TOPIC: Higher Education, Information Technology and Leadership: Organizational Capacity for Disruptive Times

COMMITTEE: BOR Retreat

DATE OF COMMITTEE MEETING: October 4, 2013

SUMMARY: Mr. Richard N. Katz, Richard N. Katz and Associates, will provide a presentation and lead discussion on the impact of information technology on higher education:

Higher education can be considered the birthplace and incubator of Information technology (IT) and IT has become an indispensable enabler of higher education. More recently, IT is being used to disrupt industry after industry. This session has been designed to discuss how IT can both foster and disrupt the delivery of USM's mission activities and how IT's capacity to support continued reform depends on understanding and action by those who "own" responsibility for USM's academic, business, and research enterprise.

ALTERNATIVE(S): N/A

FISCAL IMPACT: None

CHANCELLOR'S RECOMMENDATION: N/A

COMMITTEE ACTION: DATE:

BOARD ACTION: DATE: October 4, 2013

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BIOGRAPHY

Richard N. Katz

Richard N. Katz is a well-known leader in higher education. He is the author or editor of seven books and more than 80 articles and monographs on a variety of management and technology topics. His book *Dancing with the Devil* was named one of the 10 most influential books of 1999 by Lingua Franca. He is the founder of Richard N. Katz & Associates whose clients span all segments of US higher education as well as globally ranked universities in Australia, Canada, China, Singapore, and Switzerland. Richard has worked with university systems in California (UC and CSU), Nevada, Pennsylvania, and Texas. Richard was Executive Vice President of Nuventive, LLC and has served on more than 25 higher education boards. He also served as vice president of EDUCAUSE for 14 years and established the EDUCAUSE Center for Applied Research. He was a longtime (14 years) executive of the University of California and was the second recipient of that university's award for innovation for his work leading the university's business transformation. He has degrees from the University of Pittsburgh and UCLA. He received his B.A. from the University of Pittsburgh, and his MBA from UCLA.

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IT Opportunities Discussion Paper

Three weeks ago, International Paper announced that it was closing one of its three U.S. paper mills due to the shrinking demand for paper in an increasingly digital world. This announcement puts in stark relief the magnitude of the upheaval occurring in nearly every aspect of human activity in the wake of the digital revolution. In the recent past, a number of industries have undergone radical transformation as individuals not bound by historical business models have embraced the application of new information technologies. Those industries and firms that are the most challenged—newspapers, publishers, the recording industry, and others—all depend on their ability to attract and retain stables of talented writers, musicians, and editors, as well as their ability to manage their output of intellectual property in ways that sustain the enterprise.

When viewed through a particular lens, higher education is also an "industry" whose success depends on aggregating scarce intellectual property (libraries, archives) and scarce content producers (faculty, research staff, and the scholar-students who engage with them) and adding value to them through curricula, laboratories, teaching facilities and other means. Until very recently, higher education's ability to aggregate and distribute this talent and intellectual property was secured by a unique accreditation apparatus, by government charters and subsidies, and by the benefits of consolidating these facility-dependent activities on campuses. The business model of state-support, self-regulation, and campus delivery has sustained higher education in a recognizable form for over 1000 years. Today, however, the reach of the internet and the unique economics of IT—where, as Intel co-founder Gordon Moore observed, capability doubles every two years—are eroding the pillars that comprise higher education's business model and the security of traditional universities' niche.

Higher education's unique history and demonstrated resiliency notwithstanding, the nature of the challenges and opportunities presented by the disruptive application of IT must be confronted head-on. What is being challenged is the cornerstone premise that teaching is a labor- and expertise-intensive endeavor; that it is artisanal in nature. And, as such, that the quality of instruction depends on the generous spreading of this labor and expertise among the student body. Innovations in teaching approaches, in software, in testing, and elsewhere are making it possible to deliver instruction online at an unimaginable scale. In addition, digital course materials can now ascertain a student's learning and retention and can adjust difficulty or sequencing in order to fill in gaps or accelerate learning.

Recognizing the huge demand for access to higher education and envisioning an economic model that benefits from breaking higher education's "iron triangle" of cost, quality, and access, venture capitalists are investing in a new generation of firms that will challenge traditional universities. This challenge is leading to a

variety of responses. Some "incumbents," as predicted in Christensen's *Innovator's Dilemma*, are hunkering down. Others—notably institutions that comprise the University System of Maryland (USM)—are moving cautiously forward through sound experimentation and analysis of findings. Some of course—like UMUC—operate by design close to the leading edge of new competition.

For the University System of Maryland, the new possibilities that are being enabled by information technology not only present the opportunity to meet and overcome the new competition, but also to:

- Extend the System's reach and influence;
- Expand educational opportunities for Maryland students of all ages;
- Improve student outcomes, specifically course completion, retention, and graduation rates;
- Enhance the "experience" of being a student, faculty, or staff member within the USM;
- Advance discovery and support innovation, collaboration, and entrepreneurship through research;
- Improve the performance and efficiency of campus-based processes and services.

To succeed, the vision for technology enablement must be aligned with the USM and individual institutional priorities, starting with the next 3 to 5 years. For example, several institutions must improve student retention in order to meet the 55 percent completion goal of the state and USM. One possible tool for doing this is to track, analyze, and report on student progress in real-time to enable timely interventions rather than waiting until the student has become a DFW, i.e., failed, withdrawn, taken an incomplete, or failed to register for another term. Several USM institutions have investigated techniques for doing this, and there well could be a common approach to this across the USM, but successful implementation also depends on engaging the teaching faculty, student services, counseling and advisement, and others. As a second example, consider student recruitment. More effective use of data regarding potential students could assist in identifying new students. Finally, expansion of online courses, as is occurring at most USM institutions in addition to UMUC, could also assist.

Where is the USM in effective use of information technology? USM institutions have core technologies in place, but in many areas they are not fully utilized. Information technology is a necessary condition for change, but not sufficient alone. For example, our Academic Transformation initiatives have been well supported by our historic investments in academic technology, but new success is being driven more by the System-wide embrace of Academic Transformation as a priority than by any additional technology investments.

In sum, the IT story at USM is an exciting, important, and complex one. The IT infrastructure of the USM campuses is generally sound. In many cases it is exemplary, though in some areas additional attention and investment is still needed. IT leaders at several USM campuses are leading national initiatives with Internet2, EDUCAUSE and others. USM institutions are widely understood to be leading examples in IT security and privacy management and other areas.

While IT needs constant renewal to remain exemplary, what constrains the USM today is less the state of our IT infrastructure than it is each institution's capacity to manage that complex matrix of dependencies that include incentives, governance, business processes, culture, and other factors that are outside of the direct control of the IT organization alone. This is where we believe that the USM must invest its energies and resources. As with Academic Transformation, there are many areas in which the technologies to make big improvements exist, but where the leadership, cultural, procedural, or other barriers are simply beyond IT's capacity to foster change. This condition is by no means unique to the USM. Nor is it unique to higher education. It is, however, exacerbated by higher education's unique, loosely-coupled management system.

In the past, we could roll with—or rail against—some of the worst idiosyncrasies of higher education's loose coupling. Today, however, we see highly focused, market-accountable, private equity being deployed in an effort to unravel higher education's core business model. This fact should compel us to not only redouble our efforts in supporting competitive IT environments, but also to develop both the organizational capacity to reap the harvest of our IT investments more fully and to explore possible 'moon shot' initiatives. It will be actions such as these that assure Marylanders that their university system will remain accessible, affordable, and accountable for generations.

With this introduction, let's consider some recognized best practices:
  I. The IT vision must be aligned with, and thus follow, an organizational vision. IT cannot have a standalone vision. However, proper consideration of IT capabilities will enable a transformative organizational vision. If transformation is to gain any momentum in the USM in a 3-to-5 year period, this alignment has to be initiated now.
 II. Thinking about IT has to move from considering it as a cost center to viewing it as a strategic enabler of transformation. Being a cost center views IT as a utility. The strategic view, as is done in the best of the corporate world, is to base new directions for the organization around IT capabilities.
III. Concomitantly, organizations that effectively integrate and use IT have close alignment between achieving institutional strategic priorities and supporting IT services. The CIO has to be a key member of the enterprise leadership team along with the academic leadership and faculty.

IV. For effective utilization of IT investments, there must be a commitment at all levels of the organization to effect change.
V. ROI comes from scaling initiatives not from small-scale pilots.

Initially, we presented a few examples of where IT could improve effectiveness and/or efficiency.   There are a multitude of other target areas including:
I. Make more effective use of data in improving student retention and success.
II. Support decision making based on predictive, not just historical, data.
III. Improve operations by freeing both individual functional offices and broadly interrelated functional offices to rethink their processes based on the capabilities of the technological tools available.
IV. Scale up Academic Transformation. Use technology to simultaneously improve access, lower cost, and maintain quality in academic programs.
V. Take advantage of the ability of technology to support sharing resources and services. Use the power of being a System to raise all boats.
VI. Recognize that all phases of research from discovery, through experimentation/analysis, to publication, to long-term preservation are technology enabled. Subsequent to the research phase, IT also supports the increasing interest in technology transfer and the commercialization of research discoveries.
VII. Teaching/Learning/Research all depend on collaboration, for which there are a multitude of ever-changing products and vendors available.