The Future of Higher Education

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This material was distributed at the end of the presentation for the purpose of providing additional information on futures techniques and for detailed examples of higher education scenarios. Some words are linked for more detailed information via the web. A copy of the slides used during the presentation is available separately.

Contents

A. Overview

We are in one of those periodic events were major changes take place and will have a corresponding changes in higher education. However, colleges and universities have been partly immune to such changes in the past, and we have kept the basic structure for hundreds of years. For example, the way professors interact with classes, the role of students, and the basic functions of universities have not changed much in the last 70 or more years (that is, since WW II). Changes have occurred and at times may appear to us as significant changes, but in reality there is a lot of tradition and historic approaches sprinkled with a lot of new things..

But this time the changes underway may be significant for the long-term as well as the short-term.

They are occurring more rapidly and they require a new tool box on the part of university administrators. Many of these potential changes have been identified, in part, for years. So, fortunately, there is a lot of information available that help us navigate an uncertain future. Several university past presidents have written books that identify needed areas of fundamental change~~.~~, many of books or reports have identified specific changes that either have been made or can be made within the current structure. The problem now is that the basic structure itself is in question.

Some reasons for changes in basic structure include:

1. The world itself is undergoing a transition as countries face conflicts between traditional approaches and values as new ideas and new values appear. In addition, there are new tools to communicate those ideas – to everyone (very immediately) and new discoveries that allow us to do things today that could not even have been dreamed of just 70 years ago.

2. In the last 30 years, major technological and demographic changes have occurred. Examples include the personal computer, the cell phone, a variety of social media applications, and GPS services available for everyone. In 2011 the world became more than 50% urbanized and the first baby boomer turned 65. In the world's stock exchanges, financial asset trading often occurs automatically and more rapidly than people can think, and the diversity of the number of countries, including the United States, increased to the point where some states are at or nearing the condition of no one race in the majority.

Put concisely, the world we live in might be described as a VUCA world (volatile, uncertain, complex, and ambiguous). Our ability to function and to manage institutions in a VUCA requires fundamental changes to a very long historical period where we were able to manage change by using a toolbox with only a few tools. We

often succumbed to groupthink for solutions and too much hubris in thinking how well our particular institution ranks among other institutions.

What are our solutions to a VUCA world?. One approach is to be FAIR (flexible, agile, innovative, and responsive). This means we have to keep appropriate traditions but change methods so that fundamental changes are embraced rather than avoided. This will be our New Normal and we need to adjust behavior accordingly.

B. Best Practices and Tools for Studying the Future

Extrapolation of past experience is useful for understanding trends but not in anticipating the future during times of potential significant change.

Review what other people have learned about studying the future.

There is a lot of wisdom around and some experienced futurists have summarized their views. This review is ~~a~~ summary of comments by Roy Amara, Don Michael, Michael Marien, Joseph Coates and Jennifer Jarrett. These observations are made in the late 1980s and are still relevant. There is also a good summary by Jim Dator in 1998 "The Future Lies Behind!: Thirty years of teaching futures studies."

Understanding Best Practices

Many organizations use 'best practices' to improve their organization or products. These can vary from methods of dealing with employees to improving the product to customer relations. Often it is the professional association (or a regulatory agency) that helps develop these practices so they can be applied in the organization. Understanding best practices helps you understand where the subject at hand might be heading and that knowledge gives you an advantage over others. Look over some examples of best practices.

Making change happen

Change is perceived as good (if it moves in the direction you want or benefit from) or bad (it goes against your values or you are harmed by the change. Change is always happening and when it is incremental and not affecting you individually, you hardly know it is happening. When it is abrupt and unanticipated it is difficult to deal with. By understanding the change process and learning how to deal with it, change can be used to your advantage. In many cases, dealing with the future will require some 'change' and therefore you need to have the skills of a change agent as part of your futures techniques toolbox. Two good sources of change information are below, and you can also review the change section of this class.
George Odiorne, Resistance to Change (a summary of book)
Joe Flower, Change Codes (35 examples with brief explanation).

Dealing with your peer group

Most of us must deal with norms, although some serve the role of lightening rod, gadfly, provocateur, or visionary. When we deal with norms, we tend not to get too far outside the peer groups we deal with (examples are people at your organizational level in your organization, members of your professional or other organizations, or your family and friends. It is not uncommon for a new idea to disappear, simply because it has not been 'officially' endorsed by the peer group. This process also reduces risk - if others have tried it or agree to it, then you may not be criticized for implementing it. Learn how to cultivate and work with your peer groups so you can venture outside the bounds a bit and be accepted for this behavior. All organizations have some people that do this.

Getting buy-in and making your case

Work with your intended audience throughout the project. This is especially true if it is you are doing an internal study for your own organization. Defining the project appropriately and with interaction with the intended audiences, as well as how you present your futures study, are nearly as important as the study itself. You need to consider the audience, and condition them in advance for the potential results, use

examples and references that are relevant to the audience, and allow them some level of participation, preferably at key point over a time period (e.g., helping set the study parameters, brainstorming possible options, identifying barriers or wildcards), and present them with some options to allow their own decision making function to perform (rather than prescribing a single recommendation).

Recognize ideas or solutions recycle over time

Timing is important. Many new ideas can be traced to the past, but because of societal values or views, political or economic realities, or technological capabilities, they were not possible to implement in that distant time. Now the time might be right, or the idea/solution might be slightly modified and applied. So, read history and understand how things are done in different settings.

Keep yourself tuned up on studying the future by continually learning to look at questions through different perspectives. Such as (click on links for detail):

Ignorance
Change
The Big Picture
Look over a few quotations (make your own list over time)
Remind yourself on the essentials of a "good futurist"

The Futures Toolbox and How to Use It
From Caldwell's class on Anticipating the Future
http://cals.arizona.edu/futures

There are different perspectives on what constitutes a good futurist. In part, the answer depends on whether you want an overview or a detailed study, whether the person is a full time futurist or their job is mostly doing non-futures work, and what resources and tools they have available. My perspective on the characteristics of a good general futurist can be divided into three areas:

• What do futurists do and what are they like?
- Anticipate change and react to it.
- Part historian, part scientist, part feet on ground part feet in air.
- Interest in a broad range of subjects, some curiosity, and a sense of the "big picture"
- Mostly integrator with sense of the whole and comfortable with uncertainty.

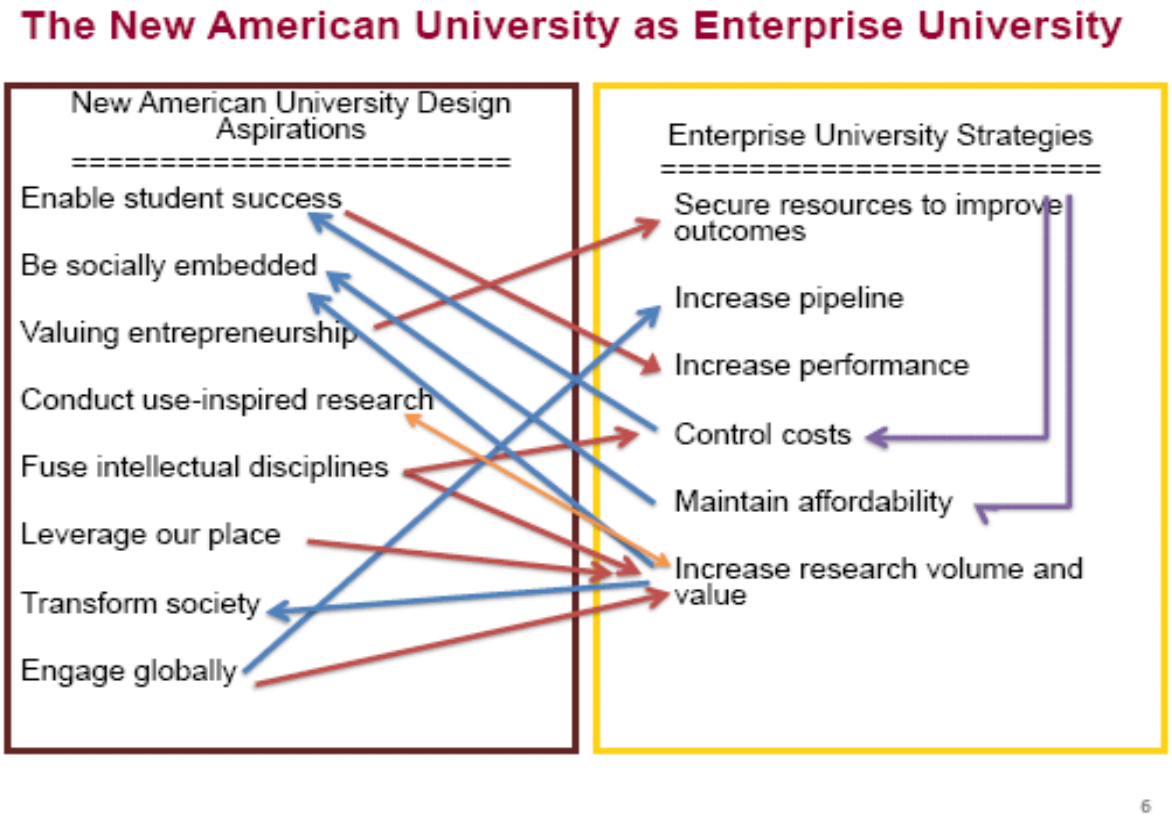
• What is in the toolbox of techniques?
- It is more than forecasting, predicting, or palm reading.
- Tools are drawn from many disciplines - pick the ones that fit the job at hand.
- Examples: context setting research, assessments, possible wild cards, focus groups, trend and scenario analysis.

• Reviewing a good approach to study the future
- Develop anticipatory skills and maintain awareness of current and potential changes
- Know what to look for and separate important events from noise
- Use a radar approach rather than a vacuum cleaner approach to data gathering
- Know what tools are available and when to use them and when not to use them
- Prepare to react early to new changes while allowing for flexibility as more is learned
- Don't place undue trust in experts or in non-experts (or yourself)
- Watch out for the bandwagon effect (safety in keeping with fads)
- Watch out for group think (fear of standing out)
- Be wary of unstated assumptions or simplistic statements
- Define your "future" time frame and don't go out too near or too far
- Implement foresight knowledge into your daily activities so you become an "automated futurist"

C. Case Histories of Three Universities and Their Approach

Case History 1. Arizona State University (ASU): Eight design aspirations for a New American University

The New American University is ASU's vision for transforming higher education. In 2002, Michael Crow became the 16th president of ASU. At his inauguration he presented these eight design aspirations; they are still in effect. Details are available at http://newamericanuniversity.asu.edu/. The Board of Regents requires a specific format for strategic planning, with the associated metrics reviewed annually. ASU effectively operates with two different plans, which have different purposes, but are consistent in content. By linking these two approaches, it allows a long range vision to operate with short range reporting requirements, and to make incremental changes that work toward a consistent objective.



At ASU, major changes in the university focus and structure have occurred in the last 10 years. President Crow give the Robert Atwell lecture at the American Council on Education meeting in 2012 on the topic of "Massive Change." (Above graphic is from the lecture).

Case History 2. The MIT Open Courseware Project (OCW)

The first OCW university was the University of Tubingen in Germany, in 1999, using classroom videos. However, the major growth came when MIT began their program. In 1999 MIT evaluated where it should position itself in the distance learning environment. The OCW project began in 2002 and by late 2011 there were over 2080 courses were available. A few courses have complete video availability, and others have other types of recordings. Almost all are free.

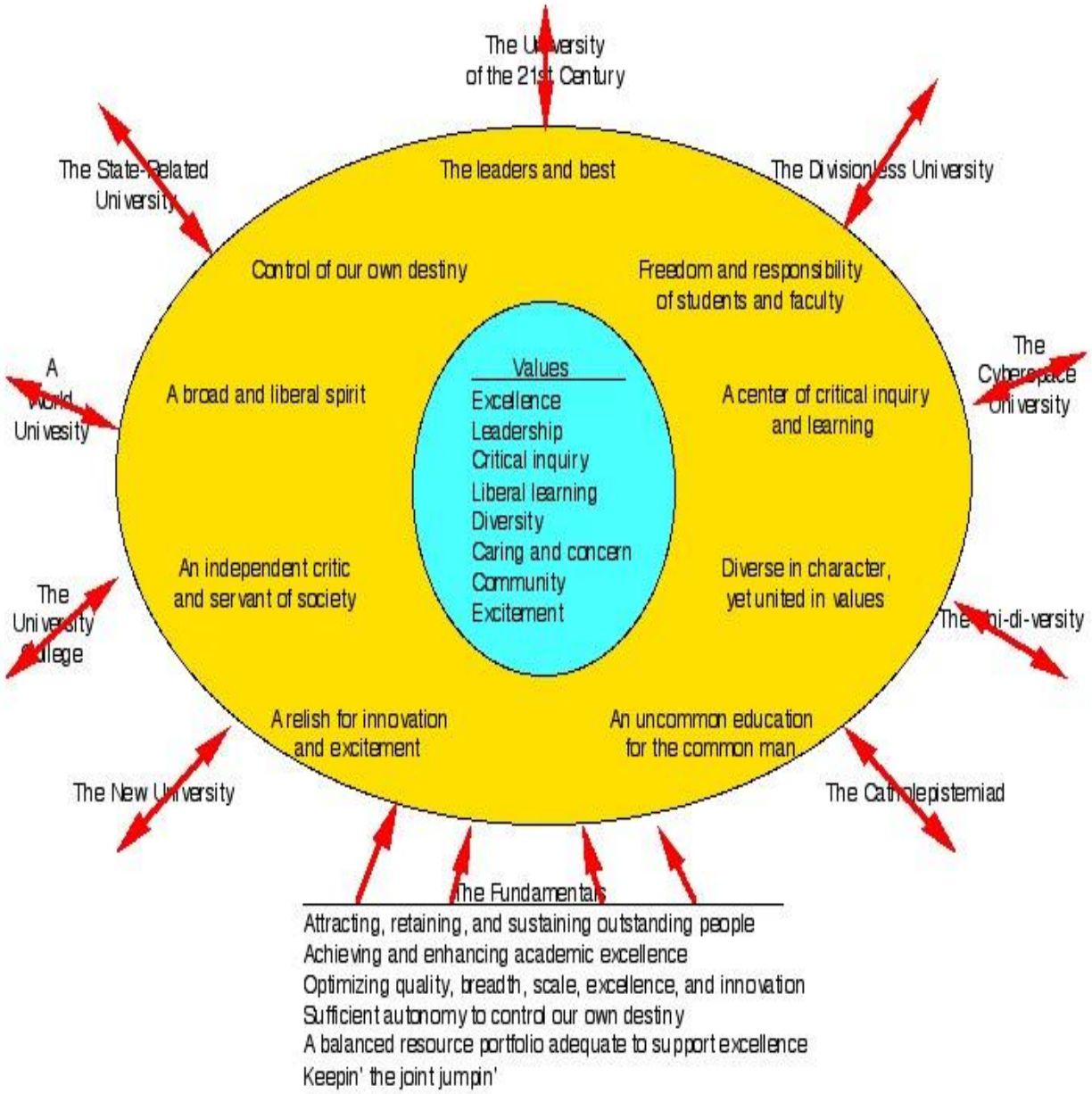
Courses are arranged by discipline or department, type of media, popularity, or a general search. Course content may include lecture notes, projects and examples, images and multimedia, assignments and solutions, exams, and online texts.

Many other universities (both public and private) have some or most of these features in online courses and some have their own OCW project.

Some of the impacts of a program like this include 1) positive marketing results for the university, 2) universities throughout the world can use the OCW as a quality check or design ideas for their own courses, and 3) self-learners (not for school purposes) or students using OCW courses to augment their own studies at a university (or high school).

Case History 3. University of Michigan Roadmap and Millennium Project

The University of Michigan began the Millennium Project in 1999, with President Emeritus James J. Duderstadt as the Project Director. The project is still active and has generated a number of very good (and available) documents. The listing is at http://milproj.dc.umich.edu/. The "road map" below is a one page summary of the key issues.



D. Higher Education Scenarios

Several scenarios for the future of higher education are given from several sources. A few scenario titles are linked to websites because the scenarios are a little too long to copy here or they have additional information. This additional information may include the relevant driving forces of change, the implications of the scenario, and a few questions to think about. The primary use of scenarios is to better understand possible futures and think of new ways to approach (or plan for) the future. This listing represents a range of sources and approaches.

Microsoft Scenarios on the Future of Education
http://www.microsoft.com/education/highered/whitepapers/future/FutureWork.aspx#tower
The website has some additional characteristics of each scenario.

In 2004, Microsoft undertook the task of exploring the future of work using scenario planning. In this article, the follow-up to "Scenario Planning and the Future of Education," which appeared in the June/July 2008 issue of *Innovate (no longer accessible)*, Daniel W. Rasmus describes what education looks like in the four scenarios that emerged from this process. Rasmus suggests that educators and policy makers can use these scenarios and the accompanying narratives to consider how large and small choices work toward or against a particular future.

Scenario 1: The Proud Tower

Proud Tower describes a future where merger and acquisition activities have led to large, centralized, vertically integrated corporations that have subsumed many of the functions of governments, including education and the development of local infrastructure. In this future, workers make their careers by climbing the corporate ladder, building relationships within their organization, and shaping their personal lives to the culture and priorities of their employers. Most workers are highly educated through strong, corporation-funded K-12 programs and corporate universities. In Proud Tower, what students learn is linked to what companies need; in effect, students are educated to become workers. Growing up with the knowledge that they are likely to be employed by the corporation that funds their education, students tend to take a much more vocational view of education:

Company staff meet with the students every day. A sign of routine. There is always some kind of free thing, either a product or a marketing gift. Bobby is planning on starting in marketing as soon as he graduates. The college is just a company bus ride away. The company encourages students to start early and build their careers while they learn. It seems to make sense. So much of the old college approach that he has read about was just pointless. Taking a bunch of classes to get well-rounded? If you know what you want, then why take Shakespeare or chemistry if you aren't going to use them? Nothing wrong with reading, but there is a lot of stuff to learn and the important thing, the productive thing, is to learn the right stuff really well.

As Bobby enters the classroom, he quickly sits down and logs in. Several company logos and the school's logo pop up as the computer starts. His school is a joint venture, but he knows where he is going to work. And the company knows it too. His classes are arranged to prepare him for a career in marketing pharmaceuticals. Prior to graduation, his scholarship and his job will be properly presented to Bobby and his parents. The scholarship investment will take him through a master's degree at the local university. It will be nearly impossible to refuse the offer and, with Bobby's ambitions, well outside the realm of probability.

Today's English lesson focuses on market messaging and the construction of messaging architectures. Bobby reads the assignment, which asks him to write a vision statement for the marketing plan, and starts typing.

Scenario 2: Continental Drift
Continental Drift envisions a retrenchment from globalization, perhaps caused by catastrophic economic conditions, an epidemic, or geopolitical tensions, creating a world of competitive nation-states or regional blocs. Complicated relationships between various blocs and superpowers restricting access to manufacturing capabilities, raw materials, overseas markets, and immigrant labor. Workforce development and education are

huge government priorities, especially in the context of labor shortages driven by demographic trends. Education in Continental Drift is controlled by isolationist governments that enforce a nationalistic world view. School is as much an indoctrination as an education, and even if students are not aware of this (younger students may have nothing to compare their education against), all students are attuned to the state's perspectives:

Another year, another new set of books. Ever since the Great Divide put a halt to globalization, it seems that history has become less historical. If history is written by the winners, where does truth come from when everybody just makes it through? Parts of Asia were starting to open up, but that was a few years ago. Mi uses many tools just like those of her Western competitors: computers, the Internet, cell phones. She is a member of several social networking sites, including Youth for Bangkok, into which she was automatically enrolled. Her use of the Internet and her personal associations are all, she knows, closely monitored, which means many of her thoughts and ideas stay within her mind, the one place no one can look.

School today is about history and language, music and athletics. Everybody is expected to be really good at something. Mi wants to be a writer, but there isn't much call for romantic poetry these days. Her phone rings to remind her it's time to start tutoring some of the younger kids on traditional music.

Scenario 3: Frontier Friction
Frontier Friction emerges following a severe shock to the global economic system, perhaps a data meltdown in the financial sector following a cyber-attack. With economic and educational infrastructure in disrepair, the quality of the knowledge workforce continues to degrade, requiring simpler tools and practical skills. In Frontier Friction, the world has become a much smaller place. With resources tight and mere survival still an important consideration, education has become simpler and more community focused and has returned to the basics. As a result, students, aware of the sacrifices made to get them in school, value education in itself.

Rachel's mother tells her that school is very important. They are lucky to have so many good teachers and access to the kind of material available here. She moved to this part of the country because she heard they still valued education. The community is a good one. They watch out for each other, and the level of violence is pretty light, comparatively speaking. They even have some computers up and running. People are starting to rethink the whole anti-computer thing, which is probably not too bad if you don't start depending on them for everything again.

In order to get Rachel into the school, Rebecca started volunteering as a playground supervisor and then as a part-time librarian. The school was self-funded and had bartered for much of their material a few years ago after a threat of disease caused another local community to relocate.

Rachel reads *Tom Sawyer* out loud; she is proud of the sound her voice makes against the makeshift school's ceiling. An old factory is a good place to be moving forward from, Mr. Hodgkins tells the students. He always tells Rachel that he likes her reading, and he picks her to read aloud often. Rachel writes down the key points of the passage from the whiteboard so she can remember the plot development and characters better. Rachel looks around the old factory and realizes, like Mr. Hodgkins, that a factory is a good place to be moving on from. We are making people learn again and what better place to make things than in a factory. Rachel can't wait for the next book. She hopes it's a mystery.

Mr. Hodgkins looks out at his class and finds solace that they are finally starting to care about something other than survival.

Scenario 4: Freelance Planet
Freelance Planet is a world transformed by bottom-up networks and mass collaboration on a global scale. The flexibility and speed of networked systems renders centralized command-and-control hierarchies obsolete at all levels. Workers move from employer to employer, working on a project basis. They manage their own savings and healthcare or join one of the many guilds or associations that attract people seeking a sense of physical community in the ever-more-fluid and impersonal world of business. Students in Freelance Planet direct their own education, reaching out across national boundaries to explore their own interests and develop the relationships

that will bring them work after they leave school. As a result, students tend to develop a fluid, personalized vision of education:

Sometimes Maria is late for school because she spends too much time learning. That may seem like an oxymoron, but it isn't, not anymore. Maria is up at 6:30 every morning and immediately starts scanning for the news of the day. The phone by her bed has been collecting news feeds all night. If there isn't anything big happening, she makes time for entertainment news. Sometimes not thinking is the best thinking you can do, she thinks.

Maria has no idea what she wants to be when she graduates; that's why she isn't limiting her options. So many choices, so little time. Modeling and biochemistry; Shakespeare and an outside class on practical home repair. One never knows these days. Maria's mom is a trained accountant but makes her money helping people invest money. "Better to make it than count it," she always says.

Today Maria will be learning biochemistry from a retired professor in England. He is very old-fashioned about England. The kids always laugh when he corrects references to GB or Europe. I live in England, he says. That may be true, but Maria knows that names are malleable as is time and space. It's easy to associate with anyone, anywhere, anytime. What Maria really wants to know today is about the chloroplasts they put into the mice in Dankook. She wants to know more from her learning colleagues in Korea about the skinny mice that don't need to eat.

2003. OECD. The Future of the Tertiary Education Sector: Scenarios for a Learning Society.
http://www.oecd.org/dataoecd/50/46/36758932.pdf

1. Tradition
2. Entrepreneurial Universities
3. Free Market
4. Lifelong Learning and Open Education
5. Global Network of Institutions'
6. Diversity of Recognized Learning – Disappearance of Universities

Scenario 1: Tradition
Universities are mostly like today, catering to a relatively small share of the youth population for the purposes of job selection credentials. Universities pursue both teaching and research, as now, without excessive dependence or involvement with the private sector. Governments continue, in most OECD countries, to play a prominent role in funding, regulating and managing universities. Within a public accountability and equity framework there is little scope for profit-generating initiatives. Lifelong and e-learning both develop largely outside of the university sphere.

Scenario 2: Entrepreneurial universities
Selective institutions cater largely to young people in their initial preparation for life. The key difference with the previous scenario is that universities (public or private) can respond with greater autonomy to a variety of funding sources. There is a more mixed public-private funding model, with university resources coming from a wide variety of sources. Along with the returns to the intellectual property rights that it secures, research is seen as very important and lucrative activity. However, in this scenario universities take a market-oriented approach to operations without losing basic academic values. Given the prestige and income accorded to research the teaching side remains quite elitist. As for lifelong learning it occurs within a university setting but in teaching-only institutions with lower status. The three missions of the university – teaching, research and community service – are well balanced, although there is greater differentiation across institutions due to enhanced autonomy and greater responsiveness. Commercial approaches to international markets and e-learning are important. University resources as well as wages and prestige of academic staff improve. Links to the local economy are strong.

Scenario 3: Free market

Market forces are the main drivers of this scenario with a private tertiary sector regulated by private companies as far as quality assurance and accreditation are concerned and mostly funded through market mechanisms. Market forces give rise to institutions that become specialised by function (teaching, research), field (business, humanities, etc.), audience (young students, part-time students, distance education, adult education, lifelong learning) while business firms grant degrees to their employees for their corporate training. Hierarchy between those very diverse institutions becomes very strong, with the apparition of a global super-elite, and more polarization in the status of faculty. With the widening of student choice there is greater competition for students and tuition revenue comes to represent a more important share of overall income. Technology is widely used in teaching methods. The international dimension of the market becomes important. And, since the majority of students and their parents are not interested in research, refusing to bear the costs, research moves out to public research centres and corporate R&D divisions. What research remains in universities becomes even more elitist while teaching to mass markets leads to greater standardisation and the patenting of curricula and teaching methods. Research becomes more demand-driven, specialised and secures important returns through intellectual property rights.

Scenario 4: Lifelong learning and open education

Universities are marked by universal access for all ages and much less research. The knowledge economy has flourished and higher education becomes a source for recurrent professional development financed by companies, individuals seeking recognised skill upgrading, and states.
In an ageing society, more elderly people enroll for non-professional reasons. Universities become more learner- and demand-oriented, more teaching oriented, with short courses, more distance learning, and more e-learning. Governments or independent accrediting bodies are responsible for quality assurance and accreditation. Most research is done outside of the higher education system, with the best researchers moving to private companies, specialised institutes or the few remaining elite universities. Corporations and corporate universities have a large influence. Integration with the applied side of learning might go so far that all university education would follow the professional school model. Responsiveness to market forces is high in this scenario and there is considerable business oriented investment in e-learning.

Scenario 5: Global network of institutions

Post-secondary studies become demand- and mostly market-driven. The two main innovations are 1) that learners define their own course of study from across all available courses throughout the global post-secondary education network and design themselves their degrees; 2) that higher education institutions partner increasingly, including with industry. E-learning develops strongly in this scenario, as well as other means of education. The training content becomes more standardised and possibly embedded in technology and media (e.g. modular learning objects or edutainment through partnerships with game industry). The provision of and market for lifelong learning becomes very large, especially as education takes a multiplicity of new forms. Most research is carried out outside the higher education system, and faculty in mostly teaching institutions becomes less qualified than today but use more sophisticated teaching techniques. There is a strong polarisation in the status of academic, with academic superstars and developers of "learning tools" getting high status whereas the average teaching staff becomes less qualified and gets lower status. Programmes and courses matter more than institutions. Intellectual property rights for substance as well as for teaching methods give high returns to their owners.

Scenario 6: Diversity of recognised learning – Disappearance of universities

In this scenario, the formal tertiary education sector disappears. People learn throughout their life, at work, at home, for personal and professional motivations, more and more by themselves and by sharing their expertise with other people interested in the same field. Professional education requiring hands-on practice, like surgery, etc., is transmitted within businesses through an apprenticeship system or thanks to new sophisticated electronic devices (e.g. online). Technology is an enabler for the diffusion of information and knowledge. People learn as much and possibly more than today but in a different way: learning takes the model of "open course" education,

mostly free and non commercial, involving a lot of partnerships between individuals and institutions of all sorts. Global networking is thus important and goes beyond institutions.

Knowledge and experience acquired in all life situations are acknowledged through formal assessments of credentials carried out by specialised assessment bodies. But given its pervasiveness, knowledge is less of a determinant for a career or in the stratification of society. While research becomes less specialised in fields requiring little money, like humanities or mathematics, a large share of research requiring high investments takes place in public research centres and in corporate R&D divisions.

2006. OECD. Four Scenarios. Written for 2030.
http://cals.arizona.edu/dean/planning/Four-OECD-Scenarios.pdf

Scenarios are defined , the key driving forces of change listed, and examples of relevant questions to ask as a result of each scenario. Eight pages total. Titles only are listed.

1. Open Networking
2. Serving Local Communities
3. New Public Responsibility
4. Higher Education, Inc.

2006. Six Future Scenarios for the United Kingdom.
http://www.beyondcurrenthorizons.org.uk/scenarios/
Extensive discussion, focused on primary and secondary education. About two pages per scenario. Titles only are listed.

1. Informed choice
2. Independent consumers
3. Discovery
4. Diagnosis
5. Integrated experience
6. Service and citizenship

2006. Four Scenarios for 2025 from the University of California
UC 2025: The Power and Promise of Ten, November 2006
http://www.universityofcalifornia.edu/future/lrgt1106.pdf

Scenario 1. Beyond the Tipping Point. In a worst-case scenario, support for UC comes too late. Budget and demographic pressures take such a toll that talent flees, prestige declines, and sharply reduced research funding makes it difficult to attract and retain new talent. UC looks very different than it does today: many more undergraduates, many fewer graduate and professional schools and students; reduced face-to-face apprenticeships in laboratories and seminars; and less cutting-edge research and service to community health care.

Scenario 2. Virtuous Circle. In the best case, California's economy roars back to new levels of sustained prosperity, fueled in no small part by UC economic innovations. Encouraged by industry, the state decides to re-invest in public research universities. With new investments in UC come new benefits for the state and society – energy self-sufficiency, improved transportation systems, breakthroughs in health care. Its international reach is extended ever further into Asia and Central and South America. With all this comes an even more enhanced reputation: UC becomes the institution of choice for the world's leading research, faculty, and students, creating the need for three new campuses.

Scenario 3. UC Polytechnic. More money for K-12 education decreases the performance gaps across California, preparing many more high school graduates for college. The flood of UC-eligible undergraduate students overwhelms the system, forcing cuts in graduate education and research. As a result, federal funding agencies and large corporations tip their coffers away from California and toward other more promising research universities; UC's best undergraduates go elsewhere for graduate and professional degrees. Other universities, both private and public from around the world, rush to fill the research gap, even tapping into UC's vast but now underutilized research infrastructure. Economic prosperity continues, but mostly thanks to researchers abroad.

Scenario 4. Complementary Campuses. State funding continues to decline, but the University is able to sustain and even intensify its teaching and research by adopting strategies like those of other globally competitive institutions: UC campuses specialize in what they do best rather than trying to be all things to all people. UC optimizes its resources by establishing each campus as homes to unique "centers of excellence" while reducing commitments in disciplines where there are system redundancies. One campus, for example, agrees to build a new medical school because its fast-growing region desperately needs a regional academic health center but in exchange gives up its aspirations to develop a program in urban design. Though every campus in the UC system boasts at least one center of excellence in research, all continue to seek excellence as institutions of undergraduate education.

2000-2001. Futures Project: Policy for Higher Education in a Changing World

These seven abstracts of scenarios are from The Futures Project at Brown University web site. The website is no longer functional but the book is titled "The Future of Higher Education: Rhetoric, Reality, and the Risks of the Market" by Frank Newman, Lara Couturier, and Jamie Scurry (2004). This two page abstract was made in 2004 by Roger Caldwell of the University of Arizona and reviewed by Lara Couturier. The original scenarios are 5-7 pages, give factual background, look at possible outcomes, and list a series of questions; they are no longer available on internet. There were developed in 2000-2001 to serve as discussion tools about possible futures in higher education. The first three describe a hypothetical State of New England. The original scenarios were developed in 2000-2001.

Scenario 1. Dwindling Hope: Merit Aid Widens the Gap
After initially resisting the use of merit aid in the state aid program, the public institutions found themselves much less able to compete for tuition paying high-achieving high school graduates. The private institutions became engaged in a price war among themselves. After two for-profit out of state universities petitioned to grant degrees, the state began to offer merit aid.

Scenario 2. The Rise of the Consortia
It seems likely that the number of consortia providing research collaborations, degrees, and particularly no virtual education will grow, creating a whole new level of competition in higher education.

Scenario 3. New Providers Help Build a Skilled Workforce
New methods were developed for student aid to virtual and for-profit institutions. The Continuing Education divisions of the public universities developed partnerships with several large employers to develop certification courses for the skills their employees need. A community college petitioned to become a public corporation to become free from complicated regulations and to better serve their corporate customers. New methods were investigated to prohibit diploma mills located in other states from offering substandard virtual courses. Increased businesses because of a more educated workforce moved to the state and attracted more students, offsetting the initial enrollment loss in the traditional universities and colleges to the new educational options.

Scenario 4. Raising the Bar: A P-16 System Aligns Standards
All high school graduates will be guaranteed a place in college within the state college system. New high school graduating standards were established, software developed for remedial math courses and that remedial course

will not be offered at any four-year institution. Teacher preparation and development was accomplished by the Virtual Professional Development School Consortium – offering a combination of online and face-to-face instruction aimed at K-12 teachers. The state college system began offering virtual Advanced Placement courses, and high-performing university students served as mentors and tutors to selected high school junior and seniors through the New England Scholars Outreach.

Scenario 5. The US-Mexico Case
The Mexican Association of Universities and Higher Education Institution (ANUIES) developed a proposal to reform Mexico's higher education system for the 21st century. Two colleges, one in Ciudad Juarez and one in El Paso) coordinated their efforts through the Consortium of North American Higher Education Collaboration (CONAHEC), located in Tucson, Arizona. After initial concerns about the difficulties of offering joint degrees, accreditation, and credit transfers, they found some potential solutions for international higher education collaboration, with governmental financial support, but they are still working on trying to get a joint degree program started.

Scenario 6. Contracting for Accountability
The state contracts to the public universities for services and the former university appropriation process was phased out. The contract formula involves enrolment, graduation rates, and some expenses related to the on-campus socialization of students. The university had to agree to an assessment of learner outcomes and to disseminate all information regarding student performance to the public. The university research continues to be primarily federal, but a state fund is available to the public universities on a competitive grant basis. There is a funding mechanism for outreach activities to apply university research and expertise to community issues. The community colleges are kept as state institution with traditional funding, and the former flagship state university reconstitutes itself as a public corporation.

Scenario 7. In Search of the New Economy: Encouraging Private Competitors to Fill the Demand for Skills
Starting from the basis of a new country (Globalya), it developed a combination of for-profit institutions, non-profits, and branches of existing universities from other countries. The privates offered selected subjects rather than an extensive curriculum. Due to a budget shortfall, annual budgets for public universities were cut and scholarship programs for private universities were cut. Initial plans to offer courses by the internet were scrapped because of too limited of an infrastructure in the country. The previous reputations of the foreign universities increased their enrollments and the public universities enrollment dropped.

2000. Nine Scenarios from the University of Michigan
A Choice of Transformations for the 21st-Century University

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http://milproj.ummu.umich.edu/publications/choice/download/choice.pdf

Nine Scenarios

- The World University
- The Diverse University
- The Creative University
- The Divisionless University
- The Cyberspace University
- The Adult University
- The Ubiquitous University
- The Lifelong University
- The Laboratory University

Introduction

The remarkable resilience of U.S. colleges and universities -- their capacity to adapt to new societal demands over the past several centuries -- has occurred because our institutions are intensely entrepreneurial. Faculty members have had the freedom, the encouragement, and the incentives to move toward varying goals in highly flexible and innovative ways. Today, in a time of unprecedented change, our challenge is to tap that energy and creativity to transform institutions of higher education into entirely new paradigms. We must respond to the rapidly evolving needs of numerous and diverse stakeholders, question existing premises and arrangements, and eliminate unnecessary processes and administrative structures. Faculty members and administrators should work together to provide an environment in which change is regarded not as threatening but rather as an exhilarating opportunity to engage in the primary activity of a college or university: learning, in all its many forms. The traditional model of higher education -- four-year, classroom-based undergraduate education on a residential campus; graduate education in academic disciplines and professional schools; and faculty members who are active in teaching, research, and service -- is already inadequate to describe much of higher education today. Given the current pace of change, colleges and universities may be virtually unrecognizable in the future. Although we can never predict the future with absolute certainty, we in higher education are not relieved of the responsibility of vision. We must consider a broad range of possibilities for the college and university of the 21st century, looking for new models that suggest the extraordinary transformations that institutions may undergo in the years ahead. Among them:

Scenario 1. The World University

The American research university dominates much of the world's scholarship and research. U.S. colleges and universities currently enroll more than 490,000 foreign students, according to the Institute of International Education, and also attract faculty members from throughout the world. In the near future, some institutions will become even more global in character. We may see the establishment of several world universities, in Europe, Asia, Africa, and Latin America, as focal points for various types of study of international issues -- political, cultural, economic, and technological. Such universities would view their marketplace as the world, rather than as a particular nation or region. Although rooted in a local culture, they would reflect far greater international diversity in their students, faculties, and academic programs. They also would be funded through international in addition to national or state resources.

Scenario 2. The Diverse University

Our institutions serve a society of growing diversity -- ethnic, racial, cultural, economic, and geographical -- and that new reality will only continue to intensify. Although our colleges and universities have taken steps to better reflect such diversity on their campuses, we might imagine a bolder model. The diverse university would draw its intellectual strength and character from the rich diversity of humankind, and provide an environment in which people respect and tolerate diversity in living, working, and learning together as scholars and teachers. For universities to thrive today, we must be open to a multiplicity of approaches and opinions. At the same time, we must recognize that an institution of higher education is first and foremost a "uni"-versity, not a "di"-versity. Our challenge will be to weave together the dual objectives of unity and diversity in a way that best serves our mission and society.

Scenario 3. The Creative University

The professions that have dominated the late 20th century have been those that manage knowledge and wealth -- professions such as law, business, and politics. Yet, as predicted by the futurist Peter Drucker, our society increasingly values those activities that actually create new knowledge -- professions such as art, music, architecture, and engineering. Perhaps some higher education institutions of the 21st century will also shift their intellectual focus and priority from the preservation or transmission of knowledge to the process of creation itself. Such institutions may need to organize themselves quite differently, stressing forms of pedagogy and extracurricular experiences that teach and nurture the art and skills of creativity. For instance, some may replace the classroom with the studio, or shift the role of the faculty member from that of a teacher to that of the leader of a creative team. As part of those efforts, colleges and universities might form strategic alliances with other institutions, organizations, or groups whose activities are characterized by creativity -- for example, the art world,

the entertainment industry, or even Madison Avenue. One current model is the Massachusetts Institute of Technology's Media Laboratory.

Scenario 4. The Divisionless University
The higher-education institution of the future will be far less specialized and far more integrated. A web of structures, some real and some virtual, will provide both horizontal and vertical integration among the disciplines. We have already witnessed the blurring of the distinction between basic and applied research, between science and engineering, and among the various scientific disciplines. So, too, we are seeing a far more intimate relationship between basic academic disciplines and the professions. For example, clinical departments in medicine are conducting much of the most important basic biological research in areas such as human gene therapy. The professional schools of business, law, public health, and social work are deeply engaged in fundamental scholarship as well as teaching in the social sciences. And the humanities are continually energizing and nourishing the performing arts – and vice versa.

Scenario 5. The Cyberspace University
Some of our institutions -- both traditional universities such as the University of California at Los Angeles and the Pennsylvania State University, as well as newly emerging universities like the University of Phoenix -- are already well on their way to becoming "knowledge servers," linked into a vast information network, providing their services to whoever might request them. As distributed virtual environments become more common, we might even conceive of a time when the classroom experience itself becomes a commodity, provided to anyone, anywhere, anytime -- for a price. A cyberspace university has its limitations. Obviously, it couldn't offer a residential component, an element that can be critical, especially in serving undergraduates. Yet the possibilities opened up by computer-mediated
distance learning and collaboration promise to enhance the intellectual environment for everyone. Forward-thinking institutions of higher education should also consider and implement other, more novel, paradigms, including:

Scenario 6. The Adult University
Research universities must make extensive investments to attract world-class scholars, maintain extensive libraries, and construct state-of-the-art laboratory facilities -- all to achieve excellence in advanced education and scholarship. Certain institutions may decide that it is simply no longer cost-effective to provide general-education programs for young high-school graduates. Instead, like some European and Asian universities, they may admit only advanced, academically and emotionally mature students, directly into graduate and professional schools. For instance, the University of Oxford and the University of Cambridge effectively admit undergraduates into upper-division studies, relying on secondary schools to provide general education. An adult-university approach would relieve research institutions of the responsibilities of general education and parenting -- roles for which many are not well suited, because their faculty members concentrate more on scholarship than on guiding the intellectual and emotional maturation of students. This approach might also allow research universities to shed their activities in remedial education, a rather inappropriate use of their costly resources. Such a focusing of efforts might even reduce the public criticism that is often aimed at large, high-priced research universities. While students and parents may complain about the education that undergraduates receive at those institutions, most appear quite happy with the quality of graduate and professional education. Furthermore, they seem quite willing to pay the necessary tuition, both because they accept the higher costs of advanced education and training, and because they see clearly the benefits of the degrees to their careers.

Scenario 7. The Lifelong University
In this model, an institution would commit itself, perhaps even through a contractual relationship, to a lifetime of interaction with its students. It would provide them with the education necessary to respond to their changing goals and needs after they graduated and throughout the rest of their lives. Many universities are beginning to move in that direction by rapidly expanding educational opportunities for alumni, ranging from campus-based colleges to distance-learning courses. In addition, institutions would design programs to bring together students with alumni who have established themselves in particular careers -- thereby blurring the distinction between

student and graduate, between the college and the external world. Lifelong universities would, for instance, seek the active participation of alumni in academic programs as teachers, advisers, and role models.

Scenario 8. The Ubiquitous University

In the future, higher-education institutions might be conceived as nexuses of our public culture, systems that link and connect social institutions: schools, libraries, museums, performing-arts organizations, hospitals, parks, news media, and the growing universe of information providers on the Internet. Perhaps ubiquitous universities will be new social life-forms, capable of providing community learning centers and knowledge networks that are open and available to all. Those institutions might be physically located hubs, or they might be distributed in cyberspace. They might evolve from existing colleges and universities or appear as entirely new constructs, quite different from anything we have experienced. Although many colleges will experiment through distance learning or extension programs, the most creative efforts may come from the for-profit sector -- as a result of better access to risk capital and a more entrepreneurial culture.

Scenario 9. The Laboratory University

As a rule, major corporations invest several percent of their gross revenues in research and development. Ironically, however, although the contemporary university stresses research as a part of its mission, it actually invests very little to investigate future forms of teaching, scholarship, and service. For example, if the University of Michigan were to follow the trend in business and government, it would invest roughly $30-million to $40-million per year in such research. In reality, like most universities, it spends only a fraction of that amount, perhaps $1-million to $2-million per year. Such an underinvestment in research on issues related to the core activities of higher education has become a serious problem, as
the future of traditional colleges becomes increasingly uncertain. The laboratory university could be a prototype of what a higher-education institution of the 21st century might be -- a testing site where new models would be developed and studied. Such an academic enterprise would propagate a risk-tolerant culture, in which students and faculty would be strongly encouraged to "go for it," and in which failure would be accepted as part of the learning process, associated with ambitious goals rather than poor performance. Those paradigms could be regarded merely as abstract planning scenarios. But they had a more pragmatic purpose at Michigan during the 1990's, when the university began a major effort to transform itself to better serve the changing world. In that process, we realized that the forces driving change were so strong that we needed to do far more than contemplate the possibilities through abstract study and debate. We decided to build, as working experiments, several prototypes of future learning institutions.

Considering such new paradigms provided a framework for that effort. In fact, all of the specific experiments we embarked upon had aspects of one of more of these paradigms. We established
campuses in Europe, Asia, and Latin America, connecting them through robust information technology, to study the implications of becoming a world university. We significantly enhanced the racial diversity of our students, examining the theme of the diverse university. As a model of the creative university, we launched major initiatives like the "Media Union," a sophisticated multimedia environment that linked the visual and performing arts with the engineering, business, and other professional schools. And we developed an array of additional initiatives and ventures, all designed to explore the future. To be sure, some of those experiments were costly. Some were harshly criticized by people who prefer the status quo. Every experiment ran a high risk of failure, and a few crashed in flames -- spectacularly, at times. But all of them were important in envisioning the possible futures that our institution may face. It is unlikely that any college or university will assume the exact form of any one of the models. And the models themselves must adapt to an environment of continual change. But each paradigm has features that will almost certainly be part of the character of higher education in America in this century. Each represents a path that we should explore, as we seek to determine the nature of those institutions that can best serve a rapidly changing world. The best way to predict the future is to invent it, according to an old saying in engineering. By envisioning and seeking to understand the paradigms of the college or university of the 21st century, we will, in fact, take steps to create them.

E. Conclusions

- You cannot predict the future, but you can anticipate some key features or prepare for it. There are standard techniques for doing this, and portions of them are often used in the preparation of strategic plans. Reading widely on a range of relevant topics, and involving all appropriate constituents at appropriate times ensures a successful result.

- You can use a range of scenarios to better understand the future possibilities, as it is unlikely you will come up with the "exact future" through a scenario. However, the thinking process that is involved in developing and reviewing a range of scenarios better identifies the more likely possibilities and better enables you to react to new situations in the future.

- We actually know quite a bit about possible futures – we just don't know which specific situation will prevail. The problem is not coming up with ideas about the future – the problem is thinking broadly and developing a willingness to change, and to build our skills at accomplishing change on a sustainable basis.

- There is not a single approach to do futures studies, but everyone develops their own impressions of the future over time. Much of this is influenced by their own experiences and their range of knowledge. My particular view of the future and how you should prepare for it is that we live in a VUCA world (volatile, uncertain, complex, and ambiguous) world. To deal with that world, we must be FAIR (flexible, agile, innovative, and responsive).

- Don't be misled by thinking near-term solutions will be permanent solutions.

F. Futures Organizations

World Future Society (WFS)
http://wfs.org

Contains transcript of interviews with major futurists/experts. Lists articles in its magazine but you need a membership to read the text. Membership if very broad and mixed by culture, education, and interest.

World Futures Studies Federation (WFSF)
http://wfsf.org

Contains lists of future programs in tertiary educational institutions, recommended books on the future (organized by language), futures journals, newsletter (Futures Bulletin). Membership if narrow and requires some expertise in futures work. Much more of an academic/government orientation than the other organizations.

Shaping Tomorrow
http://shapingtomorrow.com

An easy to use, free (for basic use) site of discussion groups and summary studies or basic information. It is useful for general scanning or adding breadth to your analysis. Membership is a mix of both general and experienced futurists. There are no meetings, only electronic discussions.

G. References for Further Reading

Alexander, Bryan. 2011. Future of Higher Education: Scholarly Publication.

Educause Quarterly 34 (1).

He raises raises questions by listing five scenarios: 1) The Teeming Biosphere (uses many forms, changes in what "peer review" means), 2) Bubble Bursts (traditional publications too costly), 3) Die-Off (less severe than the 'bubble bursts" – selective communications die off but some audiences are reduced, such as tenured faculty positions), 4) In the Future, All Scholarship is Gray (new models of "communication" and new methods of distribution reduce costs and increase formats), and 5) Open World (open source journals and other sources force out the costly journals. Alexander also discusses how you might use these scenarios on your campus for broader discussions.

Altbach, Philip G., Patricia J. Gumport, and Robert O. Berdahl. 2011 (3rd Edition). American Higher Education in the Twenty-First Century: Social, Political, and Economic Challenges

A 17 chapter book with 26 individual contributors. Particularly useful is the chapter on Ten Generations of American Higher Education by Roger Geiger. This historical context is important for anticipating the future on higher education. Other chapters address the external causes of changes facing higher education as well as specific challenges.

Bok, Derek. 1994. Universities and the Future of America

Begins with the premise that the U.S. economic position is deteriorating and we have large amounts of poverty and crime. Bok states that "universities have become the central institution in postindustrial society." He then addresses how colleges and universities could help solve some of the problems facing the country. [Note: the book is a little dated but the fundamental issues and solutions are still relevant].

Boyer, Ernest L. 1997. Scholarship Reconsidered: Priorities of the Professoriate.

Boyer focuses on four types of scholarship: application, discovery, integration (across disciplines or time), and teaching . Also see Pat Hutchings, The Scholarship of Teaching and Learning Reconsidered: Institutional Integration and Impact (2011). It provides examples of the impact of Scholarship Reconsidered in a range of institutional types and makes eight recommendations improving teaching and learning

Christensen, Clayton M., with Michael B. Horn and Curtis W. Johnson. 2010. Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns.

Describes how new techniques and approaches can make large scale changes. Example include customizing learning and focusing on students, removing (or working around) roadblocks, and ways of bring along all students in ways that include competition. Includes case studies and ways of managing innovation.

Christensen, Clayton M. and Henry J. Eyring. 2011. The Innovative University: Changing the DNA of Higher Education from the Inside Out by. Published by Jossey-Bass.

Includes lessons from others, the role of the faculty, leaders and episodes of major change, and risks of disruption, pressures from within and without. Thinking of new types of universities and how to accomplish change. Compares, in a variety of ways for similarities and dissimilarities of Harvard University and Rexburg College (Idaho).

Christensen, Clayton M. 1997. The Innovator's Dilemma: The Revolutionary Book That Will Change the Way You Do Business.

Covers why great companies fail and managing disruptive technological change. The major conclusion is "managing better, working harder, and not making so many dumb mistakes is NOT the answer to the innovator's dilemma." The answer lies in recognizing that times and conditions change and so does the need for different approaches to management; in addition, one solution or approach does not fit all situations.

Dolence, Michael G. and Donald M. Norris. Transforming Higher Education: A Vision for Learning in the 21st Century. 1995 Published by Society of College and University Planning (SCUP).

Duderstadt, James J. 2010. Securing Hawaii's Future through the University of Hawaii.
Presentation to the University of Hawaii that covers changes on a range of topics. Topics include understanding the driving forces of change. He ends with a list of challenges and opportunities. This and several additional reports by Duderstadt concerning the future of higher education are at http://milproj.dc.umich.edu/

Duderstadt, James J. 1999. Positioning the University of Michigan for the New Millennium: A Case Study in University Transformation.
http://milproj.dc.umich.edu/publications/
This book address the approach taken by the University of Michigan in an extended transformation process (that is still occurring). It covers the challenges of changes, strategic planning, vision for 2000 (repositioning) and vision for 2017 (transformation).

Foltz, J. E. 2012, Market Whipped and Not by Choice. Alsek Press. 221 p.
http://alsekresearch.com/
An economic futurist writes about changes in the methods of investing that resemble a massive multi-player online role-playing game. Equities are largely traded electronically and by rules set in place by the trader. She discusses the characterizes of how investing and those that deal with it (professionals, consumers, government) will change.

Futurity
http://futurity.org
A daily, short, e-newsletter from the University of Rochester. Covers brief summaries of a wide variety of future-oriented research issues from universities around the world (free).

Global Foresight Books
http://www.globalforesightbooks.org/
This website is a rich source of information about vast array of books dealing with the future. Very brief reviews are provided and you can browse by author, subject, category, or publisher. A monthly newsletter alerts you to new publications within a particular subject area and includes the book of the month. The website includes recommend books, paradigm breaking books, and appropriate economics (new economic thinking rather than traditional economics). Maintained by Michael Marian, a long-time source of very good reviews of futures books. He provides all the above information free.

Hilton, James. 2006. The Future of Higher Education: Sunrise or Perfect Storm.
Educause Review 41(2), pages 58-71.
Reviews key factors on whether higher education succeeds or fails. He suggests there are four disruptive forces: 1) Unbundling (put the pieces of learning together in new ways), 2) Demand Pull (students rather than the institution forces change, 3) Ubiquitous Access (interact anytime, anywhere), and 4) The Rise and the Pure Property View of Ideas (who owns ideas?). He also address some opportunities to address some of these issues.

IBM. Smarter Planet Website
http://www.ibm.com/smarterplanet
This site covers a wide range of subjects where we can operate "smarter", including education. Content include discussions, case histories, and solutions. Higher education applications include administration, teaching, and research. Solutions are focused on information technology applications, but there are many useful applications identified that could stimulate our thinking.

Kellogg Commission on the Future of State and Land Grant Universities. 2001. Returning to Our Roots.
A compilation of six reports that cover the student experience, student access, the engaged institution, a learning society, toward a coherent campus culture, and renewing the covenant (learning discovery, and engagement in a new age and different world.

National Commission on the Future of Higher Education (Spellings Commission). 2006
http://www2.ed.gov/about/bdscomm/list/hiedfuture/reports/final-report.pdf
The final report is titled: A Test of Leadership: Charting the Future of U.S. Higher Education. It addresses access, affordability, quality, and accountability. It organizes findings into learning, "transparency and accountability, and innovation.

National Intelligence Council. 2008. Global Trends 2025: A Transformed World
http://www.dni.gov/nic/PDF_2025/2025_Global_Trends_Final_Report.pdf
The fourth edition of identifying key drivers likely to shape world events a decade or more in the future. Developed by the NIC with participation from a diverse communities of experts (from around the world). The NIC notes the importance of the process in preparing the report, in addition to the actual content. The short summary is that there will be more change than continuity and there are alternate futures. It includes relative certainties and their likely impact as well as key uncertainties and their potential consequences.

OECD Center for Educational Research and Innovation. 2008. The University Futures Project.
http://www.oecd.org/document/18/0,3746,en_2649_35845581_31245522_1_1_1_1,00.html
Four volumes are planned for more detailed reports targeting 2030. Those published are demography in 2008, and globaliszaton in 2009. Other volumes to be published include technology, and scenarios. Includes a link (http://www.oecd.org/dataoecd/56/63/41801234.pdf) to views of a range of a range of experts speaking to the future of higher education in 2030. In 82 pages the 30 contributors state their views on purpose, major desirable futures, challenges, and the best and worst ways to address these challenge.

Rheingold, Howard. 2003. Smart Mobs: The Next Social Revolution
His website adds another subtitle: mobile communication, pervasive computing, wireless networks, collective action). This book was developed at the beginning of the "cell phone" era. Rheingold was visiting Japan and observed the number of people using the phone in all places. He observed the "collective intelligence" that could occur. This is a good book to read to appreciate how things have progressed in the last few years in this field. For example: Facebook (2004), Twitter (2006), iPod (2001), and Arab Spring (2010).

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