The university can be understood as having three main roles related to the creation of knowledge, the preservation of information, and the transmission of this information to others. While advances in information technology have created new tools to strengthen and enrich the academic and research environment, these same tools may contain the seeds of the collapse of the university system. Information technology allows the decentralization of vast stores of information, rendering the university's role in preserving information obsolete, while students may also be drawn away from large undergraduate campuses due to flexible and inexpensive electronic forms of education. The measure that colleges and universities will be able to respond to these conditions depends upon their market niche, or focus, curriculum, admissions standards, and cost. Regional universities who differentiate their mission and specialize in areas of great concern to sponsoring entities will have sufficient resources to survive. Community colleges with high-quality technical education and training programs, requiring hands-on instruction, should not be overly affected by electronic forms of instruction. Rather than competing with corporations who can provide the technology and alternative delivery systems, community colleges will prosper if they focus on providing learning support services, guidance, organization, and skills development to help students learn. (TGI)
WHAT WILL COMMUNITY COLLEGES DO WHEN MICROSOFT AND DISNEY DELIVER HIGH-QUALITY, ACCREDITED HIGHER EDUCATION AND TRAINING TO THE BUSINESSES AND HOMES OF MOST AMERICANS?

By

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Don Doucette serves as both the chief academic officer and the chief information technology officer for the Metropolitan Community Colleges, a multi-college community college district serving over 40,000 students each year in Kansas City, Missouri. At MCC, his responsibilities include curriculum and program development, research and assessment, professional development, occupational programs, student development, student services, library resources, distance education and alternative delivery, computer services, and network and user services.

Previously he served as associate director of the League for Innovation in the Community College, where he directed League initiatives to assist community colleges in improving teaching and learning and institutional management by the application of information technology.

He served in various capacities at Johnson County Community College in Overland Park, Kansas, and the Maricopa Community Colleges in Phoenix. He has published in noted journals on a variety of subjects and holds degrees from Cornell University and Arizona State University.
SO WHAT DO COMMUNITY COLLEGES DO WHEN MICROSOFT AND DISNEY DELIVER HIGH-QUALITY, ACCREDITED, HIGHER EDUCATION AND TRAINING TO THE BUSINESSES AND HOMES OF MOST AMERICANS?

Don Doucette

A speech made to the International Conference for Chairs, Deans, and Other Organizational Leaders
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[The following is an excerpt from the longer speech.]

Economics and Technology of the University

Much has been written on future scenarios for higher education. One of the most cogent arguments is Eli Noam's analysis of the university system published this past summer in Science magazine entitled "Electronics and the Dim Future of the University." It is one of the most convincing because it is rooted in sturdy economic analysis rather than wishful or speculative notions of paradigm shifts and technological marvels.

Noam dissects the role of the university as consisting of three elements: 1) the creation of knowledge and evaluation of its validity, 2) the preservation of information, and 3) the transmission of this information to others. Accomplishing each of these functions is based upon a set of technologies and economics, which together with history, give rise to institutions, which in the modern era, we have known as universities. However, Noam points out that "Change the technology and economics, and the institutions must change, eventually." Clearly both the technology and the economics of the modern university are in the throes of major change.

Since the royal library in Nineveh in Assyria and the Great Library of Alexandria, the model of centrally stored information has defined our model of higher education. Noam writes "Scholars came to information storage institutions and produced collaboratively still more information there, and students came to the scholars." What modern information technology has is to reverse the flow of information. "In the past people came to information, which was stored at the university. In the future, the information will come to people, wherever they are."

Noam also comments on the irony that just as advances in information technology have created fabulous new tools of inquiry, freed communications links among researchers around the world, loosened stifling organizational hierarchies and coercive government control, just as technology has created a new set of tools to strengthen and enrich the academic and research environment, these same tools contain within them the seeds of the collapse of the university as we know it.
Because information technology allows the decentralization and distribution of vast stores of information and the creation of virtual communities, the advantages of the physical proximity of scholars to each other and to information is greatly reduced. These same technologies and economics are rendering the university's function of storing information obsolete—certainly breaking its exclusive hold as repository of knowledge.

The third function of the university, the transmission of information, its teaching role, is under great stress in the university, for student-teacher interaction comes with a big price tag. Noam notes that "If alternative instructional technologies and credentialing systems can be devised, there will be a migration away from classic campus-based higher education. While it is true that the advantages of electronic forms of instruction have sometimes been absurdly exaggerated, the point is not that they are superior to face-to-face teaching (though the latter is often romanticized), but that they can be provided at dramatically lower cost." Noam also concludes that the ultimate providers of electronic-based curriculum will not be universities, but rather commercial firms—maybe McGraw-Hill University has a slightly better ring to all of us academics than Microsoft U, but the principle is the same.

Noam acknowledges that by presenting a bleak future for the university, he is inviting a response that reaffirms the importance of quality education, academic values, and the historic role of education in personal growth, but this is besides the point. "The question is not whether universities are important to society, to knowledge, or to members—they are—but rather whether the economic foundation of the present system can be maintained and sustained in the face of the changed flow of information brought about by electronic communications." He continues "To be culturally important is necessary but, unfortunately, not sufficient for a major claim on public and private resources. We may regret this, but we can't deny it."

Institutional Scenarios

The negative impacts of the coming changes in the technology and economics of higher education will not be uniform. Colleges will fare better or worse depending upon type, curriculum, admission standards, cost—that is, depending upon their market niche. While you may regret my use of business terms—after all, some of us in higher education remain adamant in opposition to using the term "customer" to define our students—the fact is that we are all in the business of higher education. We may not like it, but we can't deny it.

In general, the most negative effects of information technology will be on mass undergraduate and nonselective professional and graduate education—and consequently, upon those institutions which depend upon
these missions for a substantial amount of their revenues, or justification for public support. Noam's analysis can be used to predict the prospects for different types of institutions.

**Research Universities.** Electronic communications will be a mixed blessing for research universities. The explosion of information and its distribution will make the research and knowledge validation function more important than ever. This is the good news. More problematic will be maintaining universities as physical islands of research, since physical proximity of scholars may become less important.

To the extent that aspiring scholars follow and seek to locate in physical proximity to scholarly activity, the teaching function of the research university may be maintained as an outgrowth of the research function for a few select and specialized who will be asked to pay much higher costs for the privilege of being taught by noted scholars.

Diminishing the university's role in mass undergraduate education will have profound and disruptive effects on these generally quite large institutions with massive existing infrastructures. For, as we know, the large lecture has often subsidized the full research professor.

**Liberal Arts Colleges.** The prospects for liberal arts colleges and other small colleges are somewhat more dicey. Having no appreciable research and knowledge validation function, these institutions have always depended upon very high-quality teaching as their reason for being. Much like the elite universities, only those liberal arts and small colleges that are able to provide a high-quality education experience for a dedicated constituency that can support the very high cost of doing so will thrive.

In fact, since true teaching and learning is about much more than the transmission of information, but is about mentoring, internalization, role modeling, guidance, socialization, interaction, and group activity, in many ways, the liberal arts college is precisely suited to provide the quality of interaction, the value-added "high touch" counterpart to "high tech" transmission of information most of us believe represents quality higher education. However, this quality is likely to be limited to those who can afford it or who have the benefit of private sponsorship. Only those colleges who can successfully appeal to a specific market niche of elites or special-interest students and financial backers (such as religious denominations, corporations or professional associations) are likely to prosper.

**Regional and Nonselective Colleges and Universities.** Because the most negative impacts of electronic communications will be on mass undergraduate and professional education, nonselective universities which traditionally serve this market niche have the most precarious prospects. If degrees can be earned at home or extension centers, regional universities will be forced to make a persuasive case to prospective students that they will be
better off by moving out to the country—where last century's best thinkers ingeniously thought to locate them.

However, without access to the scholars of the research university and without the benefit of the small size of the liberal arts college, these universities will become marginal in meeting the needs for higher education of its current student base. Their costs will rise so that they will not enjoy a price advantage over electronically delivered degrees. Only those regional universities who differentiate their mission and specialize in areas of great concern to sponsoring entities (such as state governments) will have sufficient call on resources to survive in their current form.

Community Colleges. The prospects for community colleges are mixed. On the one hand, because they currently perform the mass undergraduate education function that is most under pressure from electronically mediated alternatives and for-profit providers, their hold on the adult worker market will be significantly weakened, presenting a major threat to institutional viability.

However, those community colleges that have high-quality technical education and training programs will prosper. Least affected by electronic forms of higher education will be skills training that requires hands-on instruction and feedback, which comprehensive community colleges have a long history of providing.

Community colleges have also been on the forefront of experimenting with technology and other alternative delivery systems to accommodate the schedules of nontraditional students. However, while these efforts may buy community colleges time, it would be foolish to think that community colleges will ever be able to compete successfully with Microsoft and Disney in providing high-quality and convenient higher education and training. In the mass undergraduate higher education market, community colleges will lose any head-to-head competition with these corporate giants.

The Community College Niche

So, we return to the original question, "What are community colleges to do when Microsoft and Disney can deliver Introduction to Biological Concepts and College Algebra to your living room taught by renown and entertaining scholars and produced by the best that Disney has to offer?"

Rather than competing, community colleges must acknowledge what they do well, perhaps better than any other institutions of higher education save liberal arts colleges. Community colleges have a longstanding commitment to and they know how to support learners. The principal clientele of community colleges—nonselective and/or placebound students—have little access to selective liberal arts colleges or other environments that nurture small communities of learners. However, these same students are
arguably most in need of learning assistance. Many, maybe most, community college students need learning support, guidance, organization, skills development, and a variety of other support services. Some of these students will be able to afford to enroll in courses offered pay-per-view at home or work, but many will need support in order to benefit from these courses, and such support is likely only to be available through local community colleges.

Rather than competing with Microsoft and Disney, community colleges will prosper if they do what they do best: provide learning support services to help students learn—regardless of where they get their information. In some cases, community colleges may become brokers of content supplied by for-profit providers, wrapping a learning support environment around the content that students receive in their homes or businesses. Or community colleges may simply become learning support centers, institutions which are skilled in supporting learners who get information from a variety of sources, including those from the community college itself.

In other words, the community colleges which will survive the frontal assault waged on its mission by information-age higher education providers will be those who understand their niche as learning colleges. They will shed their role as disseminators of information in favor of the role as supporters of learning. They will draw upon years of experience in student development, student support services, and developmental education to become the best learning support organizations in the world. Disney and Microsoft cannot compete in the provision of these services in support of student learning. In our local communities, this is our market niche.

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