By James J. Duderstadt, President Emeritus, University of Michigan Appendix to a new report, "The Third Century: A Roadmap to the Future of the University of Michigan."

A Primer on University Planning

Strategic planning in higher education has had mixed success, particularly in institutions of the size, breadth, and complexity of the research university. Even the word "strategic" sends shivers up the spine of some faculty members and triggers vitriolic attacks against bureaucratic planners on the part of many others. Yet all too often universities tend to react to—or even resist—external pressures and opportunities rather than taking strong, decisive actions to determine and pursue their own goals. So too, they frequently become preoccupied with process rather than objectives, with "how" rather than "what."

Yet as many leaders in higher education have come to realize, our changing environment requires a far more strategic approach to the evolution of our institutions. It is critical for higher education to give thoughtful attention to the design of institutional processes for planning, management, and governance. The ability of universities to adapt successfully to the profound changes occurring in our society will depend a great deal on the institution's collective ability to develop and execute appropriate strategies. Key is the recognition that in a rapidly changing environment, it is important to develop a planning process that is not only capable of adapting to changing conditions, but to some degree capable of modifying the environment in which the university will find itself in the decades ahead. We must seek a progressive, flexible, and adaptive process, capable of responding to a dynamic environment and an uncertain—indeed, unknowable—future.

The Classical Approach to Planning

Strategic planning first became important to American higher education in the post–World War II years, as universities attempted to respond to the growing

educational needs of returning veterans and then to a rapidly expanding population of young adults. Although most institutions simply grew as rapidly as resources allowed, there were important planning efforts such as the California Master Plan for higher education. Most institutions had formal planning units, generally lodged in the office of the chief academic officer and staffed by professionals. Typically these efforts were more focused on the gathering of data for supporting the routine decision process than providing a context for longer-term issues. These university planning activities were decidedly tactical in nature and usually did not play a significant role in the key strategic decisions at the executive officer or governing board level.

The marginal role of institutional planning changed in the 1980s as universities first began to grapple with a more constrained resource base and increasingly frequent financial crises. Planning was used to determine institutional priorities and identify candidate activities for possible downsizing or elimination. Planning units became active if sometimes reluctant participants in support of actions adapted from the business world such as downsizing, reengineering processes, and restructuring activities. As the pace of change in the environment of the university began to accelerate during the 1980s, these formal planning activities were largely ignored as university leaders sought more immediate strategies in response to one crisis after another. When formal planning was used at all, it was generally employed to support resource allocation decisions that had frequently already been made by more ad hoc or political mechanisms.

With the financial crises of the 1980s, 1990s, and now the "Great Recession" of recent years, there is a growing recognition of the importance of strategic planning at the highest leadership level of the university, particularly during a period of ever accelerating change. But there are many approaches to planning in higher education. Some university leaders adopt a fatalistic approach. They accept the premise that the university is basically unmanageable, constrained by traditions, a culture, a complexity, and a momentum that allow only a modest deflection in one direction or another. Hence they focus on several specific issues, usually tactical in nature, and let the institution continue to evolve in a nondirected fashion. They might select several items to fix every few years, for example, capital facilities in one cycle, fund-raising in another, and so on. This smallwins approach essentially assumes that the university will do just fine on most fronts, moving ahead without an overarching strategy. And perhaps for some institutions, during times of stability, this is an appropriate strategy. However, when the planning environment is changing significantly, such an approach can be dangerous. A series of decisions unrelated to a broader vision or goal for the institution can lead to a de facto strategy counter to the university's long-term interests.

Over a longer period of time, however, a series of small tactical decisions will dictate a de facto strategy that may not be in the long-range interests of the university. At Michigan, for example, a sequence of such tactical resource allocation decisions during the 1960s led to investment in a number of programs (e.g., dentistry, education, and natural resources) that were to experience major enrollment losses in the 1970s. Because the University did not have adequate mechanisms in place to adjust resources as enrollments dropped, these losses led to serious problems by the 1980s when resources became more limited. While the decisions leading to selective growth in these units may have responded to the tactical situation at the time, they were not guided by a broader strategic vision of the future of the University.

Institutions all too frequently chose a timid course of incremental, reactive change because they view a more strategically driven transformation process as too risky. They are worried about making a mistake, about heading in the wrong direction or failing. While they are aware that this incremental approach can occasionally miss an opportunity, many mature organizations such as universities would prefer the risk of missed opportunity than the danger of heading into the unknown.

Simple Goals and Actions for Complex Problems...



Another difficulty with small wins or incremental strategies is that they generally rely on extrapolation rather than interpolation to guide decisions. That is, they develop a vision for the future by simply extrapolating the past. But in a world of such dramatic change, the past may not be a useful guide. It may be more appropriate to first develop a bolder vision of the future of an institution, and then develop strategies that interpolate between the future vision and the present reality. Such approaches are sometimes called scenario planning, since there will frequently be a number of possible options considered for the future. Although such scenario planning or interpolative approaches can sometimes miss the mark, in general during a time of change they are superior to incremental strategies that simply cannot cope with dramatic change.

A contrasting approach might be best characterized as opportunistic planning. Here the idea is to develop flexible strategies that take advantage of windows of opportunity to avoid confining the institution to rigid paths, deep ruts. In a sense, this corresponds to an informed dead-reckoning approach, in which one selects strategic objectives—where the institution wants to go—and then follows whichever course seems appropriate at the time, possibly shifting paths as opportunities arise and updating strategic plans with new information and experience, always with the ultimate goal in mind.

Key to any planning effort is an assessment of the planning environment. In large universities it is particularly important to tap the wisdom of a variety groups to help evaluate both the current and past state of the University as well as the internal and external environment issues that should be considered in planning activities. All of these factors are time-dependent,

of course. Hence it is important to consider not only the current environments for planning, but also the historical context that led to these environments and the possible futures that might evolve. Furthermore, it is essential to recognize that the internal and external environments are tightly connected. Hence, external conditions that might first appear to be constraints can be altered through appropriate modifications of the internal environment and related activities.

Rather than view environmental factors as absolute constraints, they can be recast as challenges or opportunities subject to modification. That is, one can adopt the mindset that the university can influence its planning environment. The key is to begin with the challenging question of asking what can be done to modify the planning environment. There are always opportunities to control constraints—and the future—if one takes a proactive approach. Universities are rarely playing in a zero-sum game. Instead they may have the opportunity to increase (or decrease) resources with appropriate (or inappropriate) strategies. The university is never a closed system. Put in more engineering terms, any complex system can be designed in such a way as to be less sensitive to initial and/or boundary conditions. (In the language of systems engineering, a system can be designed with sufficiently short time constants or decay lengths so that it evolves rapidly into an asymptotic state where the constraints imposed by initial and boundary conditions are no longer controlling.)

In an institution characterized by the size and complexity of the contemporary research university, it is usually not appropriate (or possible) to manage centrally many processes or activities. One can, however, establish institutional priorities and goals and institute a process that encourages local management toward these objectives. To achieve institutional goals, processes can be launched throughout the institution aimed at strategic planning consistent with institutional goals, but with management authority residing at the local level. One seeks is an approach with accurate central information support and strong strategic direction.

Here there is an important distinction to make. Strategic planning is deciding what should be done, that is, choosing objectives ("What do we want to do"); tactics are operational procedures for accomplishing objectives ("How do we go about doing it?"). Note as well

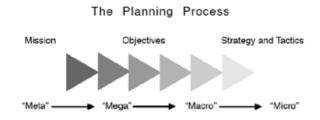
that long-range planning is not the same thing as strategic planning. Long-range planning establishes quantitative goals, a specific plan. Strategic planning establishes qualitative goals and a philosophy. Because strategic planning should always be linked to operational decisions, some prefer to use the phrase strategic management rather than strategic planning to denote it.

While there are many ways to organize strategic planning, most fit into the following framework of steps:

Mission, vision, and strategic intent Environmental assessment Goals Strategic actions Tactical implementation Assessment and evaluation

Clearly an understanding of institution mission is a prerequisite to effective planning. The development of a vision is also important to the strategic process. A successful strategic planning process is highly iterative in nature. While the vision remains fixed, the goals, objectives, actions, and tactics evolve with progress and experience. During a period of rapid, unpredictable change, the specific plan chosen at a given instant is of far less importance than the planning process itself. Put another way, one seeks an "adaptive" planning process appropriate for a rapidly changing environment.

Many organizations go beyond this to develop a strategic intent, a "stretch vision" that cannot be achieved with current capabilities and resources. The adoption of a strategic intent is intended to force an organization to change. The traditional view of strategy focuses on the fit between existing resources and current opportunities; strategic intent creates an extreme misfit between resources and ambitions. Through this, we are able to challenge the institution to close the gap





by building new capabilities.

At Michigan during the 1990s we chose a particular refinement of opportunistic strategic planning known as logical incrementalism. As with most strategic processes, one begins with a clear vision statement for the institution. Within the context of this vision, one then sets out intentionally broad and rather vague goals for example, goals such as excellence, diversity, and community. The strategic approach is then to engage broad elements of the institution in efforts to refine and articulate these goals while developing strategic plans and operational objectives aimed at achieving them. Key to the success of logical incrementalism is the skill of separating the wheat from the chaff, that is, separating out only those plans (actions and objectives) that move the institution toward the vision statement and deflecting those that do not.

Although logical incrementalism is a small-wins strategy, relying on a series of small steps to move toward ambitious goals, it also is a highly opportunistic strategy in the sense that it prepares the organization to take far more aggressive actions when the circumstances arise. The planning process is evolutionary in other respects. It moves from broad goals and simple strategic actions to increasingly complex tactics. So too, the planning process works simultaneously on various institutional levels, ranging from the institution as a whole to various academic and administrative units. The ability to coordinate these multiple planning processes is, of course, one of the great challenges and keys to the success of the approach.

A Postmodernist Approach to Planning

Traditional planning processes are frequently found to be inadequate during times of rapid or even discontinuous change.8 Tactical efforts such as total quality management, process reengineering, and planning techniques such as preparing mission and vision statements, while important for refining status quo operations, may actually distract an institution from more substantive issues during more volatile periods. Furthermore, incremental change based on traditional, well-understood paradigms may be the most dangerous course of all, because those paradigms may simply not be adequate to adapt to a future of change. If the status quo is no longer an option, if the existing paradigms are no longer viable, then more radical transformation becomes the wisest course. Furthermore, during times of very rapid change and uncertainty, it is sometimes necessary to launch the actions associated with a preliminary strategy long before it is carefully thought through and completely developed.

Complex systems, whether natural systems, social institutions, or even academic disciplines, often appear stable but actually fluctuate constantly, held in a precarious state of equilibrium. Chaos theory has taught us that even very small changes can threaten this complex balance of forces. The popular press calls this the "butterfly effect," because it suggests that the minute disturbance of a butterfly's wings could affect major weather patterns halfway around the globe. Thus, dramatic change in knowledge is often triggered by a single new idea or exceptional individual.

This vision of disciplines as complex, chaotic systems echoes philosopher Thomas Kuhn's theory of scientific revolutions. In essence, Kuhn argues that individual disciplines operate under what he calls paradigms. In a sense, a paradigm is what the members of a community of scholars share, their accepted practices or perspectives. Paradigms are not rules, but more like subjects for further study and elaboration, beliefs in certain metaphors or analogies about the world and shared values. For Kuhn, most research consists not of major breakthroughs, but of mopping up, or sweating out the details of existing paradigms. Major progress is achieved and new paradigms are created, not through gradual evolution, but through revolutionary, unpredictable transformations after the intellectual field reaches saturation.

Translated into more human terms, what these conceptions tell us is that transformations, whether in nature or social organizations, are frequently launched by a few remarkable people with extraordinary ability and/or plain old-fashioned luck. Those who invent

The Challenge of Change Driving Forces of 1990s Diversity & Pluralism Globalization Age of Knowledge The University of the 20th Century The Foundation for Change Commitment to Excellence Fundamental Values Sense of Community

new paradigms, who destabilize the structure of a field, are often very young or very new to their field. Uncommitted to current disciplinary rules, they are, as Kuhn says, "particularly likely to see that [these] rules no longer define a playable game and to conceive another set that can replace them." They must also, however, be willing to take serious risks, to participate in the early, flatter, and less productive portion of the learning curve where the broad outlines of new fields are hammered out. These intellectual renegades lend rich new vitality to our scholarship while challenging the status quo.

Daring and Risk-Taking

Note that this view suggests that one of the greatest challenges for universities is to learn to encourage more people to participate in the high-risk, unpredictable, but ultimately very productive confrontations of stagnant paradigms. We must jar as many people as possible out of their comfortable ruts of conventional wisdom, fostering experiments, recruiting restive faculty, turning people loose to "cause trouble," and simply making conventionality more trouble than unconventionality.

There is one final aspect of change in complex, dynamic systems worthy of mention here. Such systems are most adaptable or responsive at just that point before the onset of chaos. Put another way, while evolutionary, incremental change may suffice during normal times, more dramatic transformations may be necessary when the environment is changing very rapidly. It may be necessary to drive an organization toward instability, toward chaos, in order to shift it from one paradigm to the next. Sometimes this happens naturally as external forces drive an organization into crisis; sometimes it results from the actions of a few revolu-

tionaries; and sometimes it even happens through leadership, although as Machiavelli observed, it is rarely well received by those within the organization.

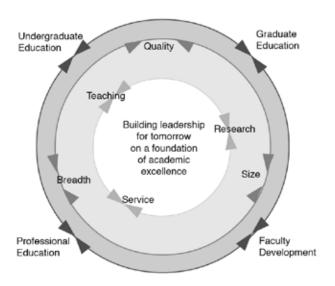
A Case Study: Vision 2000 (Positioning) and Vision 2017 (Transformation)

In the early years, from 1986 to 1988, our strategic planning efforts placed more emphasis on the process of planning than on the detailed plan itself. We sought to engage faculty and staff in a variety of planning experiences with the central administration as well as in individual academic and administrative units. The goal was to trigger a shift in perspective so that we ceased to simply react to our changing environment. Instead, we developed plans aimed at moving the University toward well-defined goals, seeking to shape our environment in the process.

More specifically, the University leadership, working closely with faculty groups and academic units, sought to develop and then articulate a compelling vision of the University, its role and mission, for the 21st Century. This effort was augmented by the development and implementation of a flexible and adaptive planning process. Key was the recognition that in a rapidly changing environment, it was important to implement a planning process that is not only capable of adapting to changing conditions, but to some degree capable as well of modifying the environment in which the University would find itself in the decades ahead.

Our early planning efforts finally converged on a vision stressing two important themes: leadership and excellence. Looking back over the history of the university, we realized that quality by itself was never quite enough for Michigan. Here the aspiration of going beyond excellence to achieve true leadership clearly reflected our understanding of the university's history as a trailblazer. This process eventually led to the following planning vision for the 1990s:

Vision 2000: To position the University of Michigan to become a leading university of the 20th Century, through the quality and leadership of its programs, and through the achievements of its students, faculty, and staff.



Developing a vision for the University

Such a leadership vision required a comprehensive strategy based on improving and optimizing the key characteristics of the university: quality, capacity (size), and breadth (comprehensiveness). Yet even at this early stage of visioning, the campus community became both engaged and energized in exercises to determine the university's future.

Of course vision statements are empty without follow through, actions, and results. To shift the institution into an action mode, we set out several general challenges for the next phase of the planning exercise, which I termed the challenges of excellence: We first asked for a rededication to the achievement of excellence. It was time for Michigan to pick up the pace by building a level of intensity and expectation that compelled us to settle for nothing less than the best in the performance of faculty, students, and programs. We encouraged the university to strive for even higher quality, since it would be the achievement of excellence that would set us apart, that would provide us with the visibility to attract the human and financial resources, the outstanding students and faculty, and the support from the public and private sectors so essential to the enterprise.

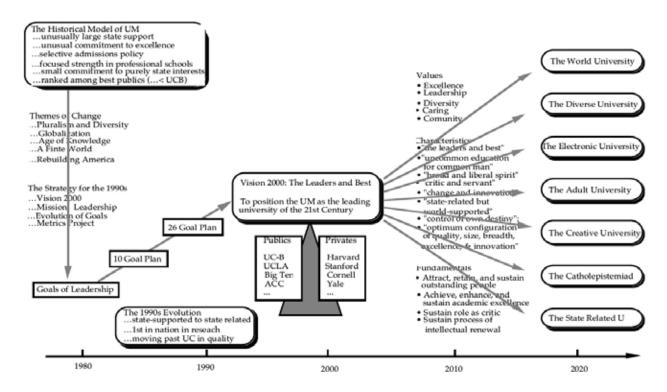
Next, we needed to commit ourselves to focusing resources if we were to achieve excellence. In decades past, regular increases in public support had allowed the university to attempt to do a great many things, with a great many people, and to attempt to do them all very well. However, in the future of constrained resources that we faced, we could no longer afford to be all things to all people. Quality had to take priority over the breadth and capacity of our programs and become our primary objective.

Third, as we focused our resources to achieve excellence, we needed to keep in mind that our highest priority was academic excellence: outstanding teaching, research, and scholarship. The University of Michigan's reputation would not be built on the football field or hospital wards. It would be based on the quality of its activities in scholarship and learning.

Fourth, the university needed to be responsive to changing intellectual currents. Academic leadership demanded pursuing the paths of discovery that influence the evolution of intellectual disciplines. Increasingly we were finding that the most exciting work was occurring not within traditional disciplines, but rather at the interfaces between traditional disciplines, where there was a collision of ideas that could lead to new knowledge. At Michigan, we wanted to stimulate a transition to a change-oriented culture, in which creativity, initiative, and innovation were valued. We needed to do more than simply respond grudgingly to change: we needed to relish and stimulate it.

Fifth, the university faced the challenge of diversity and pluralism. Our ability to achieve excellence in teaching, scholarship, and service would be determined over time by the diversity of our campus community. We accepted our responsibility to reach out to and increase the participation of those racial, ethnic, and cultural groups not adequately represented among our students, faculty, and staff. Beyond this, we faced the challenge of building an environment of mutual understanding and respect that not only tolerated diversity, but sought out and embraced it as an essential objective of the university. Here we were clearly sowing the seeds that would later grow into the Michigan Mandate and the Michigan Agenda for Women.

Finally, to achieve the objective of leadership, we proposed to focus wherever possible on exciting, bold initiatives, consistent with the Michigan saga as a trail-blazer. We aimed to simulate, encourage, and support more high-risk activities. As steps in this direction, we began to reallocate each year a portion of the university's academic base budget into a Strategic Initiative Fund designed to support a competitive grants pro-



Vision 2000: Positioning the University of Michigan for excellence and leadership

gram addressing key university priorities such as undergraduate education, diversity, and interdisciplinary scholarship. This was augmented by private support.

Some of our initiatives were obvious if challenging. We set a goal of building private support for the university to levels comparable to our annual state appropriation, which not only led to the first \$1 billion fund-raising campaign for a public university but also stimulated a far more aggressive strategy for investing the university's assets, including its growing endowment. We developed new strategies for rebuilding the university's campuses with internal funding and private support rather than waiting for the next round of state support for capital facilities. We provided strong authority, along with accountability, to deans and directors to control their own revenues and expenditures, essentially completing the decentralization of the university's financial management begun under Harold Shapiro.

We were prepared to make major investments in high-risk intellectual activities, but only in those areas where we had established strength. Some of these achieved spectacular success, such as the investment in our management of NSFnet that resulted in the creation of the Internet. Others failed, such as the major (but premature) effort to build the nation's first clinical programs in human gene therapy—but even in failure we learned valuable lessons. To create even more of a spirit of innovation, we sprinkled several "skunkworks" activities about the campus (analogous to the famous Lockheed Skunkworks), some in existing academic units such as the transformation of our School of Library Science into a School of Information, and some in new multidisciplinary facilities such as the Media Union.

Finally, we set a series of stretch goals such as becoming the national leader in areas such as campus diversity, sponsored research activity, faculty salaries, clinical operations, and the global outreach of our academic programs. In fact, as we began to make progress on the strategic, we fell into a pattern of raising the bar, compressing the timetable, and upping the ante. By the early 1990s, we began to realize something very surprising: We were not only achieving our objectives, but in most cases we were going far beyond what we originally had set as goals. The strategic goals associat-

ed with Vision 2000 were essentially achieved by 1993, seven years ahead of schedule! Hence we soon began to wonder: what do we do for an encore?

Clearly simply positioning the University to play a leadership role, although challenge, was not sufficient when the very paradigm of the 20th century university might no longer be relevant to such a rapidly changing world. We became convinced that to achieve leadership, Michigan needed to embrace its traditional role in American higher education as a pathfinder by redefining the very nature of the university for a new century. It had to re-invent itself. And this would require shifting from a positioning strategy to one that would drive institutional transformation.

Institutional Transformation

So how does an institution as large, complex, and tradition-bound as the University of Michigan go about the process of transformation? Sometimes one can stimulate change simply by buying it with additional resources. More frequently transformational change involves first laboriously building a consensus necessary for grassroots support. But there are also times when change requires a more Machiavellian approach, using finesse-perhaps even by stealth of night-to disguise as small wins actions that were in reality aimed at blockbuster goals. And, I must confess, that there were times when, weary of the endless meetings with group after group to build consensus, including, at times, the Regents themselves, we decided instead to take the Nike approach and "just do it," that is, to move ahead with top-down decisions and rapid execution-although in these latter cases, the president usually bears the burden of blame and hence the responsibility for the necessary apologies.

Michigan's own history provides many examples of both the payoff and risks of institutional transformation. Tappan's effort in the 1850s to transform a small frontier college into a true university was certainly important in the history of American higher education, although it cost him his job in the end. Little's effort in the 1920s to restore the collegiate model was also a transformative effort, but it failed to align with Michigan's history and tradition. During a period of relative prosperity, Hatcher had the capacity to launch numerous

transformative initiatives, e.g., the Residential College, the Pilot Program, the Center for Research on Learning and Teaching, which were important for the university. But during the 1960s this transformation effort went unstable, as the university was overtaken by political activism that sought not to transform but rather to destroy the establishment. This illustrates the danger that arises when a change process becomes entangled with ideology and special-interest agendas that divert it from the original goals. In the best scenario, the values and traditions of the institution will provide important limits on the process of change, so that the transformation process does not lead to a destructive outcome.

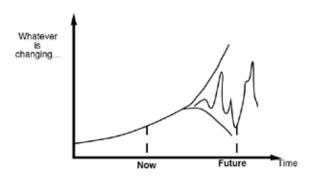
Many of the elements of the earlier Vision 2000 had been highly successful, e.g., the Michigan Mandate and Michigan Agenda for Women, the transformation of the university's research environment. But there had also been failures, e.g., the effort to better align auxiliary activities such as the Athletics Department; attempting to shift the Regents' perception of their roles from that of political governors to loyal trustees of the institution; building stronger coalitions of universities such as the Big Ten Conference to work together on common goals. Through these efforts-some successful, some not-and from the experience of other organizations in both the private and public sector, it was clear that the more ambitious goal of institution-wide transformation-the reinvention of the university itself-would depend heavily on several key factors.

First, we recognized the importance of properly defining the real challenges of the transformation process. The challenge, as is so often the case, was neither financial nor organizational. Rather it was the degree of cultural change required. We had to transform a set of rigid habits of thought and arrangements that were currently incapable of responding to change either rapidly or radically enough.

Second, it was important to achieve true faculty participation in the design and implementation of the transformation process, in part since the transformation of the faculty culture is the biggest challenge of all. Here we believed that the faculty participation should involve its true intellectual leadership rather than the political leadership more common to elected faculty governance.

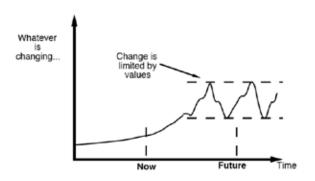
Third, experience in other sectors suggested that ex-





Although strategic transformation can lead to instabilities, these can be constrained by institutional values.

Limits to the Process of Change



ternalities—both groups and events—were not only very helpful but probably necessary to lend credibility to the process and to assist in putting controversial issues on the table (e.g., tenure reform). Unfortunately, universities—like most organizations in the corporate sector—rarely have been able to achieve major change through the motivation of opportunity and excitement alone. Rather it takes a crisis to get people to take the transformation effort seriously, and sometimes even this is not sufficient.

Finally, it was clear that the task of leading transformation could not be delegated. Rather, the president would need to play a critical role both as a leader and as an educator in designing, implementing, and selling the transformation process, particularly with the faculty. Furthermore, this presidential leadership had to be out in front of the troops leading them into battle rather than far behind the front lines tossing out an occasional initiative (e.g., leading by presidential whim).

Hence, in 1993, the university turned toward a bolder vision aimed at providing leadership through institutional transformation. This objective, termed *Vi*-

sion 2017 in reference to the date of the two-hundredth anniversary of the university's founding, was designed to provide Michigan with the capacity to re-invent the very nature of the university, to transform itself into an institution better capable of serving a new world in a new century. This transformation strategy contrasted sharply with the earlier positioning strategy that had guided us during the 1980s. It sought to build the capacity, the energy, the excitement, and the risk-taking culture necessary for the university to explore entirely new paradigms of teaching, research, and service. It sought to remove the constraints that would prevent the university from responding to the needs of a rapidly changing society: to remove unnecessary processes and administrative structures; to question existing premises and arrangements; and to challenge, excite, and embolden the members of the university community.

Of course, much of the preparation for this transformation had already occurred earlier in my presidency, when several of the major strategic thrusts were launched. A series of planning groups, both formal and ad hoc, had been meeting to consider the future of the university (including the strategic planning teams of the late 1980s; ad hoc meetings of faculty across the university; and numerous joint retreats of EOs, Deans, and faculty leaders). A Presidential Advisory Committee of external advisors had been formed and had been meeting regularly on strategic issues for several years. Extended strategic discussions with the Board of Regents had been initiated and would continue through the transformation effort.

However, we needed something beyond this, to break our thinking out of the box, expanding our sense of the possible to encompass even highly unlikely alternatives. To this end, we first took advantage of the presence on our business school faculty of C. K. Prahalad, one of the most influential corporate strategists to lead a group of senior administration and faculty leaders through the same strategic process that he had conducted for the executive leadership of many of the major corporations in the world. We then followed this by inviting Robert Zemsky, both an important thought leader in higher education and an experienced facilitator of such discussions, to lead several sessions of a similar roundtable group, in this case including junior

faculty members as well as senior leadership.

The Vision 2000 strategy required a careful optimization of the interrelated characteristics of institutional quality, size, and breadth. Transformation would require more: tapping the trailblazing spirit of the Michigan saga. It would emphasize risk-taking and innovation. It would demand the bold agenda of re-inventing the university for a new era and a new world!

To capture a bolder vision of the university's future, we turned to C. K. Prahalad for his concept of *strategic intent*. The traditional approach to strategic planning focuses on the fit between existing resources and current opportunities; strategic intent is a stretch vision that intentionally creates an extreme misfit between current resources and future objectives that requires institutional transformation to build new capabilities.

The Strategic Intent (Vision 2017): To provide the university with the capacity to re-invent itself as an institution more capable of serving a changing state, nation, and world.

Vision 2017 depended for its success upon sustaining our most cherished values and our hopes for the future: excellence, leadership, critical and rational inquiry, liberal learning, diversity, caring and concern, community, and excitement. In addition, we paid particular attention to those elements of the university's institutional saga that were important to preserve, as well as those values and characteristics that were our fundamental aspirations. The figure summarizes this aspect of our transformation process:

Around the core of values and characteristics are arranged a number of possible paradigms of the university. While none of these alone would appropriately describe the university as it entered its third century, each was a possible component of our institution, as seen by various constituents. Put another way, each of these paradigms was a possible pathway toward the University of the 21st Century. Each was also a pathway we believed should be explored in our effort to better understand our future.

We proposed several simply stated goals to help move the university beyond the leadership positioning of Vision 2000 and toward the paradigm shifting of Vision 2017:

Goal 1: To attract, retain, support, and empower exceptional students, faculty, and staff.

Goal 2: To provide these people with the resources, environment, and encouragement to push to the limits of their abilities and their dreams.

Goal 3: To build a university culture and spirit that values adventure, excitement, and risk-taking; leadership; excellence; diversity; and social values such as community, caring, and compassion.

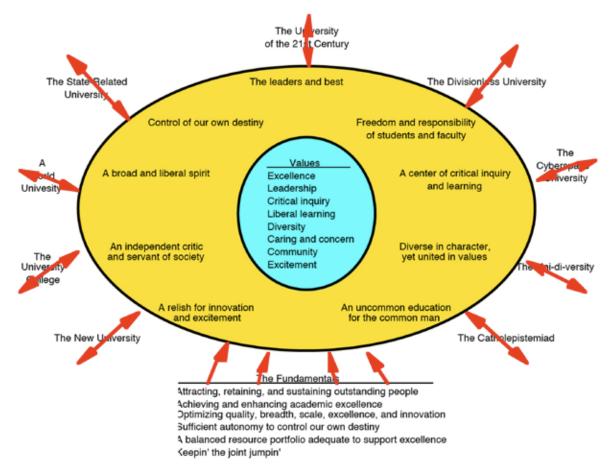
Goal 4: To develop the flexibility and ability to focus resources necessary to serve a changing society and a changing world.

Although simply stated, these four goals were profound in their implications and challenging in their execution. For example, while Michigan had always sought to attract high-quality students and faculty to the university, it tended to recruit those who conformed to more traditional measures of excellence. If we were to go after "paradigm breakers," then other criteria such as creativity, intellectual span, and the ability to lead would become important.

The university needed to acquire the resources necessary to sustain excellence, a challenge at a time when public support was dwindling. Yet this goal suggested something beyond that: we needed to focus resources on our most creative people and programs. And we needed to acquire the flexibility in resource allocation to respond to new opportunities and initiatives.

While most would agree with the values set out in the third goal of cultural change, many would not assign such a high priority to striving for adventure, excitement, and risk-taking. However, if the university was to become a leader in defining the nature of higher education in the century ahead, this type of culture was essential.

Developing the capacity for change, while an obvious goal, would be both challenging and controversial. We needed to discard the status quo as a viable option, to challenge existing premises, policies, and mindsets, and to empower our best people to drive the evolu-



A diagram of the "strategic intent" of Vision 2017

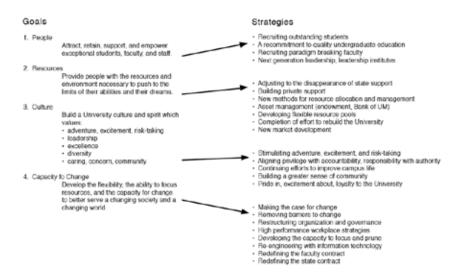
tion—or revolution—of the university.

The transformation agenda we proposed, like the university itself, was unusually broad and multi-faceted. Part of the challenge lay in directing the attention of members of the university community and its multiple constituencies toward those aspects of the agenda most appropriate for their talents. For example, we believed that faculty should focus primarily on the issues of educational and intellectual transformation and the evolving nature of the academy itself. The Regents, because of their unusual responsibility for policy and fiscal matters, should play key roles in the financial and organizational restructuring of the university. Faculty and staff with strong entrepreneurial interests and skills should be asked to guide the development of new markets of the knowledge-based services of the university.

It is hard to persuade existing programs within an organization to change to meet changing circumstances. This is particularly the case in a university, in which

top-down hierarchical management has limited impact in the face of the creative anarchy of academic culture. One approach is to identify, and then support, islands of entrepreneurialism, those activities within the university that are already adapting to a rapidly changing environment. Another approach is to launch new or green-field initiatives that are designed to build in the necessary elements for change. If these initiatives are provided with key resources and incentives, faculty, staff, and students can be drawn into the new activities. Those initiatives that prove successful will grow rapidly, and, if designed properly, will pull resources away from existing activities resistant to change. Green-field approaches create a Darwinian process in which the successful new initiatives devour older, obsolete efforts, while unsuccessful initiatives are unable to compete with ongoing activities capable of sustaining their relevance during a period of rapid change.

Institutional transformation requires a clear and



Strategies for each of the Vision 2017 goals

compelling articulation of the need to change and a strong vision of where the change process will lead. While the debate over specific elements of the transformation process should involve broad elements of the university community and its constituents, the vision itself should come—indeed, must come—from the president. We made the case for transformation and both short- and long-range visions (Vision 2000 and Vision 2017) in a series of documents intended to serve as the foundation for the effort. Further, these documents summarized the ongoing planning effort, developed a scheme to measure progress toward goals, and sketched a plan for transforming the university.13

Beyond this task, it is clear that the president must serve only as the leader of the transformation effort, but also as its principal evangelist. In an academic institution, the role of the president is in many ways like that of a teacher, explaining to various campus and external constituencies the need for transformation and setting out an exciting and compelling vision of where the transformation process will lead.

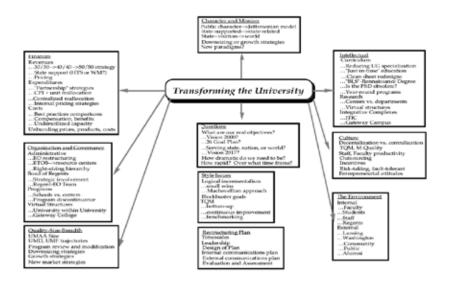
In almost every address given during my presidency, in every available forum, I stressed two recurring themes: leadership and change. Each of my annual "State of the University" addresses during my latter years as president focused on different aspects of required change and the challenges and opportunities these presented to the university, e.g., diversity,

intellectual change, renegotiating the social contract between the public university and society. Each of these presentations stressed that the University of Michigan had a long heritage of providing leadership to higher education during periods of change, and we were positioned to do the same in the 21st Century. As we moved into high gear, we televised roundtable discussions among students and faculty of key strategic issues such as diversity, undergraduate education, and multidisciplinary scholarship. These discussions, moderated by the president, would be videotaped and shown both on the university's internal closed-circuit broadcasting network as well as on the community-access channels on

Ann Arbor's cable television network.

We launched the transformation effort in 1993 with dozens of meetings with various groups on campus, much as we did with the Michigan Mandate, both to explain the importance of the transformation effort and seek input and engagement. Over the course of next two years, I managed to meet not only with the faculties of each of our major schools and colleges and larger departments, but also with several dozen staff groups in areas such as business, finance, and facilities. The final element of communication and engagement was to launch a series of presidential commissions composed of leading faculty members, to study particular issues and develop recommendations for university actions. These commissions were chaired by several of our most distinguished and influential faculty and populated with change agents. Among the topics included in these studies were the organization of the university; recruiting and retaining the extraordinary (students, faculty); streamlining processes, procedures, and policies; the faculty contract (i.e., tenure), and developing new paradigms for undergraduate education within the environment of a research university.

As the various elements of the transformation agenda came into place, our philosophy also began to shift. We came to the conclusion that in a world of such rapid and profound change, as we faced a future of such un-



Tactics for transforming the University

certainty, the most realistic near-term approach was to explore possible futures of the university through experimentation and discovery. That is, rather than continue to contemplate possibilities for the future through abstract study and debate, it seemed a more productive course to build several prototypes of future learning institutions as working experiments. In this way the university could actively explore possible paths to the future. Some of these experiments had actually been launched during the Vision 2000 positioning phase, e.g., exploring the possible future of becoming a privately supported but publicly committed university by completely restructuring our financing, raising over \$1.4 billion in a major campaign, increasing tuition levels, dramatically increasing sponsored research support to #1 in the nation, and increasing our endowment ten-fold. Another early experiment was exploring the theme of a "diverse university" through efforts such as the Michigan Mandate and the Michigan Agenda for Women.

There were new experiments, however. The university established campuses in Europe, Asia, and Latin America, linking them with robust information technology, to understand better the implications of becoming a "world university." Michigan played leadership roles first in the building and management of the Internet and then Internet2 to explore the "cyberspace uni-

versity" theme, finally launching the Michigan Virtual University as such an experiment.

But, of course, not all of these experiments were successful. Some crashed in flames, in some cases spectacularly. My administration explored the possibility of spinning off our academic health center, merging it with another large hospital system in Michigan to form an independent health care system. But our regents resisted this strongly, concerned that we would be giving away a valuable asset (even though we would have netted well over \$1 billion in the transaction and avoided an anticipated \$100 million in annual operating losses as managed care swept across Michigan).

Although eventually the Michigan Supreme Court ruled that the intrusive nature of the state's sunshine laws interfered with the regents' responsibilities for selecting presidents, we ran into a brick wall attempting to restructure how our governing board was selected and operated. And the university attempted to confront its own version of Tyrannosaurus Rex by challenging the Department of Athletics to better align their athletic activities with academic priorities, e.g. recruiting real students, reshaping competitive schedules, throttling back commercialism...and even appointing a real educator, a former dean, as athletic director. Yet today the university is poised to spend over \$250 million on skyboxes for Michigan Stadium after expanding stadium capacity in the 1990s to over 110,000 and raising ticket prices to over \$150 per game.

Nevertheless, in most of these cases, at least we learned something—if only our own ineffectiveness in dealing with cosmic forces such as college sports. More specifically, all of these efforts were driven by the grass-roots interests, abilities, and enthusiasm of faculty and students. While such an exploratory approach was disconcerting to some and frustrating to others, fortunately there were many on our campus and beyond who viewed this phase as an exciting adventure. And all of these initiatives were important in understanding better the possible futures facing our university. All have

influenced the evolution of our university.

The Challenges of Transformation

Our experience during the 1990s suggests the importance of the several factors in achieving successful transformation. First, it is important that any transformation effort always begin with the basics, by launching a careful reconsideration of the key roles and values that should be protected and preserved during a period of change. The history of the university in America is that of a social institution, created and shaped by public needs, public policy, and public investment to serve a growing nation. Yet in few places within the academy, at the level of governing boards, or in government higher education policy, does there appear to be a serious and sustained discussion of the fundamental values so necessary to the nature and role of the university at a time when it is so desperately needed. It is the role of the president to stimulate this dialog by raising the most fundamental issues involving institutional values.

It is critical that the senior leadership of the university buy into the transformation process and fully support it—or step off the train before it leaves the station. This includes not only the executive officers and deans, but key faculty leaders as well. It is also essential that the governing board of the university be supportive—or at least not resist—the transformation effort. External advisory bodies are useful to provide alternative perspectives and credibility to the effort. In fact, it is the duty of the governing board to charge a president with the responsibility to develop a plan for the future of the university, setting goals and developing the means to achieve them, if it is to have a framework for assessing presidential performance.

Mechanisms for active debate concerning the transformation objectives and process must be provided to the campus community. At Michigan, we launched a series of presidential commissions on key issues such as the organization of the university, recruiting outstanding faculty and students, and streamlining administrative processes. Each of our schools and colleges was also encouraged to identify key issues of concern and interest. Effective communication throughout the campus community is absolutely critical for the success of the transformation process.

Efforts should be made to identify individuals at all levels and in various units of the university who will buy into the transformation process and become active agents on its behalf. In some cases, these will be the institution's most influential faculty and staff. In others, it will be a group of junior faculty or perhaps key administrators. Every opportunity should be used to put in place leaders at all levels of the university—executive officers, deans and directors, chairs and managers—who not only understand the profound nature of the transformations that must occur in higher education in the years ahead, but who are effective in leading such transformation efforts.

Clearly, significant resources are required to fuel the transformation process, probably at the level of 5 percent to 10 percent of the academic budget. During a period of limited new funding, it takes considerable creativity (and courage) to generate these resources. As we noted earlier in our consideration of financial issues, usually the only sources of funding at the levels required for such major transformation are tuition, private support, and auxiliary activity revenues, so that reallocation must play an important role.

Large organizations will resist change. They will try to wear leaders down, or wait them out ("This, too, shall pass."). We must give leaders throughout the institution every opportunity to consider carefully the issues compelling change, and encourage them to climb on board the transformation train. For change to occur, we need to strike a delicate balance between the forces that make change inevitable (whether threats or opportunities) and a certain sense of stability and confidence that allows people to take risks. For example, how do we establish sufficient confidence in the long-term support and vitality of the institution, even as we make a compelling case for the importance of the transformation process?

Leading the transformation of a highly decentralized organization is a quite different task than leading strategic efforts that align with long-accepted goals. Unlike traditional strategic activities, where methodical planning and incremental execution can be effective, transformational leadership must risk driving an organization into a state of instability in order to achieve dramatic change. Timing is everything, and the biggest mistake can be agonizing too long over difficult deci-

sions, since the longer an institution remains in an unstable state, the higher the risks of a catastrophic result. It is important to minimize the duration of such instability, since the longer it lasts, the more likely the system will move off in an unintended direction or sustain permanent damage. Those who hesitate are lost.

I had learned from my engineering dean days that during the early stages of transformative leadership, you can make a great deal of progress simply because most people don't take you very seriously, and those who do are usually supportive. However, as it becomes more apparent that you not only mean what you say, but that you can deliver the goods, resistance begins to build from those moored to the status quo. I sensed that I was becoming increasingly dangerous to those who feared change.

As we broke our thinking out of the box, pushing the envelope further and further, I worried that it was increasingly awkward and perhaps even hazardous for the president to be carrying the message all the time. As my awareness grew about just how profound the changes occurring in our world were becoming, my own speculation about the future of higher education was beginning to approach what some might consider the lunatic fringe. I worried that my own capacity to lead could well be undermined by my own provocative thinking on many of these issues. There were times when I wondered if it was time for the president to stop simply posing public questions (and taking behind-the scenes actions) and instead begin to provide candid assessments of how we were changing and where we were headed. Or perhaps it was time to set aside the restrictive mantle of university leadership and instead join with others who were actually inventing this future.

Yet university leaders should approach issues and decisions concerning transformation not as threats but rather as opportunities. True, the status quo may no longer be an option. However, once one accepts that change is inevitable, it can be used as a strategic opportunity to shape the destiny of an institution, while preserving the most important of its values and traditions.

Concluding Remarks

While many academics are reluctant to accept the

necessity or the validity of formal planning activities, we became convinced that those institutions that turned aside from strategic efforts to determine their futures would be at great risk. The ability of a university to adapt successfully to the revolutionary challenges it faced would depend a great deal on the institution's collective ability to learn and to continuously improve its core activities. It was critical that higher education give thoughtful attention to the design of institutional processes for planning, management, and governance. Only a concerted effort to understand the important traditions of the past, the challenges of the present, and the possibilities for the future would enable institutions to thrive during a time of such change.

Those institutions that could step up to this process of change would likely thrive. Those that buried their heads in the sand, that rigidly defended the status quo or even worse, some idyllic vision of a past that never existed, were at very great risk. Those institutions that were micromanaged, either from within by faculty politics or governing boards, or from without by government or public opinion, stood little chance of flourishing during a time of great change.

To be sure, both the character and needs of our nation had changed dramatically over the past two centuries since the founding of the first public universities. Yet the major principles that undergirded these important institutions remained as valid today as they were at earlier times—a bond between the society and its universities to educate, to discover, and to serve. While the details of the social contract might change, its fundamental character remained intact.

Certainly the need for higher education would be of increasing importance in our knowledge-driven future. Certainly, too, it had become increasingly clear that our cured paradigms for the university, its teaching and research, its service to society, its financing, all must change rapidly and perhaps radically. Hence the real question was not whether higher education would be transformed, but rather how . . . and by whom. If the university was capable of transforming itself to respond to the needs of a culture of learning, then what was currently perceived as the challenge of change might, in fact, become the opportunity for a renaissance in higher education in the years ahead.