources are in short supply, symbolic resources matter. An innovative organization needs to create a culture that applauds experimentation and risk-taking. Hence, an organization's leaders need to give verbal support to people who are innovators. Organizations convey the kind of culture they want by what they communicate to one another.

An additional complication to creating a culture of innovation in the university pertains to the point that individuals in tertiary institutions are trained in the art of critique. It is not simply possible, but encouraged to tell someone what is wrong with his or her argument, what is wrong with someone's research, what is wrong with an individual's teaching and the like. Critique and skepticism is the coin of the academic realm. A culture of critique and criticism, however, leads to the status quo, a hesitation to invent or take risks.

The point surely is not to avoid robust discussions and debates. However, where a culture of innovation exists, the sorts of discussions that take place are geared toward making ideas better, rather than toward trying to kill every one. Overly critical commentary stifles creativity.

CONCLUSION

I have suggested here that, in order to assume the mantle of a World Class University in the 21st century, institutions need a different type of organization from what most of them have become. Academic cultures are based on traditions that may have been centuries in the making. Even relatively new universities function in a world where the model of excellence has been on building on traditions and improving the organization by way of what I have called "sustainable technologies."

The 21st century, however, requires universities to develop a culture of innovation. I have argued that innovation does not just automatically occur; instead it needs to be built into the culture of the organization. Barriers exist that need to be overcome, and an organization's leaders need to think about ways to create processes and procedures that reward risk taking. The aim of an organization is to build collaborative environments based on stable goals where individuals have the autonomy to pursue experiments that ultimately will improve the organization. Universities that are able to build a culture of innovation are more likely to develop and maintain world class status than those institutions that use the past as a guide to the future.

ABOUT THE PULLIAS CENTER

With a generous bequest from the Pullias Family estate, the Earl and Pauline Pullias Center for Higher Education at the USC Rossier School of Education was established in 2012 (the center was previously known as the Center for Higher Education Policy Analysis). The gift allows one of the world's leading research centers on higher education to continue its tradition of focusing on research, policy, and practice to improve the field.

The mission of the Pullias Center for Higher Education is to bring a multidisciplinary perspective to complex social, political, and economic issues in higher education. Since 1996 the center has engaged in action-oriented research projects regarding successful college outreach programs, financial aid and access for low- to moderate-income students of color, use of technology to supplement college counseling services, effective postsecondary governance, emerging organizational forms such as for-profit institutions, and the retention of doctoral students of color.

ABOUT WILLIAM G. TIERNEY

William G. Tierney is University Professor and Wilbur-Kieffer Professor of Higher Education and Co-director of the Pullias Center for Higher Education at the University of Southern California (USC), and a past President of the American Educational Research Association. Former President of the USC Academic Senate, he has chaired both the Ph.D. program for the USC Rossier School of Education and the University Committee on Academic Review. He serves on the International Advisory Board of King Abdulaziz University (Saudi Arabia) and is an Interdisciplinary Research Fellow at the University of Hong Kong. Dr. Tierney is committed to informing policies and practices related to educational equity. He is involved in projects pertaining to the problems of remediation to ensure that high school students are college-ready, interactive web-enhanced computer games for preparing low-income youth for college, and a project investigating how to improve strategic decision-making in higher education. His recent publications include: *The Impact of Culture on Organizational Decision-making*, *Trust and the Public Good: Examining the Cultural Conditions of Academic Work*, and *Understanding the Rise of For-profit Colleges and Universities*. Tierney earned a master's from Harvard University and holds a Ph.D. from Stanford University in administration and policy analysis. Tierney has been president of ASHE, vice president of AERA, and is a Fellow of AERA.

REFERENCES

Amabile, T. M. (1998). How to kill creativity. *Harvard Business Review*, *76*, 77–87.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39*(5), 1154-1185.

Bertalanffy, L. V. (1968). *Organismic psychology and systems theory.* Worcester, MA: Clark University Press.

Bourdieu, P. (1989). Social space and symbolic power. *Sociological Theory*, *7*(1), 14-25.

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood Press.

Bourdieu, P. (1973). Cultural reproduction and social reproduction. In R. Brown (Ed.), *Knowledge, education, and cultural change: Papers in the sociology of education* (pp. 71-112). London: Tavistock Publications Limited.

Brewer, D., & Tierney, W. G. (2010). *Barriers to innovation in U. S. higher education*. Paper presented at the conference on Higher Education Innovation at the American Enterprise Institute.

Carlyle, T. (1897). *Heroes and hero-worship*. London: Chapman and Hall.

Chaffee, E. E., & Tierney, W. G. (1988). *Collegiate culture and leadership strategies.* New York: Macmillan.

Christensen, C. M. (1997). *The innovator's dilemma: When new technologies cause great firms to fail.* Boston, MA: Harvard Business School Press.

Christensen, C. M., Horn, M., & Johnson, C. (2008). *Disrupting class: How disruptive innovation will change the way the world learns*. New York: McGraw-Hill.

Christensen, C. M., Horn, M., Soares, L., & Caldera, L. (2011, February). *Disrupting college: How disruptive innovation can deliver quality and affordability to postsecondary education*. Center for American Progress. Retrieved from http://www.americanprogress.org/wp-content/uploads/issues/2011/02/pdf/disrupting_college.pdf.

Clark. B. R. (1992). *The distinctive college*. Piscataway, NJ: Transaction Publishers.

Cohen, M. D., & March, J. G., & Olsen, J. P. (1972). A garbage can model of organizational choice. *Administrative Science Quarterly*, *17*(1), 1-25.

Dyer, J., Gregersen, H., & Christensen, C. M. (2012). *The innovator's DNA: Mastering the five skills of disruptive innovators*. Boston, MA: Harvard Business School Publishing.

Florida, R., Gates, G., Knudsen, B., & Stolarick, K. (2006, December). *The university and the creative economy*. Retrieved from http://creativeclass.com/rfcgdb/articles/University_andthe_Creative_Economy.pdf.

Florida, R. (2004). *Cities and the creative class*. New York: Routledge.

Florida, R. (2002). *The rise of the creative class*. New York: Basic Books.

Goffman, E. (1961). *Asylums: Essays on the social situation of mental patients and other inmates*. Garden City, NY: Random House.

Hallett, T. (2003). Symbolic power and organizational culture. *Sociological Theory*, *21*(2), 128-149.

Haveman, H. (1992). Between a rock and a hard place: organizational change and performance under conditions of fundamental environmental transformation. *Administrative Science Quarterly*, *37*.

Jelinek, M., Smircich, L., Hirsch, P. (Eds.). (1983). Organizational culture. *Administrative Science Quarterly*, *28*(3).

Levinthal, D. (1991). Organizational adaptation and selection – interrelated processes. *Organizational Science*, *2*(1) 140-145.

March, J. (1984). How we talk and how we act: Administrative theory and administrative life. In T. J. Sergiovanni & J. E. Corbally (Eds.), *Leadership and organizational culture* (pp. 18-35). Urbana, IL: University of Illinois Press.

March, J., & Cohen, M. (1974). *Leadership and ambiguity*. New York: McGraw-Hill.

McLean, L. D. (2005). Organizational culture's influence on creativity and innovation: A review of the literature and implications for human resource development. *Advances in Developing Human Resources*, *7*, 226-246.

Page, S. E. (2007). *The difference: How the power of diversity creates better groups, firms, schools, and societies*. Princeton, NJ: Princeton University Press.

Peters, T., & Waterman, R. (1982). *In search of excellence: Lessons from America's best-run companies.* New York: Harper & Row.

Postiglione, G. (2011). The rise of research universities: The Hong Kong University of Science of Technology. In P. G. Altbach & J. Salmi (Eds.), *The road to academic excellence: The making of world-class research universities* (pp. 63-100). Washington, DC: World Bank.

Salmi, J. (2011). The road to academic excellence: Lessons of experience. In P. G. Altbach & J. Salmi (Eds.), *The road to academic excellence: The making of world-class research universities* (pp. 323-347). Washington, DC: World Bank.

Sample, S. B. (2002). *The contrarian's guide to leadership*. San Francisco, CA: Jossey-Bass.

Sternberg, R. J., & Lubart, T. I. (1999). The concept of creativity: Prospects and paradigms. In R.J. Sternberg (Ed.), *Handbook of creativity* (pp. 3-15). Cambridge: Cambridge University Press.

Stinchcombe, A. L. (1965). Social structure and organizations. In J. G. March (Ed.), *Handbook of organizations* (pp. 142–193). Chicago, IL: Rand McNally.

Tellis, G. (2013). *Creating a culture for unrelenting innovation*. Retrieved from http://www-bcf.usc.edu/~tellis/MWorld.pdf.

Tierney, W. G. (2012). Creativity and organizational culture. In M. N. Bastedo (Ed.), *The organization of education: Managing for a new era* (pp. 1953-1970). Baltimore, MD: Johns Hopkins University Press.

Tierney, W. G. (2006). Trust and academic governance: A conceptual framework. In W. G. Tierney (Ed.), *Governance and the public good* (pp. 179–198). Albany, NY: SUNY Press.

Tierney, W. G. (1989). Symbolism and presidential perceptions of leadership. *Review of Higher Education*, *12*(2), 153-166.

Tierney, W. G. (1988). Organizational culture in higher education: Defining the essentials. *Journal of Higher Education*, *59*(1), 2-21.

U. S. Department of Education. (2012). *Integrated postsecondary education data system*. National Center for Education Statistics. Retrieved from http://nces.ed.gov/ipeds/datacenter/,

Weick, K. E. (1982). Management of organizational change among loosely coupled elements. In Paul Goodman & Associates (Eds.), *Change in organizations* (pp. 375-408). San Francisco: Jossey-Bass.

Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, *21*(1), 1-19.

Whyte, W. H. (1956). *The organization man*. New York: Simon and Schuster.

Williams, W. M., & Yang, L. T. (1999). Organizational creativity. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 373-391). Cambridge: Cambridge University Press.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, *18*(2), 293-321.

Zhang, L. (2013). *The Malleability of Intellectual Styles*. New York: Cambridge University Press.

Zhang, L & Sternberg, R. (2005). A threefold model of intellectual styles. *Educational Psychology Review*, *17*(1), 1-53.

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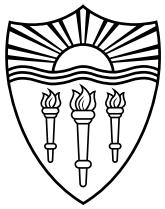

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