

Risks and Rewards of Academic Capitalism and the Effects of Presidential Leadership in the Entrepreneurial University

by Ira Rubins

Universities, like other institutions, are increasingly dependent on strong leadership and effective management to face the challenges and opportunities posed by a changing world. A common presumption is that the recent increased focus of non-profit colleges and universities on profit-generating, or at least revenue-generating, activities has altered the goals and leadership styles of college presidents. Some suggest that letting economic values become the foundation of university administration threatens the traditional core academic tenets of teaching and search for knowledge. Even authors in the popular culture, like Carl Schramm, President of the Kauffman Foundation, see the risk for universities: "Universities, of all the institutions of the entrepreneurial ecosystem, are the ones most at risk. They have, with some exceptions, developed a contemporary culture antithetical to entrepreneurial activity" (Schramm, 2006, p. 253). Does academic capitalism threaten the accepted values of Mertonian norms for higher education and university research? Do economic priorities merely inform academic decisions or have they become guiding principles? Do college presidents behave in entrepreneurial fashion, and if so, is this behavior successful for them and their institutions? This paper explores the development of the so-called "Entrepreneurial University," and examines these questions in the context of theories of academic capitalism and transformational, or entrepreneurial, presidential leadership.

Fundamental change is taking place in the practice of university governance in the U.S. (as well as elsewhere in the world) and that change may have profound impact on our educational products and processes (Waugh, 1998).

The ground is shifting beneath the contemporary university, and it is time to take stock of its precarious situation. The cultivation of intellect, long a central objective of university life, is threatened by political and economic pressures that are redefining and reshaping the functions of higher learning (Axelrod, 2002, p. 3).

Today public higher education is caught on the horns of a dilemma, for, although the public expects—indeed, demands—broad access to high-quality public education, it is unwilling to pay for this benefit either through taxes or tuition (Duderstadt & Womack, 2003, p. 79).

American Universities are currently facing a multitude of new, critical issues that impact their core structures, threaten their traditional missions, and could affect their very existence, as they are known. The authors quoted above are a sampling of many who recognize the profound changes that are taking place in the environment in which American Universities at all levels are trying to find their way. Universities are struggling to balance their exploration of financial support with their traditional core tenets of teaching and search for knowledge.

Clark (1998, 2000, 2004, 2005) has researched and written extensively on this issue. Clark has identified four key converging trends that create ever-increasingly turbulent university environments:

1. Demands for participation change student entry from elite to mass to universal. The growing entitlement of young people to receive more education after secondary schooling also now leads toward a lifelong entitlement for both repeated professional retraining and cultural enrichment that extends into their retirement years.
2. More occupations exact requirements of knowledge and skill not provided by secondary education. The high-knowledge fields, changing faster than people are able to change their skills, lay their claim on universities and colleges for up-to-date education and training. The needs of the labor force cannot be denied.
3. Government and the private sector increasingly exhort universities to assist them in solving societal problems as broad as poverty and poor health and as specific as city charter reform and local traffic control, with special emphasis on speeding economic and technological progress.
4. Knowledge growth, I maintain, has become the most troubling trend of all. The globalization of knowledge propels its growth at an accelerating pace, rattling universities to their very foundations (Clark 2000).

This paper explores one significant impact of these trends: the search for ongoing, stable funding of universities, their faculties and programs, and the emergence of an entrepreneurial approach as a proposed solution. First, the theoretical foundations of academic capitalism and transactional ver-

sus transformational leadership are explored. Then, a brief review of the history of the University in the United States provides the background for a closer look at the profound changes that have taken place in how higher education has been funded, beginning early in the 19th Century, through the World War II period with the advent of the GI Bill, and continuing through to today's highly-touted business partnerships in emerging technologies. Next, an examination of entrepreneurialism in general follows, along with an analysis of the entrepreneurial university in particular. Third, a variety of critical issues, questions, risks, and dilemmas are examined, along with the specific impact of leadership styles of university presidents in this context of change. Finally, this researcher looks at the future of the American University and concludes that a structural change is underway in how universities are funded, and the ability of university presidents to act in a transformational/entrepreneurial way, take measured risks outside of their traditional comfort zones, and adapt under the influences of academic capitalism is significant in determining whether their institutions will stay vibrant and relevant.

Theoretical Foundations of Academic Capitalism and Presidential Leadership Styles

Slaughter and Rhoades (2004) suggest that American colleges and universities are shifting from what they call a "public good knowledge regime" to an "academic capitalist knowledge regime" (Slaughter & Rhoades, 2004, p. 28). The public good knowledge regime is characterized by valuing knowledge as a public good to which the general citizenry has claims. Mertonian norms (Wikipedia, 2006), such as communalism, universality, the free flow of knowledge, and organized skepticism, are associated with this public good model. The foundation of the public good knowledge regime is that basic science leads to the discovery of new knowledge within the academic disciplines, coincidentally leading to public benefits (Slaughter & Rhoades, 2004, p. 28).

Unlike the public good knowledge regime, the academic capitalism knowledge regime values knowledge privatization and profit taking in which institutions, faculty, and sponsoring corporations have claims that come before those of the public. Knowledge is construed as a private good. The academic capitalism model makes the case that science is embedded in its commercial possibilities. This model sees little separation between science and commercial activity. Discovery is valued because it leads to high-technology products for a knowledge economy (Slaughter & Rhoades, 2004, p. 29).

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The theory of academic capitalism focuses on networks that link institutions as well as faculty, administrators, academic professionals and students to the new economy. These mechanisms and behaviors make up the academic capitalist knowledge regime (Slaughter & Rhoades, 2004, p. 15). In this new regime, colleges and universities seek to generate revenue from their core educational, research and service functions, ranging from the production of knowledge, such as research leading to patents, to the faculty's curriculum and instruction, like teaching materials that can be copyrighted and marketed (Rhoades & Slaughter, 2004, p. 36). Research, education, and the nonacademic experience of higher education become commodities and consumable items.

Deem (2001), writing in *Comparative Education* (Deem, 2001), uses the term "academic capitalism" to define a narrow type of entrepreneurialism, "in which the academic staff of publicly funded universities operate in an increasingly competitive environment, deploying their academic capital, which may comprise teaching, research, consultancy skills or other applications of forms of academic knowledge" (Deem, 2001, p. 14). According to Deem (2001), there is a strong risk for academics that pursue private sector funding using market-like behavior to begin to distance themselves from the idea that they are public employees.

The new economy values this theory of academic capitalism, "which holds that departments and faculty undertake strategic initiatives partly in response to the push of resource constraints and the pull of various market opportunities beyond those in technology transfer" (Slaughter & Rhoades, 2004, p.188). Nixon (2004) suggests one reason for embracing academic capitalism:

One explanation for the adoption of academic capitalism in colleges is known as resource-dependence theory. In brief, the theory is that organizations depend upon the environment for essential resources. Academic capitalism is an organizational behavior that has occurred in response to the actions of external agents who control the resources (Nixon, 2004).

Resource-dependence theory suggests that organizations deprived of crucial revenues will seek new resources. An embedded assumption of the theory of academic capitalism is that shifting revenue streams shape strategic initiatives. This paper examines that assumption in the context of entrepreneurial universities as described and envisioned by Clark (1998, 2000, 2004, 2005).

Much has been written differentiating between *transactional* and *transformational* leadership. Virtually all modern discussions of presidential leadership in higher education are

based upon these two competing theories. “Briefly, the transactional position maintains that effective presidents are individuals who democratically meet the needs of their campuses and who emphasize inclusive, participative governance processes based upon consensus” (Fisher & Koch, 1996, p. ix). Transactional university presidents, at the extreme, attempt to simply reflect the majority will of the various constituencies with which they deal. More often, they are individuals who according to Birnbaum (1992) are “engaged in ... transactions with the environment and with internal subsystems in an effort to detect problems and to make the adjustments necessary to keep the institution in harmony with its environment” (Birnbaum, 1992, p. 204).

Fisher and Koch (2004) describe these presidents as striving to avoid crises and who may make midcourse adjustments, but do not impose grand personal visions on their institutions. They seek overwhelming consensus, though often at the cost of timely action. Consequently, they are seldom entrepreneurial. If their universities possess large endowments, and they are lucky enough not to be faced with a major crisis, these presidents will likely complete their tenure without a major tragedy or internal explosion. Because they have not offended anyone, they are often well regarded and fêted upon their retirement from the presidency. “Their institutions, however, acquire inertia and slowly, incrementally garner the reputation of being dead in the water. In a world characterized by accelerating change, this can be a dangerous circumstance for both leader and institution” (Fisher & Koch, 2004, p. 33).

Transformational presidents, on the other hand, are those who possess a strong and captivating vision that they use to attempt to motivate and change their institutions (Fisher & Koch, 2004, p. 16). “The transformational position dates back to the founding of Harvard and, with few exceptions, characterized presidential expectations until World War II” (Fisher & Koch, 1996, p. x). Transformational theory states that presidents with vision and energy can and should make a great deal of difference. The theory generally promotes shared governance, but holds that within such a system individual accountability must be maintained and that the president is the final authority under the board in all matters (Fisher & Koch, 2004). Fisher & Koch (2004) maintain that the implementation of a superb vision and perhaps even its formation and explanation nearly always require entrepreneurial behavior on the part of the institution’s president. Consequently, university presidents who possess attractive visions also tend to be those presidents who are innovative or entrepreneurial, and hence, transformational (Fisher & Koch, 2004, p. 30).

In *The Entrepreneurial College President*, Fisher and Koch (2004) studied in depth the specific connection between successful transformational and entrepreneurial presidential leaders. Their results provide significant support for the notion of the transformational president as an entrepreneurial leader. They give empirical substance to the “anecdotal and

often normative speculations of hundreds of writers in the past about the nature of leadership and its connection to entrepreneurial attitudes, values, and behavior” (Fisher & Koch, 2004, p. 105). Fisher and Koch conclude that a distinctive class of entrepreneurial leaders does exist. Further, they suggest that these entrepreneurial leaders are innovative, flexible risk takers who are not afraid to violate the status quo, and that their peers view their performance as more successful than other nonentrepreneurial leaders. Finally, they believe these generalizations clearly apply to college presidents. “Successful presidents tend to be entrepreneurial and vice versa” (Fisher & Koch, 2004, p. 105).

Although transformational leadership in higher education enjoys much rhetorical support, it is an approach that some researchers believe may not be compatible with the ethos, values, and organizational features of colleges and universities (Bensimon, Neumann, & Birnbaum, 1989). “Under normal circumstances, the exercise of transformational leadership in colleges and universities would be extremely difficult, and in many cases it could have disastrous consequences for those who dare attempt it” (Bensimon et al., 1989, p. 73). This hypothesis is examined later with examples of successful university presidents.

History of the American University’s Financial Support

Universities have been around in many forms for hundreds of years. In the United States Harvard was founded in 1636 (Bok, 1990, p. 1). The modern university, as it is known today however, has its roots less than 200 years ago in 1809, when a German diplomat and civil servant, Wilhelm von Humboldt, founded the University of Berlin with the specific entrepreneurial objectives of stealing the existing intellectual and scientific leadership away from the French, and turning the energies released by the French Revolution against the French themselves.

The idea of the university as a change agent was picked up in the United States sixty years later, around the end of the Civil War, when the old colleges of the American colonial period were wasting away, and had lost their relevance to the changing times (Drucker, 1985, p. 23). In 1870, the United States had no more than half the college students it had had in 1830, even though the population had nearly tripled. By the turn of the century, however, a new generation of university presidents had created a distinctly “new American University” (Drucker, 1985, p. 23) with distinctly different characteristics. Shortly thereafter, these universities were firmly established worldwide as leaders in scholarship and research, just as Humboldt’s University of Berlin had been a century earlier (Drucker, 1985, p. 23).

As late as 1936, though, American universities were elite institutions in a country where barely five percent of young people ever graduated from college. “Academic scientists

were active in research, but their work attracted little notice in the outside world and brought only a pittance in support each year from the federal government” (Bok, 1990, p. 1). This all changed with World War II, which revolutionized the university’s place in American society. During the war, President Truman was persuaded that university science would become a key to military preeminence abroad and increasing prosperity at home. For its part, Congress enacted the GI Bill in 1944, and thus “... began the transformation of higher education in the United States from a set of institutions servicing an elite to one with an open door for all who were able and willing to seek further learning” (Bok, 1990, p. 2).

For the next thirty years the growth of higher education in America was sustained by growing public commitments. During this period public universities saw significant growth in their primary sources of support from state appropriations and from general tax revenues. Tuition and other student fees played a relatively minor role (Duderstadt & Womack, 2003, p. 78). Unfortunately, when state revenues declined, so did appropriations to public universities, and they were forced to tighten their belts, cut programs, and increase productivity.

Writing in the early 1900s, Veblen (1957) commented on the way universities conducted their financial affairs in *A Memorandum on the Conduct of Universities by Business Men* (Veblen, 1957). “There is always a dearth of funds, and there is always urgent use for more than can be had; for the enterprising directorate is always eager to expand and project the business of the concern into new provinces of school work” (Veblen, 1957, p. 84). He foresaw the ever-increasing need for the university to search for secure financial support to grow and expand.

Veblen’s theoretical point became a reality when, in the late 1970s, the public’s support for higher education first began to slow and then actually began to decline. State tax support of public universities had provided a strong subsidy for higher education, allowing them to charge tuition considerably below actual costs. At all levels of government, public resistance to taxation coupled with shifting priorities led to constraints on tax revenues and the allocation of these reduced and limited public resources to other priorities such as health care and law enforcement (Duderstadt & Womack, 2003, p. 78). As this public subsidy declined, the price of a college education at a public university, as represented by tuition, naturally increased. Soares and Amaral (1999) summarized the growing dilemma for higher education:

Universities were suddenly faced with very short budgets, demands for efficiency from governments and from society, criticism for not being able to meet immediate social demands and, at the same time, they were required to increase and diversify their sources of income, not only to accompany the increasing rapidity of the creation of knowledge but, in many cases, simply to survive (Soares & Amaral,

1999, p. 15).

The low level of state budgets was, and still is, a very powerful driving force for change. It comes as no surprise, then, that many leaders of public universities have tried to break the cycle and reduce their dependence upon state appropriations by developing alternative sources of funding. These university presidents see a more diverse resource portfolio as essential not only to building and sustaining the quality of their institution, but also to providing the flexibility to ride out the inevitable downturns in state support. Because of the continuing decline in state funding, internal budgeting processes need to secure other sources of income, and these resources need to be reallocated according to a process that can be generally accepted by the academic community (Duderstadt & Womack, 2003, p. 106, Soares & Amaral, 1999, p. 15).

While it does seem likely that these budgetary difficulties have been a motivating factor in the entrepreneurial behavior of public institutions, it does not necessarily also follow that there is a lesser level of entrepreneurial activity in private institutions, where state legislatures hold considerably less sway. In fact, some of the major entrepreneurial ventures in modern higher education have occurred in independent institutions (Fisher & Koch, 2004, p. 26).

The changes in the United States economy of the 1970s put universities under financial pressures that continue even today. Writing in *The Presidency* (Rhodes, 1998), former Cornell University President Frank Rhodes described how the search for financial security can become all-encompassing:

Many presidents—never recognizing that the academic appetite is insatiable, as it should be—become slaves to a mendicant treadmill, camping out on unwelcoming legislators’ doorsteps, endlessly wandering inhospitable Capitol corridors, crisscrossing the globe in weary pursuit of prosperous, but uncaring alumni, exhausting themselves in the search for financial support (Rhodes, 1998, p. 4).

During the 1970s, another lasting change occurred. In the most promising sectors of the economy, like biotechnology, the truly high-level research was coming from industry as much as from the universities. The advances taking place outside of universities weakened the accepted view that they had a monopoly on basic research (Newfield, 2003, p. 173). It was a natural next step, then, for universities to look at industry and business as potential partners, and to seek closer ties in their quest for financial security.

Perhaps the biggest single stimulus for business and industry partnerships was the passage of the Bayh-Dole Act in 1980 (COGR, 1999). Congress was concerned about rising technological competition from Japan and other countries. The aim of Bayh-Dole was to facilitate a more rapid transfer of useful research findings from the laboratory to the market-

place. It authorized universities to patent and license discoveries stemming from federally funded research (Tighe, 2003, p. 141). “If a federally sponsored research project produced findings of potential commercial value, universities could license the rights to such discoveries to U.S. companies that could then develop them for the marketplace in return for royalty and other payments to the universities” (Tighe, 2003, p. 141). Almost immediately, Bayh-Dole (COGR, 1999) resulted in a monumental change in the way in which universities and their faculties viewed the results of research and their relations with the world of business and industry.

By the mid-1990s, state governments appeared no longer interested in the more traditional forms of research at colleges and universities. State legislative requests for research proposals often seemed centered on job creation as it related to high technology, for example, and allocations were tagged with demands for an “early turnaround” from the state’s focused investments in research (Budig, 2002, p. 96). How best, then, for universities to broaden their financial revenue base while at the same time maintaining commitment to their core mission and values of teaching and search for knowledge? Soares and Amaral (1999) point out that this recent focus on the market, instead of the public community, as a new actor in the university funding mix, presents different and pressing demands. These demands are strongly supported in the public discourse by weighty justifications like the economic competitiveness of society, and the need to keep up with the rapid changes in science and technology (Soares & Amaral, 1999, p. 13).

Soares and Amaral (1999) also suggest that business-like profit seeking behavior is clearly not an objective compatible with some of the objectives of universities, and an entrepreneurial attitude does not necessarily mean that a public university should aim at behaving in all ways like the businesses with which it partners. Universities have a social mission that cannot be ignored. With state support insufficient to maintain universities at needed financial levels, however, it becomes necessary for them to look for funds elsewhere. How far they should go in the search for other income streams is a subject of considerable disagreement (Soares & Amaral, 1999, p. 19).

Clark (2004) states clearly that he thinks the search for financial self-reliance lies in a broad portfolio of income sources that are guided by the university’s core values. “The legitimacy of the portfolio depends on educational values guiding monetary decisions. There must be things the university will not do no matter how much money is offered, for example, permitting donors to select faculty” (Clark, 2004).

Clark (2004) details his suggestions for the possible sources of support from a diversified funding base. They are (1) other government sources, different from the core-support of state legislatures, (2) private organized sources, particularly business firms, philanthropic foundations, and professional associations, and (3) university-generated income, like alumni fund-raising, garnered research contracts, and profits

from patents. “Each subcategory offers numerous possibilities, and the three major sources together imply virtually no limit on possible streams of support” (Clark, 2004).

The search for an entrepreneurial route for universities to secure continued funding is a perilous journey and while the idea of entrepreneurialism is part of an old and honored tradition in business, the application of this concept to higher education is a relatively recent phenomenon. Fisher and Koch (2004) point out that, “The Carnegie Council’s 1980 final report, *Three Thousand Futures: The Next Twenty Years for Higher Education*, contains more than 400 subject index entries concerning the status and future of higher education, but not a single mention of entrepreneurs, entrepreneurial attitudes, or entrepreneurial college presidents” (Fisher & Koch, 2004, p. 9). What exactly, then, is an “entrepreneur” and what does “entrepreneurialism” mean, for business or academia? A closer look at some basic definitions is appropriate before going further.

Entrepreneurialism and the Entrepreneurial University

The word “entrepreneur” derives from an Old French verb, *entreprendre*, which means, “to undertake.” *The Encarta World English Dictionary* (Encarta World English Dictionary, 2006) defines an entrepreneur as “somebody who sets up and finances new commercial enterprises to make a profit,” while the *Merriam-Webster Unabridged Dictionary, Electronic Version* (Merriam-Webster Online Dictionary, 2006) says an entrepreneur is “one who organizes, manages, and assumes the risks of a business or enterprise.”

In the United States the term “entrepreneur” is often used to describe one who starts his own, new and small business. In describing entrepreneurial training, Peter Drucker (1985), the well-known business expert and management coach, notes that, in fact, courses in entrepreneurship that have become popular recently in American business schools are the direct descendants of earlier courses in starting one’s own small business that were offered in the mid-1950s, and in many cases, are not very different (Drucker, 1985, p. 21). Interestingly, other countries’ definitions do not necessarily coincide with U.S. usage. Germans identify entrepreneurship with power and property. In Germany, the word is used primarily to distinguish the “boss,” who also owns the business, from the “professional manager,” and from “hired hands” altogether (Drucker, 1985, p. 25).

Americans have become accustomed to defining the entrepreneur as “the free agent who has broken the chains of bureaucracy” (Newfield, 2003, p. 119). This assumption, however, reflects the current neoliberal moment in the ongoing history of economic ideology in this country, rather than any essential features of entrepreneurship.

There is resistance to utilizing the term to describe activities inside colleges and universities. The mere use of the

term “entrepreneurial” evokes antipathy in higher education:

The first known English usage of the word was in 1852 by Thomas Carlyle, who spoke of gambling houses constructed by a French gambling entrepreneur. This somewhat unsavory connotation has colored the use of the word entrepreneur throughout the twentieth century and has made the label *entrepreneurial college president* a mixed compliment in some higher education circles (Fisher & Koch, 2004, p. 2).

“To some faculty, the adjective *entrepreneurial* manifests an objectionable vision of a nonacademic, profit-driven business firm that is uninterested in the traditional academic virtues” (Fisher & Koch, 2004, p. 23). Compounding matters, recent financial abuse and fraud among self-described entrepreneurial corporate leaders and corporations such as Enron and WorldCom undoubtedly have sharpened this sense of unease in the academy.

What, then, is an “Entrepreneurial University?” Clearly the definitions that apply to profit-seeking businesses as discussed above do not easily apply. When and how does it exist? And how important is the role of the university president in establishing and driving the university in an entrepreneurial direction?

In his early research on entrepreneurial college presidents, Peck (1983) noted that positive entrepreneurship appears at a university when, among other criteria, there is no precedent for a current problem; that is, when the problem cannot be understood on its face. Other criteria include “when an unprecedented or unanticipated change of circumstances calls for a change in priorities or an altogether new approach; or when actions depend—to a significant degree—on the skills, temperament, attitudes, and commitments of persons associated with the institution” (Peck, 1983, p. 19).

Peck cautions, though, that it would be incorrect to conclude that all education endeavors are entrepreneurial. In his study, Peck (1983) found that entrepreneurial attitudes, endeavors, and even entrepreneurs themselves often are found only in certain parts of an institution. He also noted that many colleges and universities that are entrepreneurial in an overall sense have many divisions and departments that are not entrepreneurial in character. Peck (1983) calls those individuals who do exhibit entrepreneurial behaviors “future focused,” and he emphasizes that they do not concentrate on day-to-day operations. One of those sites in a university is the president’s office.

Röpke (1998), writing in Germany, focuses on the characteristics of an entrepreneurial university. He identifies three specific criteria that can be part of its structure. First, the university itself, as an organization, becomes entrepreneurial in its business activities. Secondly, the members of the univer-

sity—the faculty, students, and employees—turn themselves into entrepreneurs, through consulting or contract research, for example. Finally, the interaction of the university with its external environment, the “structural coupling” between the university and its environment, follows entrepreneurial patterns. Röpke (1998) posits that all three together are necessary and sufficient conditions to make a university entrepreneurial. (Röpke, 1998, p. 2).

The risks involved in a blind pursuit of an entrepreneurial agenda are highlighted by Duke (2002), who suggests that a cynic might appropriately name the 21st century university the *earning university* (Duke, 2002, p. 34) as opposed to the *learning university*. Duke (2002) suggests, however, that an entrepreneurial university is not in opposition to the idea of a learning university, “so long as it is not measured by a narrow price-of-everything-and-value-of-nothing calculus” (Duke, 2002, p. 34).

Whether it is a view that focuses strictly on faculty research, an emphasis on partnerships with business and industry, or a more expansive approach that encompasses the

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entire university, the entrepreneurial approach that began in the business world is making the transition into an academic environment. Much of what is happening on university campuses today is being driven by the need to be more innovative, responsive to the market, and to find new ways to make money. “This transition is requiring college and university manag-

ers to examine the way they operate, to reconsider their many functions, and, even, to question some of their most cherished values such as academic freedom and access” (Kozeracki, 1998). Nixon (2004) remains confident (some would say naïve) that adept college and university presidents recognize that learning is their core business and students remain their reason for being. “They recognize the different overlapping spheres of the academic environment, the need for external funding, the need to remain learner-centered, and the need to keep the respect of the faculty” (Nixon, 2004).

Waugh (1998) strongly articulated the risks that a market-oriented approach presents:

The change is subtle in some institutions and not so subtle in others. At best, programs, faculty, students, and staff are facing uncertain futures. At worst, traditional academic interests will lose out to market forces and economic self-interest. Higher education may become intellectual fast food and the long-term needs of society will not be well served (Waugh, 1998).

Creating an Entrepreneurial University

Clark's *Creating Entrepreneurial Universities* (1998) was recognized as a seminal contribution at the UNESCO World Conference on Higher Education in 1998, and was the focus of the biennial Higher Education Management Conference two years later. The research analyzes leadership and the capacity to thrive in new circumstances through a detailed examination of five universities and their paths to revitalization. Entrepreneurialism, according to Clark (1998), is an essential mode of adaptation to new expectations and demands. This major work set the stage for all subsequent research on the entrepreneurial university.

In his institutional study, Clark (1998) uses the term "entrepreneurial" to describe a characteristic of social systems, and of entire universities and their internal departments, research centers, faculties, and schools. "Entrepreneurial universities seek to become 'stand-up' universities that are significant actors on their own terms. Institutional entrepreneurship can be seen as both process and outcome" (Clark, 1998, p. 3).

Clark (2004) recognizes the significant impact of markets on the university. "For as long as they have existed, universities have had consumer markets in which they find students, labor markets in which they find faculty, and institutional markets in which they amass reputation" (Clark, 2004). He notes, however, that what has changed is that today's complex universities have become involved in many more market-type relationships than in the past, and they have become greatly differentiated by the amount of self-control they are able to exercise. In this context, Clark looks to university entrepreneurialism as a road to that strongly-desired high degree of market control (Clark, 2004).

Clark (1998) concludes that "only an overall organizational realignment" (p. 137) will enable the university to survive, much less thrive. A university can be productively entrepreneurial if it acquires the kind of organizational structure that allows the institution to be in a state of continuous transformation and effectively adapting to a changing society, as well as allowing groups and individuals to become more effective than before. "The traditional box needs to be replaced by an organizational framework that encourages fluid action and change-oriented attitudes" (Clark, 2004, p. 355).

Clark (2000) identifies five tools as elements of "pathways of transformation," and he uses them to frame case-by-case developmental accounts of successful university growth. He concludes that together they constitute "an entrepreneurial response" to the growing demands of the 21st century (Clark, 1998, p. 140). These "pathways of transformation" can help universities reach an independent state of continuous growth and financial security. He has refined the five steps since the original research publication (Clark, 1998, 2000, 2004, 2005), and the summary below incorporates his key points:

1. *A strengthened steering core.* Whatever its shape, Clark's entrepreneurial model starts with a strengthened steering core that consists of groups or agents who work diligently to find diverse streams of income for the entire institution, and who then make hard choices on internal allocation from pooled resources. They seek multiple other patrons instead of waiting passively for the government to return to full funding or to rescue the institution from unacceptable resource constraint. They work to diversify income and thereby enlarge the pool of discretionary money. Clark points out that the university is an extreme case of the maxim that all formal organizations are cooperative systems. The formulation and execution of important decisions, especially on a sustained basis, requires the structured involvement of many participants from top to bottom. The core gives the institution a greater collective ability to make hard choices among fields of knowledge, backing some to the disadvantage of others. This in turn shapes access possibilities and job-market connections. Balancing influence across multiple levels is an almost constant problem in entrepreneurial universities.
2. *An enhanced developmental periphery.* Clark identifies this as a larger, more complex set of units operating on the periphery of the traditional structure, reaching across old boundaries, and linking up with outside interests. The new peripheries that enterprising universities construct also take quite different specific forms. They consist of outreach administrative units that promote contract research, contract education, and consultancy. These units particularly take the form of interdisciplinary and transdisciplinary research centers focused on a wide range of societal problems, from global warming to improvement of public administration, from third world development to urban renewal. The developmental peripheries Clark observed have a valuable common outcome: they move a university toward a dual structure in which traditional departments are supplemented by centers linked to the outside world. Since units of a developmental periphery extend, cross, and blur boundaries, they can decisively shape the long-term character of a university. They can generate income that helps to diversify funding. They answer the call for interdisciplinary efforts. In such units, according to Clark, knowledge becomes more "applications-generated," and, of course, these units help generate income. An array of such units can serve as a portfolio of small experimental steps so that the institution need not stake everything on one grand investment. Clark cautions, however, that if these units are not judged by academic values as well as managerial and budgetary interests for their appropriateness in a university, they can move an institution toward the character of a shopping mall.
3. *A diversified funding base.* Student growth and knowledge

growth together increase enormously the costs of higher education to government. What was once a minor item in governmental budgets has become a major expenditure, a big-ticket item thrown into direct competition with other primary interests, from military to welfare. As noted earlier, governments have become less willing to pay all the costs of these seemingly expensive places, and traditional public universities have come to the proverbial fork in the financial road. They can fall in line and undergo parallel financial increases and decreases as the government specifies. This approach leaves universities waiting by the side of the road for government to come to its senses and give them the money they need. Or institutions can choose to become proactive financially, seeking to develop dependable lines of income from other sources. Clark predicts that as new patrons, including more tuition-paying students, contribute, their expectations of what they should get in return may readily become new constraints on internal choices. Clark points out that income from industry is repeatedly outmatched by income from other government departments where research monies are won competitively. Income from industry often contributes less than the monies gained annually from alumni and endowment. Diversifying income not only increases total resources, but also allows an institution to roll with the punches, replacing a loss here with a gain there, enhancing university discretion. A diversified funding base constructs a portfolio of patrons to share rising costs.

4. *A stimulated academic heartland.* In the making of a strongly proactive university, Clark recognizes that much depends on acceptance of a new evolving posture by the traditional discipline-led departments that serve as what Clark calls the “academic heartland.” These departments have to accept the overall need for more enterprising action and learn how to engage in such action themselves. This shift is typically made in an uneven fashion. Clark recognizes that the humanities and arts departments have good reason at first to be resistant. New money does not readily flow their way from either governmental or nongovernmental patrons, and deliberate effort to offer new services with income in mind may seem particularly out of place. Clark’s research shows, however, that these departments can also find new ways to be educationally useful as they relate to new demands with, for example, policy analysis and multimedia explorations. One traditional department after another finds educational as well as economic value in becoming a more enterprising basic unit. Entrepreneurial universities become based on entrepreneurial departments; that is, dynamic places attractive to faculty, students, and resource providers. Altered heartland departments, then, according to Clark, are a necessary part of the process of transformation. As they work harder to acquire the

habits of change for themselves, they become part of the sustaining foundation of the entrepreneurial university. When carried out effectively, a widespread embodiment of entrepreneurship in a university strengthens selective substantive growth in its basic units.

5. *An embracing entrepreneurial culture.* New, institutionally defining ideas are typically tender and problematic at the outset of an important change, amounting to tentative symbolic thrusts in the art of the possible. Institutional ideas that make headway in a university have to spread among many participants and link up with other ideas. They need to be tested, worked out, and reformulated, within the contexts of changing internal capabilities and environmental possibilities. This cultural element, interacting with the structural ones, develops over time in stages that can be seen as movement from idea to belief to culture to saga. Clark acknowledges that in the academic world, entrepreneurial activity has gotten a particularly bad reputation. Entrepreneurial leaders, operating top-down, leave behind traditional collegiality, and entrepreneurial faculty members strike out on their own for personal profit, abusing peers and students along the way. Competitive striving for prestige intensifies an entrepreneurial culture. Internally introduced change is disturbing enough, and change promoted by entrepreneurial striving leaves faculty doubly apprehensive, fearful that it can and will change the whole tone of academic life. For this reason, Clark maintains that sustainable entrepreneurialism in higher education, while admitting individual expression, has to be heavily collegial and cooperative in nature. As the competition heats up, nationally and internationally, more universities become encouraged to move toward an entrepreneurial state of mind. If they reach high cultural intensity, they acquire confident self-images and strong public reputations that enable institutional advancement. New true believers become affronted to even think of sliding back into a traditional box (Clark, 1998, 2000, 2004, 2005).

Clark’s entrepreneurial approach theory is in line with Slaughter and Leslie’s (1997) theory of academic capitalism. In *Academic Capitalism* Slaughter and Leslie (1997) made the case that around 1980:

to maintain and expand resources faculty had to compete increasingly for external dollars that were tied to market-related research, which was referred to variously as applied, commercial, strategic, and targeted research, whether these moneys were in the form of research grants and contracts, service contracts, partnerships with industry and government, technology transfer, or the recruitment of more and higher fee-paying students (Slaughter & Leslie, 1997, p. 181).

More recently, Slaughter and Rhoades (2004) describe the academic capitalist knowledge regime as characterized by the development of “new networks of actors who develop organizations that span and blur the boundaries between public and private sectors” (Slaughter & Rhoades, 2004, p. 12). Slaughter and Rhoades (2004) identify colleges and universities, as well as the academic managers, professors, and other professionals within them, as actors initiating academic capitalism, not just as players being “corporatized”. In this regard, academic capitalism theory helps explain Clark’s entrepreneurial response model.

University and Corporate Relationships

It is tempting to offer the solution of welcoming corporate support while attempting to studiously draw the line on anything that risks the ideals of the university, recognizing that in real life, maintenance of principles is often a matter of degree and common sense (Tighe, 2003).

The public good knowledge regime theory presented by Slaughter and Rhoades (2004), and outlined at the beginning of this paper, had problems as it related to corporate relationships because it had an unacknowledged side:

In the 1945–1980 period, much scientific and engineering research depended on Department of Defense funding for weapons of mass destruction. The first university-industry-government partnerships were with military contractors such as General Electric and Westinghouse who built nuclear reactors as part of the Atoms for Peace program. Much scientific and engineering research was classified, and the need for secrecy fueled movements like McCarthyism, which created an unfavorable climate for academic freedom (Slaughter & Rhoades, 2004, p. 29).

Harvard’s Emeritus President Derek Bok (2003), whose own institution has whole-heartedly participated in entrepreneurial and commercialized ventures, suggests that government officials hope that closer cooperation between universities and U.S. corporations will give American companies a technological advantage in the global marketplace. Corporations are eager to gain new knowledge in growing fields like biogenetics, where discoveries hopefully lead quickly to profitable new products. Universities have not only been quick to utilize the benefits of the Bayh-Dole Act (COGR, 1999), where they can capitalize on opportunities to earn royalty income from successful patents, but they also have been anxious to gain corporate research funds in exchange for the promise of exclusive licenses on any discoveries that result (Bok, 1990, p. 21).

The approach generally taken by universities focuses on generating revenue through research collaborations with

government and industry. The launching of entrepreneurial ventures, when done in keeping with the social values of the university, can bring very positive results to the institutions, the students, and the tax-paying public (Kozeracki, 1998). While alliances with for-profit corporations have the advantage of positive links in applied science between university researchers and the executives and research leaders of industrial corporations, many problems and risks are also present. Tighe (2003) recognizes that in spite of the undoubted benefits of academic-corporate partnerships, these partnerships can pose serious problems for the universities:

All of these ties, in varying ways and to varying degrees, bring into direct conflict the opposing values and practices of the business and academic worlds. In essence, businesses are profit oriented, secretive, and narrowly focused, while universities are public spirited, open, and broadly encompassing (Tighe, 2003, p. 149).

Birnbaum (2000) notes that these differences between businesses and universities reflect, among other things, the need for each to conform to the expectation of the constituencies to which each is responsive. In spite of the fact, however, that the similarities between businesses and universities are mostly superficial, the more universities appear to be business enterprises, the greater the likelihood that business solutions are likely to be prescribed for their problems (Birnbaum, 2000, p. 217).

The main concern, then, is that the blending of corporate and academic cultures will work against the university and lead to an erosion of the values of the academy, specifically the long-standing traditions of disinterested inquiry, free sharing of information, and broad and balanced pursuit of knowledge. Tighe (2003) suggests that much of the evidence to date indicates that this concern is well grounded (Tighe, 2003, p. 149). Many contemporary universities already resemble shopping malls, with programs and activities determined largely by available resources rather than student needs. Washburn (2005) laments that current academic administrators are “so focused on maximizing revenue and prestige that they have become blind to the deleterious effects of commercialization” (Washburn, 2005). Veblen voiced similar conclusions much earlier in observing, “It appears, then, that the intrusion of business principles in the universities goes to weaken and retard the pursuit of learning, and therefore to defeat the ends for which a university is maintained” (Veblen, 1957, p. 165). Balderston (1995) asks two key questions, “Will these arrangements weaken the independence of the university as an institution or the intellectual freedom of the research investigator? Will the research agenda be modified in inappropriate ways through the influence of industrial funding and relationships?” (Balderston, 1995, p. 190).

There are those who argue strongly that the risks to universities are not worth the gains, that universities should be

overwhelmingly funded from the public purse, or from the private purse without strings, and that they should reject any form of financial support that comes with its own agenda. On the other hand, Tighe (2003) points out that legitimate university research and scholarly enterprise may have grown in breadth and cost beyond the willingness or even the capacity of public funding to support it. “Over the past several decades, universities have gone from exploring private funding, to experiencing its benefits, to depending on it, and that is a hard course to reverse” (Tighe, 2003, p. 158).

Once again Bok (2003) provides some helpful guidance. He acknowledges that the attractiveness of corporate entrepreneurial influences may lead to short-term gains for universities, but he emphasizes that it can have harmful long-term effects. Bok advocates an approach that does not include overwhelming corporate financial support. He urges that colleges and universities uphold academic values, even if this requires that they not pursue what appear to be profitable commercial avenues (Bok, 2003). He emphasizes, however, that they can do both, “Universities can contribute indirectly but significantly to almost all the efforts required to make our economy stronger and our society more humane” (Bok, 1990, p. 32).

The Role of the University President

“Colleges are reportedly desperately seeking leadership. They seek leaders with vision who are not satisfied with the status quo—leaders who are unafraid of change and have the power and wherewithal to transform their organizations” (Bensimon et al., 1989, p. 73).

By the 1990s, leadership in higher education seemed to be in serious trouble, and the responsibility for rescuing higher education from falling into a deeper state of mediocrity was placed on academic management (Bensimon et al., 1989). It almost goes without saying that university presidents need to be honorable individuals who are concerned about students and faculty. Bensimon et al. (1989) give numerous examples which suggest that yesterday’s individual presidential success stories could be today’s failures, even though their qualities of leadership remained unchanged (Bensimon et al., 1989, p. 71).

In their book, *The Entrepreneurial College President*, Fisher and Koch (2004) describe how the nature of the modern American university has changed significantly in recent years, and that conditions now call for academic leaders who are not only honest and caring individuals, but much more. “They must do more than react to circumstances; they must mold the circumstances and shape the future” (Fisher & Koch, 2004, p. 25). Rhodes (1998), president emeritus of Cornell University, expressed a similar view in discussing the role of the university president:

In spite of financial pressures and political concerns, in spite of public disenchantment and campus

discontent, the academic presidency is one of the most influential, most important, and most powerful of all positions, and there is now both a critical need and an unusual opportunity for effective leadership (Rhodes, 1998, p. 1).

This was not always the case. In 1992, Birnbaum (1992) published an often-cited study of college presidents. With several colleagues, he followed 32 presidents for almost five years in the late 1980s, focusing attention on the transformational versus transactional theories of presidential leadership. In essence, Birnbaum (1992) arrived at the unhelpful conclusion that, “In the real world, there is almost never a simple yes or no answer...” (Birnbaum, 1992). Birnbaum believes that leaders can make a difference, however only under certain conditions. He concludes that what works on one campus may not work on another, and strategies that are appropriate to one time period may not be appropriate to another. Additionally, Birnbaum points out that presidents may be important in some situations, but the performance of their university may be less dependent upon their leadership than most care to believe. He interprets his research to conclude that college and university presidents, for the most part, do not have major, long-term impacts on their institutions. Birnbaum (1992) suggests that presidents come to their positions with useful competencies, integrity, faith in their colleagues, and a firm belief that by listening carefully and working together all will be well and the university will succeed. “In a turbulent uncertain world, what happens after that is as much in the laps of the gods as in the hands of the president” (Birnbaum, 1992, p. 196).

Most college presidents do the right things, and do things right most of the time. It is possible that college leaders can become marginally more effective. But those who seek major changes in the way presidents behave, or believe that such changes will make major differences on our campuses, are likely to be disappointed. (Birnbaum, 1992, p. 195).

Birnbaum (1992) also critiqued what he termed “presidential myths” (Birnbaum, 1992, p. 24–38). Summarized here, they are:

1. *The Myth of Presidential Vision*: Even though it is stated that successful presidents must possess an attractive vision, Birnbaum believes that most attractive visions were purloined and already existed on the campus. A successful president, he argues, simply finds that vision and exploits it.
2. *The Myth of the President as Transformational Leader*: Many have contended that many of the problems of higher education could be minimized, or even solved, if college presidents acted in a transformational fashion. Birnbaum believes this approach often leads to disruption and failure.

3. *The Myth of Presidential Charisma*: Charisma is, according to Birnbaum, a “mysterious ability” (Birnbaum, 1992, p. 31), and is exceedingly difficult to define. He suggests that presidents who rely extensively on charisma fail to cultivate and utilize the internal workings of their institutions and rely too much on their personal savvy and ability to sway. He adds that charisma can also be used for evil purposes.
4. *The Myth of Presidential Distance*: Some researchers argue that effective leaders maintain social distance. Birnbaum says there is no support for this proposition.
5. *The Myth of Presidential Style and Traits*: Birnbaum and his colleagues did not find any particular presidential style that uniformly results in success. In his words, “although some traits and skills appear frequently to be characteristics of leaders seen as effective, possession of such traits does not guarantee this effectiveness, nor does their absence proscribe it” (Birnbaum, 1992, p. 62–63). If there is a common thread that differentiates Birnbaum’s effective presidents from the rest, it is their popularity as represented by their standing with, and acceptance from, faculty, students, staff, alumni, and board members.

However, in reviewing Birnbaum’s (1992) work, Fisher and Koch (2004) observed:

Many observers of the modern American college presidency, while hardly discounting presidential popularity as an important element, nevertheless regard personal popularity (metaphorically) as more of a thermometer than a furnace. Effective presidents often are (but need not be) popular; their popularity and ability to get along with their constituents, however, is usually not the primary source of their effectiveness (Fisher & Koch, 2004).

Birnbaum (1992) did arrive at several conclusions regarding university presidents’ ability to make a difference:

Most presidents have short-term, marginal, and positive incremental effects on their colleagues and these effects would likely not be different under another president with similar qualities. In the short term, effective instrumental activities of presidents satisfy the basic leadership needs of most colleges. Over the long term, colleges also need the inspiration and motivation of interpretive leadership (Birnbaum, 1992, p. 169).

Birnbaum (1992) noted that failed presidents, who take a linear view of administration, act preemptively or in an authoritarian manner, and fail to listen or to be seen as being influenced by others, are likely, over the short term, to have small, negative, marginal effects on an institution. However, over the long term, the lack of faculty support leaves them unable to capitalize on institutional potential and of-

ten makes their campuses contentious and difficult places to work (Birnbaum, 1992).

Not everyone agrees, however, with Birnbaum’s overall conclusions. In particular, Fisher and Koch (2004), writing more recently, take issue with Birnbaum’s research. They acknowledge that he is an experienced and highly published observer of higher education and college presidents, and they accept that his observations must therefore be accorded a certain amount of respect. They note, however, that Birnbaum’s conclusions often are inconsistent with other research and existing empirical evidence, and his conclusions are highly dependent upon the impressions he and his colleagues subjectively divined from their interviews. “The evidence he presents is more normative than quantitative and is nonreplicable in a scientific sense. His work is not verifiable” (Fisher & Koch, 2004, p. 21).

Peck (1983) was one of the early writers to explicitly consider the entrepreneurial attitudes and activities of college presidents. In his examination of 19 small, independent colleges he argued that they all had successful, entrepreneurial presidents. “The concept of entrepreneurship ... is required to comprehend the development of the American education system” (Peck, 1983, p. 20). In Peck’s analysis, effective, entrepreneurial presidents are future oriented, although they resist obligating the university to long-term commitments. They think about the future and act upon it, but they identify, and keep themselves open to, various courses of action. Peck’s observations lead him to conclude that successful, entrepreneurial university presidents have a tendency to make decisions based significantly upon their own intuition. He emphasizes that this decision making approach is not, however, irrational. It presumes much previous hard work, data gathering, and analysis. Peck (1983) sees this as a creative response to challenging circumstances, one necessarily involving a high degree of risk (Peck, 1983).

Fisher and Koch (2004) also recognize this element of managed risk-taking:

Presidents seeking to transform their institutions must be willing to take intelligent risks and to engage in entrepreneurial activity. A president who does not take some risks is a president who likely accomplishes nothing, or at least nothing more than would have happened in her absence (p. 31).

Peck (1983) views this “future-focusing” approach as ad hoc in nature in that the president sorts out elements of the university that can exert the greatest influence on the course of action needed to achieve a goal at any given time. “It is ad hoc because it is *opportunistic*. The president is constantly on the lookout for opportunities that will move the institution toward its goal in ways consistent with its overall mission and purpose” (p. 18).

Others have expressed the fear that transformational leaders may eventually run their institutions into the prover-

bial ditch. Fisher & Koch (2004) detail several possible reasons for this:

Sometimes the risk-taking entrepreneur does not undertake appropriate due diligence of alternatives and thereafter takes unwise risks. Or, after a visible stream of successes, some leaders begin to believe they are infallible and have so much faith in themselves that they believe they cannot fail. And, after a period of time, it sometimes becomes clear that the audacious goals of some transformational leaders are shabby, immoral, or even illegal. (p. 18).

Peck (1983) concludes with two central questions. Where do the characteristics of the entrepreneurial president come from? What is the source of the president's courage to take risks, ability to change and adapt, and propensity to innovate? "Only further investigations will tell," he wryly observes (Peck, 1983).

One of the better-known, future-focused, risk-taking, entrepreneurial university presidents in modern times was Frederick Terman. His successful post World War II effort to grow Stanford University's Engineering School has subsequently become a blueprint for many university presidents, standing in stark contrast to Birnbaum's *Myth of the President as a Transformational Leader* (Birnbaum, 1992, p. 24), and his expectation that transformational presidential leaders ultimately destroy their institutions. Terman developed what he termed "a recipe for distinction" (Lenoir et al., 2005) that contained two key ingredients. The first was "The Mainstream Theory" in which Terman suggested that the university should be strong in areas of mainstream interest and importance rather than in "niche" areas, even though the university might be able to be the leader in some obscure and esoteric areas. The second component of Terman's recipe was to increase the department's faculty in key areas where funding could be attracted. He called this his "program for building steeples of excellence" (Lenoir et al., 2005).

Terman specifically pursued projects he thought could be "self-financing" and would eventually generate their own momentum of sustained growth. However Terman's goal was not to just bring money into the university. Rather than simply collecting contract research dollars, he used funding as a way to hire the best talent. His primary objective was to build the premier research program in electronics by obtaining the very best faculty in the field and building a graduate program around it. The training of graduate students and the production of Ph.D.s were as important as any other component of the program (Lenoir et al., 2005). Terman's creative use of salary grants proved both motivating and financially rewarding. "Rather than using government grants to increase salaries of faculty already on staff, Terman pursued what he termed 'salary splitting.' The strategy was to pay for half of the salary of

a new faculty member from grants and contracts" (Lenoir et al., 2005).

Terman's genius was to recognize that the university's relationship to the federal government did not have to be seen as an alternative to a relationship to private industry. In fact, the university's relationship to one almost had to be intricately bound up in the university's relationship with the other if either were to prove profitable (Newfield, 2003, p. 253).

University presidents' part in the development of an academic capitalism regime has not been extensively examined. Yet presidents are now often called university CEOs, indicating that they have management powers similar to corporate CEOs. Colleges and universities could not engage in academic capitalism without the involvement of university presidents (Slaughter & Rhoades, 2004, p. 207). College and university presidents can, then, have significant impact on their institutions, particularly if they take a transformational and entrepreneurial approach. Fisher and Koch (2004) found considerable overlap between the effective presidents and the entrepreneurial presidents. In fact, they conclude that the entrepreneurial character of many presidents, like Frederick Terman, is the mainspring of their success. "Entrepreneurial presidents are flexible, innovative, and especially capable of

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perceiving relationships and opportunities that ordinary presidents do not. They leverage resources, negotiate groundbreaking partnerships, turn their organizations in new directions, and clearly take risks, albeit well-calculated risks" (Fisher & Koch, 2004, p. 121). These presidents are more likely to develop creative structures to accomplish their goals; they are not afraid to disturb the status quo; and they personally generate many visionary and innovative ideas. It can be shown that their institutions are probably better off because of their leadership, and, in significant contrast to Birnbaum's conclusions of presidents not making a difference, the prototype effective entrepreneurial president is a "pulsating energy source" who transforms the campus (Fisher & Koch, 2004).

Arizona State University is one public university that has embraced this approach in its attempt to create a "New American University" and a "New Gold Standard" of excellence and research (ASU, 2004b):

Arizona State University is one public university that has embraced this approach in its attempt to create a "New American University" and a "New Gold Standard" of excellence and research (ASU, 2004b):

At ASU, we are committed to embedding entrepreneurship as a way of thinking into the culture of our institution and in our partnerships with our community. Through enterprising leadership and resources, we seek to inspire our students and faculty by equipping them with the skills to turn their innovative ideas into reality (ASU, 2004b).

A work-in-progress, Arizona State University is only one of a growing number of universities to attempt a ma-

for restructuring of its core funding through this approach. Michael Crow's current tenure as President of Arizona State University has been marked by his entrepreneurial vision to create the "New American University". Schramm (2006), writing in *The Entrepreneurial Imperative*, singles out Arizona State as one of only a few universities pursuing an entrepreneurial agenda through a new combination of existing elements, striving for social impact, and working to distinguish itself from its competitors. "An even larger effort to explicitly change the entire course of a university is underway at Arizona State, where under the leadership of President Michael Crow, ASU has declared itself the new American university" (p. 142). As described in university publications, "The New American University is ASU's vision for a university that is responsible for the economic, social, and cultural vitality of our region" (ASU, 2004a). As a New American University, ASU seeks to:

- Provide quality education that is accessible to a broad population
- Create a highly educated workforce
- Generate economic growth
- Conduct transdisciplinary research for the public good
- Maintain a global perspective in our endeavors (ASU, 2004a)

In a recent personal interview with this author (Searle, 2006), Searle, Provost and Vice President for ASU at the West campus, spoke candidly about his belief in a strong, president-led institution: "If there is no vision or higher expectations, then things just go along. The president needs to reposition the university to emphasize added value. Dr. Crow has pushed the vision" (Searle, 2006). Searle acknowledged that there has been a rapid expansion of programs and ideas at ASU, and that this is a good thing. "This has created an unsettled feeling for a lot of folks. For them there are too many things going on at once. This management by disruption upsets their sense of complacency" (Searle, 2006). He suggests that outside organizations need to see something different happening at the university for them to buy into the process. Searle also points out that the process of growth has specific steps: "In order to build a singular, world-class facility, you first learn how to build a number one-ranked program. The learning process can then extend to the rest of the university" (Searle, 2006).

Schramm (2006) points out that Dr. Crow is acting on what many in universities now know, that the division of knowledge into traditional departments and schools actually hinders progress. "By recombining various disciplines, ASU is developing an entirely new university from within, one preparing students for a new economic order" (Schramm, 2006, p. 143).

Trachtenberg (1999), former president George Washington University, summed up the impact of the entrepreneurial president in a speech to the faculty:

We benefit daily from what I call the "double-barreled" effect of academic entrepreneurship. You do a good job because you hold yourself up to your personal standards, which are very high. Then, having taken joy and pride in living up to yourself and your reputation, you discover you've had a real effect on the bottom line. And that effect is not abstract, not at all. It may mean, for example, that three adjuncts who were going to lose their jobs can be retained. It means the university can finally re-seed the south lawn, otherwise known as "the big muddy".

Where To From Here?

The organizational development from the craft shop and factory to such concerns as U.S. Steel illustrates the same process of industrial mutation—if I may use that biological term—that incessantly revolutionizes the economic structure *from within*, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. (Schumpeter, 1975, p. 82–89).

In Schumpeter's (1975) view, innovations occur, and old ways die, because some individuals have the courage to do things differently, to take risks, and to place themselves and their institutions on the line. Duderstadt and Womack (2003), among others, recognize the significance of the choices that colleges and universities are confronted with as they face a growing imbalance in the environment-university relationship. Higher education can accept the challenge, and the risk, of transforming their institutions into new forms more appropriate to this age of knowledge, or they can accept the near-certainty of stagnation, decline, and deterioration in the capacity of traditional universities to serve this fast-changing world. "They must demonstrate once again that they are willing to take the actions necessary to serve a changing society, thereby earning the renewed commitment of their many stakeholders" (Duderstadt & Womack, 2003, p. 219).

Clark (1998) offers a suggestion to universities on how to proceed. It is a step-by-step process of learning by experimenting. "We need widespread experimentation that tests ways to move into the future. We need particularly to learn from efforts to innovate in the overall character of universities" (Clark, 1998, p. xiv). For Clark this means universities need to develop an "entrepreneurial response" (1998, p. 8). He acknowledges that this is transforming work, and it must extend over years that often become decades. The sustained work calls for collective action throughout the university, leading to new practices and beliefs. He believes that these steps are entrepreneurial in character, with much risk-taking and flexible adjustment required along the way (Clark, 1998,

p. 8).

According to Clark (1998), the entrepreneurial response gives universities a better chance to control their own destinies. He concludes that it can be seen as a way for universities to recover their lost autonomy, as mounting demands dominate their capacity to respond using existing structures and systems. This new autonomy is different from the old system where public universities were given full state support, and then largely left alone to educate a few students, engage in limited basic research, and prepare students for several specific professional work fields (Clark, 1998, p. 146).

The subjective nature of university administration has made it difficult for researchers to focus on specific aspects of success and achievement in trying to measure the entrepreneurial response and to determine if it is, or can be, an effective approach. There is much opportunity for further research and study of the many universities that are currently pursuing some form of entrepreneurialism as part of their changing financial situations and revenue diversification.

The financial crises in American universities, both public and private, is real, and many of the accepted public funding sources described in this paper, like state legislatures, are quickly drying up, if they are not already gone. In order to survive in the fast-paced, rapidly changing, hostile environment in which they find themselves, colleges and universities are challenged to expand their fund-raising horizons, and, at the very least, to become more creative in their search for financial security. The availability of for-profit corporate dollars, for example, whether through business partnerships or direct funding, continues to be very strong, and these relationships can greatly benefit the university. However, there can be considerable risk to the university's core missions of search for knowledge, teaching, and service to the community if the institution pursues a pure business model of operation.

As commercial activity expands in higher education there is the real risk that it may become an end in its own right. Public colleges and universities have no interest in becoming for-profits, but many public research universities make the case that they should become 'private' entities because appropriations from the states in some cases provide very little of their institutional revenues. However, they do not want to pay taxes. Nor do they want to give up public subsidies in the form of state and federal student financial aid and loan program. In short, they want the protections and continued subsidies of the public sector, and flexibility, opportunities, and potential revenue streams of the private sector. (Slaughter & Rhoades, 2004, p. 330)

If nothing is done differently, there exists an equal risk

to the university of becoming irrelevant; so many universities are rethinking their traditional models of operation. A thorough and comprehensive re-evaluation of the university's mission, vision, goals, and objectives may be required at many institutions in order to survive. This has long been generally understood as a requirement of any institution that seeks to grow and adapt in a changing world. American colleges and universities have been lucky in that for a long time they have existed in the protective bubble of academic tradition that kept them isolated from the capitalist market around them. This isolation served them well for many decades and universities were able to focus their energy within, on teaching and research.

Some ideas worth exploring include alternatives to current patterns of faculty and institutional ownership of and claims to royalties from intellectual property. Overall, the educational mission of higher education could be reinvested in by prudent use of the proceeds from intellectual property. Perhaps a share of

revenues generated by intellectual property could be placed in a public trust that could have as its purpose directly aiding students and communities in a variety of ways, whether through scholarships, research internships, or direct grants toward community development.

With a few notable exceptions, like Frederick Terman at Stanford and Derek Bok at Harvard, the history of the financial administration of American Universities in the last half of the 20th Century does not indicate a great deal of outstanding achievement or creative leadership. Clark's "entrepreneurial response" (1998, p. 8) provides one comprehensive approach to long-term survival and growth for higher education. Additionally, just as there are many forms of capitalism, so there can be many forms of academic capitalism. Academic capitalism does not have to take a laissez-faire form. Rather than simply seeking to maximize external revenue generation, colleges and universities operating in an academic capitalism/entrepreneurialism environment could seek to enhance the social benefits of their intellectual property and educational services. "Colleges and universities' commitment to revenue generation could also encompass commitments to increased access for underserved populations and expansion of opportunity for women and minorities" (Slaughter & Rhoades, 2004, p. 336).

Finally, the ability of visionary, transformational university presidents, like Michael Crow at Arizona State University, to take managed risks for the prosperity of their institutions, continue to make a significant impact in the eventual success or failure of their endeavors to secure the financial health of the university. Arizona State's focus on local needs, including attending to issues of immigration and integrating immigrant and low-income populations into the middle layers of the new

In order to survive in the fast-paced, rapidly changing, hostile environment in which they find themselves, colleges and universities are challenged to expand their fund-raising horizons, and, at the very least, to become more creative in their search for financial security.

economy is an example of a positive direction for the academic capitalism/entrepreneurialism process.

Clark (2004) effectively summarizes prospects for the future:

This side of the calamities of war, fire, and earthquake, and repressive governmental tyranny, the future of universities rests in their self-reliance. The study of modern academic entrepreneurialism teaches, and teaches well, that, one by one, as the twenty-first century unfolds, universities will largely get what they deserve. The lucky ones will have built the institutional habits of change (p. 10).

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