Bricks & Clicks and the Future of Higher Education
Thought Leaders Symposium 2015

By E. Lander Medlin

In our most recent membership survey, the members emphasized (among other things) the challenges of leveraging and adapting new technologies, keeping up with future technological innovation, and ensuring a workforce prepared for future technologies. This is critically important, since facilities leaders actively manage the investment of more money than any other department on campus. The work is becoming increasingly technical and decreasingly human. A scary thought! So what is happening, and how do we make sense of it all?

DIALOGUE FOR THOUGHT LEADERS

To begin this dialogue, participants of the APPA 2015 Thought Leaders symposium, graciously sponsored by Jacobs, focused on the issues and challenges related to "Bricks & Clicks and the Future of Higher Education." More than three dozen higher education leaders—including provosts, student affairs deans, business officers, faculty, consultants, association executives, and facilities professionals—participated in a facilitated discussion and work session to examine where we are, and what is coming concerning these two potentially conflictual worlds—physical and virtual—and their impact on the future of higher education.

REAL THREATS

First, a little context. There are real threats that put pressure and stress on higher education institutions (and their facilities/organizations.) It is not surprising that **financial viability** is at the forefront. The fact is most states have not keep pace with the cost of doing business and, even worse, most institutions have not yet achieved pre-recession funding levels.

Demographic shifts will impact enrollments, in some geographic locations significantly. The mix of non-traditional students (more adult learners) alongside the learning styles of millennials will dictate necessary **pedagogical changes and support**. In addition, there is a significant shift in the makeup of the facilities workforce and better ways to bridge the four working generations.

Competition remains problematic—internally with the faculty "arms race," and externally with for-profit education providers and other countries vying for students who previously came to the U.S. for their college education.

Student and faculty **demands and 24/7 expectations** continue to increase, putting extreme pressure on facilities and staff.

The rate and pace of **technological change** are both exponential and transformational. Information is doubling every nine months. Information learned within a major is already outdated upon graduation. Robot technology is doubling every eight months. China is 3D-printing houses! We've moved from the Mechanical Age of the 19th century, the Information Age of the 20th century, to the Cyber-Physical Age of the 21st century.

BUILDINGS ARE CHANGING

Now let's fold in what we are learning concerning the evolution of "**Bricks**"— **the physical environment**. With respect to **trends**, buildings are getting physically lighter (from a mass to membrane standpoint) with emerging failure thresholds, reduced life cycles, and the need for swing-space… hence, a more "demountable" campus. Buildings are increasing in technological complexity with networks of integrated systems, paralyzing amounts of data, conflicting demands, dictating silos of specialists; and more focus being drawn to Total Cost of Ownership…hence, a more holistic approach. Buildings are increasingly more compressed, in higher density, and consolidation is occurring across disciplines with layers of uses and spaces that are actually less standardized, more specialized…hence, leading to an "intelligent retraction."

With respect to **uses**, buildings will need greater flexibility. Almost like we treat event space that is built and taken down as needed ultimately requiring an expanded back-of-house. Buildings will migrate to a collective ownership with a multiplicity of spontaneous owners and active stakeholders filled with intersections and hubs.

Buildings will be distributed in terms of demand for use much like a marketplace is with developers and tenants. This could indeed mark the decline of the departmental empire. An interesting concept in and of itself. In fact, space would be the new currency (at least for a time). It is truly an evolving notion of "The Campus."

BIG DATA

Now onto **"Clicks"—the virtual world**. There are several game changers. First recognize that FREE bandwidth through Google fiber makes "big data" even bigger. Mark Valenti, a Thought Leaders subject matter expert, said, "In the last ten years, we have learned more about the human brain than in all the combined years of human existence." We need to quickly move our thinking to mining big data for its business intelligence—like "Analytics-R-Us." The future says our technology will be with us, meaning the "physical-ness" narrowing down to chips then almost zero.

For facilities professionals, the real game changer is the "Internet of things." Envision that the first 20 years was about "people talking to people"… the second 20 years will be about "things talking to things." This will have a huge impact on the building enterprise. It's all about integration—leveraging buildings and systems—moving from dumb devices to inexpensive sensors to data insights we could not imagine before. This could certainly lead to real energy harvesting, where energy could become the more valuable currency.

It will indeed boil down to the need for a new skill set for both the IT and facilities professionals (e.g., from the CIO-Information, to CTO-Technology, to CDO-Data, to CAO–Algorithm). Indeed, the lines between IT and facilities will blur dramatically. The facilities professional must learn how to function in a multi-disciplinary world having technical, professional, and global competence. Hence, becoming the "Super Strategist" where he or she uses technology to achieve greater improvements.

Some jobs will simply disappear. For example, development is already underway on an MRI device that will be 1000 times smaller, 1000 times faster, and 1000 times cheaper. Therefore, no need for X-ray technicians. This can easily translate to the facilities professional's skill sets. Yes, the lines are blurring between IT and facilities staff.

The stakes are high. For example, the CEO of LinkedIn was asked, "What is your biggest fear?" He said, "The competitor that has NOT YET entered the market!!" This type of disruption impacts all facets of industry. We're no different. New skills and organizational structures are essential.

GETTING THE PICTURE

All of this continues to increase the demands on our facilities and our staffs. With aging building assets and utilities infrastructure (average age greater than 45 years, and that doesn't speak to the systems and component level), the pressure mounts and points to potential divestiture. More effective space management policies would certainly help. Yet, add the expanding staff workload, difficulty in hiring trades personnel now, and new skill sets, and we have…well, you get the picture!

Plan to read the full Thought Leaders monograph this September for much more detail and some targeted questions and strategies for your institution. Ⓢ

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