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Executive Summary

In April 2007, when representatives of colleges and universities from across the United States and Canada gathered alongside association leaders and industry consultants, the atmosphere was energetic, engaged, and enthusiastic. This was the second year college and university leaders had convened to discuss the future of higher education and consider the impact of that future on educational facilities. The first APPA Thought Leaders Summit, held in 2006, resulted in the distribution of a white paper, “University Facilities Respond to the Changing Landscape of Higher Education.” Those attending in 2007 were united in their sense that the 2006 white paper had been a powerful tool for senior institutional officers and facilities managers to learn about the challenges confronting higher education leadership, to educate administration leaders about the challenges confronting facilities, to assess the preparedness of facilities departments, and to help everyone to plan for the future.

On the first day of the 2007 summit, representatives from student affairs, academic affairs, and administration joined facilities leaders to consider three major challenges confronting higher education as a whole: evolving technology, changing stakeholder expectations, and the impact of competition on both those drivers of change. The results of the work on day 1 are in Section I of this paper. On day 2, facilities managers identified the top ten critical facilities issues and formulated specific questions that will help senior institution officers and facilities professionals prepare their institutions and their peers for the future. The results of the work on day 2 are in Section II.

The Thought Leaders participants identified the following major challenges:

- **Evolving Technology**
  - Themes
    - Increasing pace of change
    - Building community
  - Challenges
    - Funding/cost
    - Creation and evolution of virtual environments
    - Security
  - Strategies
    - Building partnerships
    - Assessing return on investment and value on investment
    - Analyzing funding sources and their stability
    - Broadening planning and increasing transparency
  - Potential obstacles
    - Funding
    - Pace and intensity of change
    - Lack of technical skills and expertise
  - Strengths to confront these challenges
    - Reserves of intellectual capital
    - Relationships
    - Prestige and reputation

- **Changing stakeholder expectations**
  - Themes
    - Accountability
    - Values
Challenges

- Overall
  - Rapid pace of increasing demands
  - Sustainability
  - Access to top-quality facilities and technology
- Students/parents
  - Consumer-driven choices
  - Newest technology
  - Nontraditional learning options
  - Jobs
- Faculty/staff
  - Importance of contribution
  - Value of opinion
  - Job security
  - Access to powerful technology
  - Accountability
- Community/state/federal government
  - Accountability/transparency
  - Efficiency and cost-cutting
  - Economic development
- Global community
  - Competition
  - Collaboration

Strategies

- Improve performance accountability
- Demonstrate educational outcomes
- Focus on the “whole” student

Potential obstacles

- Perception of higher education as a luxury
- Competition from other providers
- Pace of change

Strengths to confront these challenges

- Intellectual capital
- Alumni base
- Collaborative culture
- Record of success

Section I goes into the details of each of these issues, providing additional information and citing outside resources where relevant. For each issue, major themes and significant challenges were identified; participants considered how the challenges would affect different types of institutions and provided strategies for addressing these challenges. Finally, potential obstacles to success were discussed, along with strengths higher education could draw on to overcome those obstacles.

Facilities experts considered these issues and others to develop a list of the top ten critical issues impacting facilities for 2007–08. Although the issues were developed with the discussion of technology and changing stakeholder expectations from day 1 as a backdrop, the participants chose to go further and take a broader view of the following most critical facilities challenges:

1. Improving communications
2. Addressing sustainability
3. Balancing and articulating expectations
4. Integrating with IT (information technology)
5. Focusing on the customer
6. Managing maintenance and adaptive reuse
7. Making master planning effective
8. Focusing on total cost of ownership
9. Aligning facilities planning with institutional goals
10. Instituting metrics for performance measurement

Section II provides background on each of these issues. Most important, Section II contains the critical questions facilities departments and senior institutional officers should focus on to help improve performance and prepare for the future.

The primary purpose of the Thought Leaders series is to promote dialogue between educational facilities professionals and the rest of the academy. APPA and the Thought Leaders participants believe that by providing the information and questions in this format, they can help facilities professionals focus on the most important issues and ensure that a conversation occurs. The predictions made here are broad: The future will look different for every community college, liberal arts college, state university, and research institution. And so the Thought Leaders participants ask the questions, What challenges does your college or university face? What technology issues most confound you? What stakeholder expectations are changing dramatically? How do you intend to position your facilities organization to meet these challenges over the next five to ten years?

We look forward to your response and your engagement as the dialogue continues.
Section I: Critical Issues Facing Higher Education

Two of the most important issues that higher education leadership must address in the next few decades are evolving technology and changing stakeholder expectations. Technology continues to evolve at a pace that makes it difficult for higher education institutions to keep up, while the expectations of students, parents, faculty, and communities force universities to examine their practices and evaluate their values. In addition, external and internal competition is dramatically affecting both these drivers of change.

Participants at the Thought Leaders series workshop considered these two issues, asked questions about specific challenges, identified the best strategies to prepare for the future, addressed potential obstacles, and outlined the strengths upon which higher education could draw.

Evolving Technology

Two themes kept emerging in the Thought Leaders’ discussion of technology in higher education. The first was the rapid pace of change. “E-mail is for old people” was the refrain of the day, based on a comment made by one participant’s college-age child; in fact, college students are more likely to send one another text messages than e-mail. The comment reveals that even those in higher education who think they are on top of technological change may actually be falling behind—and not even realizing it.

The second theme was community and how well technology can function to create and develop community. Many of the hottest technological trends involve sustaining communities—what are Second Life (the virtual world) or Facebook (the personal networking site) but virtual communities? Higher education has traditionally looked to technology to support research (with lab equipment, library databases, and simulation programs) and streamline operations (with e-mail, accounting software, and online project management). In the future, higher education should consider how technology can sustain and promote the evolution of the university community.

Significant challenges

What are the most significant challenges concerning technology that higher education will need to address in the next few decades?

What are the most significant challenges involving information technology?

- Funding
- Creation and evolution of virtual communities
- Security

The first challenge is funding. Funding for information technology (IT) emerged not only as a concern of Thought Leaders participants but also in a recent survey. In the 2007 Current Issues Survey Report by EDUCAUSE, IT funding was cited as the most significant issue for an institution’s strategic success and the issue on which IT leaders spend the most time. This survey of 591 higher education institutions showed that funding had moved up as a concern from the year before. Several factors are involved.

First, higher education funding is an issue across the board, with every department facing budget restrictions. Second, IT funding is particularly difficult to manage because it is difficult to project. Technology evolves so quickly that it is hard to know what direction it will take and, therefore, to get a handle on projected costs. The situation is complicated because the ownership and control of IT spending is spread across departments and rarely follows a clearly defined strategy tied to overall institutional goals. Facilities departments, for example, are rarely involved in IT planning, even though facilities are necessary for the implementation of those plans.

Related challenges are standardization and evaluation. A sure way to squander IT investments is to treat them as one-offs, implemented in isolation according to the demands of one person or department; such systems are expensive to maintain and difficult to integrate with the rest of the college or university. Standardization increases the cost-effectiveness of IT investments and facilitates institution-wide collaboration. Similarly, IT investments that are not evaluated for their effectiveness diminish the university’s investment; institutions that conduct continuous, systematic evaluation of IT systems are better able to understand future needs and make wise investment decisions.

The second challenge is the creation and evolution of virtual environments. As mentioned above, technology is a powerful tool for creating and sustaining communities. Higher education has only begun exploring the potential in this area. Online community-building has largely been confined to individual classes, with instructors
and students using software to exchange ideas, comment on each other's work, share resources, and complete team projects. This sort of community-building has been employed extensively in distance learning, where the virtual classroom is intended to take the place of the traditional classroom.

Some institutions are experimenting with established virtual environments such as Second Life. (Second Life is the best known virtual world or “metaverse,” in which people create online personalities who meet and interact. While sometimes classified as an online game, Second Life does not have points, winners, losers, or an end strategy; rather, it is an imitation world in which people run virtual businesses, create virtual art, and enjoy virtual relationships.) Harvard Law and Harvard Extension School on Second Life offer joint courses on Second Life that incorporate presentations in virtual courtrooms with other students acting as judges and juries, while Ohio University has created Learning Kiosks on its virtual campus within Second Life.

EDUCAUSE has suggested several other potential applications for virtual community technologies:

- **Immerse students in a foreign language.** Imagine a virtual world in which students converse in French, German, or Mandarin with fellow students from around the world.

- **Collect the wisdom of a conference.** Conferences are a mainstay of academic life. Social networking software could be used not only to preserve the formal presentations of conferences but also to capture the collective wisdom of the group and extend the discussion long after the conference has ended.

- **Experiment with new forms of art and creative expression.** Architecture students could build their own buildings in Second Life (an opportunity they would never be granted in the real world), while art students could display their work to a far wider audience than the student gallery.

- **Learn through role-play.** Simulation has long played a role in the education of fighter pilots. Why not nurses? Engineers? Biologists?

---

**Data Point: Higher Education IT Security Understanding the security of university systems**

A 2006 study of information security in higher education by the EDUCAUSE Center for Applied Research (ECAR) found an increase in the use of security measures and a corresponding feeling of satisfaction with the security of centrally controlled data; however, the overall feeling of success has actually fallen since 2003. Many universities were failing to take advantage of the most stringent security measures (such as ensuring that users had strong, hard-to-break passwords), and several seemed to have gaps in their security policies. ECAR recommends implementing enterprise IT security programs that incorporate thorough inventories to identify assets that require protection, risk assessments to highlight weak points, and a governance structure to enforce policies.

The third major technology challenge facing higher education is **security**. This challenge is closely tied to the previous one: As colleges and universities expand their technology offerings, how do they simultaneously protect their technological resources? The challenge exists both online and in the real world. Facilities housing technology—data centers, for example—must be physically secured from theft or damage. Online, personal information must be safeguarded to protect privacy and to comply with state, provincial, and federal laws, while data must be protected to protect research and proprietary information.

Various types of institutions will feel the effect of these three technology trends differently. Large research universities, with their huge investments in research-related IT such as simulation labs, will need to confront security head-on. State colleges wrestling with declining funding will be the first to feel the pinch of funding shortfalls. Community colleges and other commuter institutions might feel the greatest need to create online communities, although private institutions—which already focus significantly on community-building—will see this as a priority. The accompanying table summarizes some of these impacts on different institution types. However, every institution must realize that the needs and expectations for technology will vary across the institution, depending on the stakeholders involved. For example, graduate students might want intensive technology to support their...
research, while undergraduates might be more interested in the availability of wireless access.

**Strategies for success**

After considering the technology issues that will confront higher education in the future, participants in the Thought Leaders workshop concentrated on strategies colleges and universities should adopt to help address these issues.

The first strategy is **developing partnerships**. Higher education often goes it alone when confronting institutional challenges; however, that can be a self-defeating exercise. Other sectors face similar issues, and higher education can learn from their example. Corporations in particular have lessons to teach academia—about efficiency, accountability, and doing more with less.

The critical word here is “partnering”—many corporate–higher education relationships that call themselves partnerships really are not. IT departments may refer to corporate partners when what they really have are vendors supplying products or systems; academic departments may use the word partnership to describe corporate grants and other funding. True partnerships place each participant on an equal footing and result in equally shared benefits and risks. But universities and corporations manage their operations differently, which creates a challenge in building successful partnerships. In a recent white paper, the software company Macromedia proposed the following steps as necessary for corporate–higher education partnerships to succeed:

1. Define the partnership. Partners need to understand what they’re agreeing to and the expectations of both sides.
2. Foster a language of commonality. Each side will have its own language and traditional means of communication. Teams need to learn how to communicate clearly with one another.
3. Accept known differences. The purposes and defining values of corporations and universities aren’t the same. Education partners need to accept that corporations are driven by the profit motive, while corporations need to understand that colleges and universities consider education and research important callings.
4. Commit to intersecting goals. Goals may not be the same, but they can intersect, and the partnership should aim for that point of intersection.
5. Achieve results. Partners should put plans and milestones in place to ensure progress and ultimate success.

The second strategy for addressing the technology needs of the future is to **assess both the return on investment (ROI) and the value on investment (VOI) of technology**. Evaluating the return of facilities investments is a fundamental step that often gets lost in the shuffle of day-to-day university operations. Faculty and staff get so busy maintaining existing systems and considering their next moves that they fail to assess the impact of previous investments. (For example, did the upgrade of a heating and cooling system achieve the desired energy reductions?) Further, sometimes evaluating ROI can be a humbling process. You received a major grant or budget allocation, did your research, and selected your solution. Who wants to go back and learn, perhaps, that it wasn’t a wise investment? Yet to make good investments for the future you need to assess previous and ongoing investments. (For example, did the upgrade of a heating and cooling system achieve the desired energy reductions?) Part of the challenge of determining ROI in an educational setting is that the math isn’t that simple (where \( x \) dollars went into technology that resulted in \( y \) dollars of...
increased sales equals an ROI of \( z \). That’s where the concept of value on investment comes in. As defined by the higher education technology consulting firm SCT in its report *Assuring Value from Your Technology Investment*, VOI is “a measure of the value created by using investments in information and communications technology to innovate and even transform organizational business processes, relationships, and dynamics.” The result includes both hard savings in actual dollars and soft savings in strategic outcomes that, while hard to measure, enhance the university’s ability to manage information assets, collaborate both within and outside the academy, and improve competitive advantage. Value is a more subjective term, requiring more subjective (and therefore more difficult) methods of evaluation, but tools are being developed to assess the VOI of various higher education technology systems.

### Data Point: Determining VOI  
Developing a framework for the evaluation of course management technology

Among the educational systems for which it is difficult to determine VOI are course management systems (CMS) such as Blackboard. A 2003 study by ECAR found that while CMS systems are widespread and the primary entry point for technology in instruction, higher education technology administrators actually know little about how faculty use these systems or their pedagogical effects.

So ECAR conducted pilot studies at Brandeis University, Wesleyan University, and Williams College to develop a framework for the evaluation of CMS. They sought to uncover learning benefits and gains in efficiency from CMS processes or features and implemented a methodology including surveys, focus groups, technology demonstrations, and feature usage data derived from server logs.

The study found that both faculty and students perceived that the greatest benefit of these systems was to make class information available online; online quizzes, on the other hand, were perceived as valueless and were used rarely, an interesting finding that supports other findings that both faculty and students perceive these systems as more important for saving time than improving learning.

As important as the study results was the methodology they developed, which can be adapted at other institutions or for other types of systems to explore VOI.

The third strategy proposed by Thought Leaders is to **be aware of funding sources and their relative stability.** The more college and university leaders are aware of where their money comes from, the more they can plan for the future. IT funding usually comes from one of five sources: general operating funds; direct charges to users (the usage-based model—if you use a system, you pay for it); user fees (the tax-based model—every potential user is charged); grants/contracts; or temporary budget surpluses. Each of these sources has risks and opportunities. General operating funds have, so far, been relatively stable. (This isn’t particularly good news, since IT maintenance costs are going up every year. The dreaded words “deferred maintenance” are starting to be used about IT.)

However, public institutions, struggling with cuts in state funding, may start to reduce general funds across the board. IT decision makers may try to increase reliance on the other four types of funding to compensate, but they will have to tread cautiously. Existing stakeholders will object to being charged for services once considered “free,” so moving a particular IT offering from general funds to direct charges can be disastrous. Increasing user fees can be politically difficult since so many expenses are being tacked on to student fees. Students struggling with higher tuition are starting to balk. Grants and contracts from outside sources are highly unstable funding mechanisms, although they can be particularly useful for developing pilot programs. Temporary surpluses (known by some as “budget dust”) are the least stable funding source and shouldn’t be relied on over time. The best approach for IT funding is to rely on all five sources, using the most appropriate method to pay for each service.

The final strategy participants proposed to address the IT demands of tomorrow is to **develop a strategic plan that incorporates student and academic input and that provides for greater transparency both inside and outside the college or university.** IT doesn’t operate in a vacuum; it must respond to the needs and expectations of stakeholders (needs and expectations that continue to change and evolve, as discussed in the next section.) IT decision makers need to find ways to systematically solicit the input of stakeholders and incorporate that input into their strategic plan, keeping in mind the overall strategies of the university and maintaining alignment with its goals. Without a formal mechanism for seeking this input, attention could end up going to those who shout the loudest or to the trends that seem most interesting. The strategic
plan needs to be made available both within and outside the institution, so stakeholders can see the priorities for information technology. If this strategy sounds familiar, it should—all college and university programs and department could benefit from this approach to planning.

Potential obstacles and potential strengths

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<thead>
<tr>
<th>Evolving Technology—Obstacles and Strengths</th>
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<tr>
<td><strong>Obstacles to success:</strong></td>
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<tr>
<td>+ Funding</td>
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<tr>
<td>+ Pace and intensity of change</td>
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<tr>
<td>+ Lack of technical skills and expertise</td>
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<tr>
<td><strong>Strengths to address challenges:</strong></td>
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<tr>
<td>+ Reserves of intellectual capital</td>
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<tr>
<td>+ Relationships</td>
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<td>+ Prestige and reputation</td>
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This all sounds so good—what obstacles could get in the way of success?

The first obstacle is, again, **funding**. Without the dollars to implement new technologies and maintain existing systems, it will be impossible to support the IT needs of the institution.

The second obstacle is the **pace and intensity of change**. Let’s face it: Universities aren’t quick on their feet. It is their nature to move slowly at best, yet technology waits for no one. Many participants at the Thought Leaders workshop described painstakingly wiring classrooms to provide Internet connections, only to go back a year later and provide wireless access to the same classrooms. It’s difficult to plan too far ahead when you don’t know what’s coming, and in IT, it’s almost impossible to know what’s around the bend.

The third obstacle is **lack of technical skills and expertise**. This can hamper progress in numerous ways and numerous places. The pace of change can mean that although a new skill has become essential, no one in the IT department has that training. Lack of expertise in IT management can mean that important new technologies are overlooked, ignored, or shortchanged; while lack of understanding among college and university leaders can make communication about IT difficult. Ignorance in other departments can mean that IT systems aren’t properly incorporated into facilities or IT needs aren’t appropriately funded.

However, higher education has strengths it can draw on to address the challenges of IT. First, higher education has enormous **reserves of intellectual capital**. If the institution harnesses the capabilities of faculty, staff, students, and alumni, there’s no telling what it can do. While this may seem a frustrating exercise, something like herding cats, higher education has proved that it can come together and confront its challenges. Intellectual capital extends outside the college or university itself into the network of alumni, students, parents, and communities, which suggests another strength: **relationships**. Higher education institutions have strong and diverse relationships with experts in many fields of endeavor. A third strength is **prestige and the reputation of the institution**. This is a “soft” item that is hard to measure yet of immense value. The reputation of most higher education institutions in their communities gives them immediate credibility when they explore innovative solutions and increased access to resources. Higher education shouldn’t hesitate to use its reputation to advance its interests.

**Changing Stakeholder Expectations**

In the discussion about changing stakeholder expectations, two strong themes emerged: **accountability** and **values**. Accountability came up again and again, and the consensus of the group was that stakeholders of all kinds are demanding accountability from higher education. Many headline issues of the past several years (e.g., the Spellings Commission report, state funding cuts, even the recent financial aid scandal) were seen as contributing to demands for increased accountability. Thought Leaders participants agreed that higher education can’t continue to operate as it has in years past; colleges and universities need policies and mechanisms that clarify their goals, actions in pursuit of goals, and results. This is a complicated and lengthy process.

The second theme was values, such as the importance of education, the critical contribution of research, the necessity of academic freedom, and the role of an independent higher education in a democratic society. These values should not be compromised, no matter what the demands of accountability or the pressures of funding. On the contrary, participants agreed that these values will help higher education confront and address the challenges ahead. Only by identifying and remaining true to its core principles and values will higher education be able to fulfill its mission for generations to come.
Significant challenges

The single most significant challenge identified in this discussion was that college and university stakeholder expectations are rapidly changing—as we speak. Students, faculty, staff, administrators, parents, donors, alumni, corporations, communities, states, and the federal government are all asking new things of higher education, and they're demanding a response.

Beyond the rapid pace of change, several expectations are widespread across different stakeholder groups. The first is sustainability. In future years, we may look back on 2006–07 as the tipping point for institution-wide sustainability efforts in higher education. Campuses across the United States and Canada are hiring directors or even vice presidents of sustainability, launching sustainability-themed degrees (22 created in 2006 alone), and increasing their use of renewable energy sources. More than 415 college and university presidents have committed their institutions to become carbon neutral by reducing greenhouse gas emissions and offsetting remaining emissions through investments in reforestation and renewable energy (see sidebar on the American College and University Presidents Climate Commitment). Although calls for sustainability are coming from a wide variety of stakeholders, students are becoming particularly vocal and involved in environmental efforts. For example, a student campaign begun in 2006 at the University of Idaho resulted in a state grant to fund a sustainability center, hire a sustainability coordinator, and spearhead sustainability efforts across the university; projects under way include a greenhouse at the student-run organic farm, a wetland revitalization project, and an office paper recycling program.

The second general expectation is for access to top-quality facilities and technology. Students and their parents demand the most up-to-date information services and structures; inadequate or outdated technology and aging facilities not only generate complaints but hurt admissions. Parents and students say, “As much as we’re
paying for this, we expect the best” (never mind that rising tuition may have little to do with either facilities or technology). Some Thought Leaders participants noted that, not too long ago, dormitories with communal bathrooms and no air-conditioning were the norm. Today students want suites, apartments, private bathrooms, balconies—anything less is considering “roughing it.” Meanwhile, faculty are becoming more savvy about technology and want more of it; one “smart classroom” per building only prompts a demand to equip all classrooms equally. (After all, as participants pointed out, what’s the alternative—a “dumb” classroom?)

If these expectations are widespread among various stakeholder groups, others vary depending on the stakeholders. Here are some of the expectations found among different groups:

- **Students/parents**: Student expectations have been neatly summed up under the term “consumerism”; that is, they expect to be treated as consumers with lots of high-quality choices. Consumerism encompasses everything from a variety of fast food franchises in the dining hall to a range of dormitory choices to a gym that rivals any commercial fitness center. The word “expectation” really doesn’t go far enough in describing the attitude of students—they feel entitled to a wide range of choices.

  They also feel entitled to technology. This is the generation that grew up with the Internet, with wireless devices, with cell phones. If they can’t get high-speed broadband access in their dorms and wireless access everywhere else, they’re going to protest.

  Students increasingly expect nontraditional learning options. This is particularly true of nonresidential students enrolled at commuter schools. Older students, working students, and many minority students want education to be convenient for their schedules. The formal semester with MWF classes at 10:00 a.m. doesn’t fit their life style, and they will flock to institutions that provide options to meet their needs. Further, students today expect more than a “sage on a stage,” lecturing for exactly 50 minutes as students silently take notes. These students have grown up with more interactive and engaging forms of education, and they bring those expectations to the university.

---

**What are the most significant challenges involving changing stakeholder expectations?**

**Overall**
- Rapid pace of increased demands
- Sustainability
- Newest facilities and technology

**Students/parents**
- Consumer-driven choices
- Newest technology
- Nontraditional learning options
- Jobs

**Faculty/staff**
- Value of contribution and opinion
- Job security
- Sense of power
- Access to powerful technology
- Accountability

**Community/state/federal government**
- Accountability/transparency
- Efficiency and cost-cutting
- Economic development and job creation

**Global community**
- Competition
- Collaboration

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Finally, parent expectations must be evaluated along with those of students. Parents who shell out tens of thousands of dollars a year for their kids to attend top-ranked schools demand something tangible for their money. They want results: **good jobs for their kids**. As tuition continues to rise at staggering rates, parents are starting to ask, “What does the $20,000/year school provide that the $10,000/year school doesn’t?” The answer has to be more than prestige—that name has to mean something in concrete terms.

Many of us in academia struggle with this shift in emphasis from overall education to job preparation, since it calls into question many of higher education’s core values; however, the trend is a reality no one can ignore.
Faculty/staff: In a way, college and university employees want what all employees at all organizations want: to feel that their contributions matter, that their opinions are valued, and that their jobs are secure. What’s new is the sense faculty have of their own power and the lengths faculty and staff will go to get what they want—they aren’t afraid to band together and flex their muscles to force out an administrator or demand a change. Institutions need to pay particular attention to the mechanisms and systems used to channel this input, such as faculty senates, to make sure they are adequately representing faculty thought and that the administration is truly responding to faculty views.

Further, faculty and staff expect access to powerful technology. As mentioned before, one “smart classroom” per building isn’t enough. All classrooms need to be smart, and all offices need to be wired and/or wireless. Access to library databases needs to be fast and easy, and technology for research needs to be funded and supported. A challenge here is the range of skills required and the willingness of faculty and staff to learn. For every tech-savvy professor willing to spend grant money on technology and eager to engage IT staff, there’s a faculty member who is terrified of or resistant to anything new. Meeting the needs of all these users taxes both the patience and the skill of IT and facilities staff alike.

Finally, faculty have joined the chorus of those demanding accountability from the institution. They have entrusted their careers to the institution, and they want to see that their effort is not in vain.

Community/state/federal government: The major demand of government on every level is accountability. Since tax revenues go to community colleges, state universities, and federal financial aid, governments at every level are demanding a high level of accountability on their investment. Community colleges have been very responsive to the demands for accountability. State-funded colleges and universities are pressed to meet state demands; and all institutions, public and private, are being asked to increase transparency and accountability. The final report of the Secretary of Education’s Commission on the Future of Higher Education (the Spellings Commission) states, We have noted a remarkable shortage of clear, accessible information about crucial aspects of American colleges and universities, from financial aid to graduation rates. Because data systems are so limited and inadequate, it is hard for policymakers to obtain reliable information on students’ progress through the educational pipeline....We believe that improved accountability is vital to ensuring the success of all the other reforms we propose.

Colleges and universities must become more transparent about cost, price, and student success outcomes, and must willingly share this information with students and families. Student achievement, which is inextricably connected to institutional success, must be measured by institutions on a “value-added” basis that takes into account students’ academic baseline when assessing their results. This information should be made available to students, and reported publicly in aggregate form...

The commission goes on to recommend the creation of a “user-friendly database on higher education” that would allow parents and students to obtain competitive information about cost, price, admissions, college completion rates, and learning outcomes. The recommendations of the Spellings Commission are a long way from implementation, but they capture the mood of the government and provide an indication of things to come.

Another aspect of the Spellings Commission has to do with efficiency. The report despairs over the “seemingly inexorable increase in college costs, which have outpaced inflation for the past two decades and have made affordability an ever-growing worry for students, families, and policymakers.” It’s hard to argue with that. Even though tuition increases have slowed on average in 2007, schools in several states are raising their rates by 10 to 15 percent. The University of Oklahoma is raising tuition by 9.7 percent; the University of Illinois is increasing rates at its three main campuses by 11.6 percent; and the University of Colorado at Boulder will boost tuition by 14 percent. State colleges and universities, whose allocations have been slashed by state legislatures, have been forced to make up the difference with tuition increases, but public outrage and demand for higher education accessibility will make continuing double-digit increases difficult to sustain.
The final critical expectation of communities, states, and the federal government is for economic development. It’s not enough for higher education to claim that it exists for the public good—that education and research are ends in themselves. Communities want a return on their investment that is more than an introduction to environmental science, a solid grounding in calculus, or a thorough exploration of deconstructionist literary theory. They want jobs. In fact, colleges and universities that have partnered with economic development authorities often benefit themselves as much as the community by promoting research, technology transfer, and patent applications. However, economic development is difficult in small communities and for small institutions, and liberal arts institutions don’t have technology to transfer. In future years, a wide variety of institutions will need to confront economic development in their communities and see what they can bring to the table.

- Global community: Even in today’s global economy, higher education institutions have concentrated on their own corners of the earth. They might look to the state or even the nation, but few universities have broadened their view to consider their role on Planet Earth. Yet the global community has expectations for higher education. The first is competition. Colleges and universities need to be training students to compete with their international peers from London, Dubai, Bombay, Singapore, and Sydney. As students continue to travel around the world to study, higher education institutions should continue to offer the highest-quality educational opportunities. Further, colleges and universities need to look at the global implications of their actions, whether environmental or economic.

- The second expectation is for collaboration. The intellectual capital of higher education institutions is awe-inspiring, but imagine what our great thinkers could do in global collaboration. What can international businesses, governments, nongovernmental organizations, and educational institutions teach our students; what can we teach them; and what can we do together to advance our world?

Various types of institutions will be affected in different ways by these changing stakeholder expectations. Sus-

<table>
<thead>
<tr>
<th>Level of Concern/Emphasis for Changing Stakeholder Expectations Based on Institution Type</th>
<th>Public–Comprehensive</th>
<th>Public–Research</th>
<th>Private</th>
<th>Liberal arts</th>
<th>Community College</th>
<th>For-Profit</th>
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<tr>
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<tr>
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<tr>
<td>Jobs</td>
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<td>Medium</td>
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<tr>
<td>Accountability</td>
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<td>Medium</td>
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<tr>
<td>Economic development</td>
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<td>Low</td>
<td>Medium</td>
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<td>Low</td>
</tr>
<tr>
<td>Global competition</td>
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<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
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</tr>
<tr>
<td>Global collaboration</td>
<td>High</td>
<td>High</td>
<td>Low</td>
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<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: Thought Leaders Workshop 2007
tainability will be a factor for all higher education institutions. The impact of technology demands will also be widespread, although public institutions—particularly large research and comprehensive universities—will experience the greatest demand for cutting-edge technologies such as simulation labs and other research systems. Community colleges will face many of the same challenges, particularly with regard to accountability, economic development, and operating efficiency. It was the sense of Thought Leaders participants that, as a whole, private and liberal arts institutions will be the least affected by changing stakeholder expectations, because students and parents choose these institutions partly for the traditional experience they offer. However, some liberal arts colleges that have built a reputation for experimentation and innovation will be affected more than others. For-profit institutions remain outside many of the conversations about global competition, collaboration, and accountability, although that may change as these institutions become more established.

**Data Point: Higher Education as a Business**

Making institutions more productive

“There was a period in time when businesses were not doing very well.... And they went to the social psychology literature, they went to the literature of organizational dynamics and organizational behavior, and they found methods of doing things, which really converts to the question of ‘How do you arrange for the human beings in the organization to be more productive?’ So they benefited from this....

“Now we say, ‘This is business.’ It isn’t actually business. This is social psychology, and how you create more dynamic movement in the organization that is pushed forward by people. So I don’t consider this to be business practices. I consider this to be good practices based on the discipline of organizational behavior....

“So the question is, how do you make organizations more productive? That’s the question we need to get the answer to. And if that answer is the same answer that business got, it doesn’t mean that that is a business answer. It is a social psychology/organizational behavior/organizational theory answer.”

—Comments of Rod Paige, former secretary of education, interviewed on PBS’s *Frontline* in the program “Testing Our Schools.”

**Strategies for success**

If these are the issues involving changing stakeholder expectations, what strategies can higher education use to prepare for the future? Thought Leaders participants concentrated on three.

The first strategy is to **operate more like a business while retaining unique higher education values**. The purpose is to **provide greater performance accountability**. A concern expressed by many at the Thought Leaders workshop was how to respond to the issues raised by the Spellings Commission while avoiding the imposition of arduous requirements and unfunded mandates. Participants talked about short- and long-term strategies: In the short term, honesty and openness are most important, along with a proactive attitude toward addressing problems. In the long term, a structure is needed that facilitates accountability, transparency, and an honest assessment of performance. Specific areas in which higher education could most benefit from business strategy include technology for business systems and management organization.

In the 1990s, most large companies implemented comprehensive IT systems to streamline operations such as personnel, accounting, purchasing, and fleet management. These systems are costly, but they provide significant long-term ROI by cutting administrative costs, improving the flow of information, and integrating disparate silos of data. Colleges and universities that have implemented enterprise resource planning systems are reaping the benefits. The University of Wisconsin at Madison, for example, created an integrated inventory and purchasing management system along with an e-commerce storefront for purchasers and an online auction for disposing of surplus. The system has not only saved hundreds of thousands of dollars in administrative expenses but also increased revenues through the sale of surplus items. Management organization is another area where colleges and universities can seek inspiration from business. As an IBM white paper notes, the most successful businesses today adopt a “business component” view of their operations rather than a traditional “systems” view:

*A business component is a discrete set of business activities that has a unique purpose and contains all the resources—people, assets, know-how—required to accomplish its purpose. Components are linked to each other through common processes, information systems, and service-level agreements. This approach can reveal*
which processes are inhibiting, which are unnecessary, and, most important, which are differentiating. That knowledge equips the institution to begin to realign its organization around those differentiating processes.

The business structure of higher education was defined decades ago, with few institutions significantly adjusting that structure to meet contemporary challenges. An analysis such as that suggested by IBM could reveal new organizational approaches and help define a road map for change.

**Data Point: Measuring Learning Outcomes**

Oklahoma key indicators of accountability

Oklahoma has been one of the most aggressive states in developing measures of educational outcomes for higher education. Since 2000, the Oklahoma State Regents for Higher Education have provided detailed information about how the state’s public colleges and universities are preparing students for the future. Oklahoma compiles reports on factors including the preparation of high school students for college, college attendance, the benefits of higher education, university affordability, degree completion, and economic development.

The state is attempting to gather additional information about learning outcomes. The 2007 Measuring Up report, for example, was able to rate the performance of college graduates and graduates ready for advanced practice on tasks such as problem solving, writing, and reading, using the results of standardized assessment tests administered to a representative sample of students. Oklahoma intends to continue to measure learning outcomes in 2007 and to provide this information to students, parents, communities, and policymakers.

The second strategy for addressing changing stakeholder expectations is to **demonstrate educational outcomes**. Higher education institutions have balked at the complexity of evaluating teaching and learning beyond traditional grades and report cards, but in recent years the outcry for demonstrable outcomes has been so loud and persistent that colleges and universities have faced the challenge. Regional accrediting organizations have joined the chorus—both the National Association of State Universities and Land-Grant Colleges and the American Association of State Colleges and Universities have made public commitments to assess learning. The problem is a lack of comparable data. The National Report Card on Higher Education, a program of the National Center for Public Policy and Higher Education, gave all 50 states a grade of “incomplete” in its 2000 report because data wasn’t available to compare. By the time of the center’s 2006 report, nine states were awarded “plus” grades for their participation in national demonstration projects. The 2006 report also included a 50-state demonstration of one particular measurement—Graduates Ready for Advanced Practice—which is determined by comparing the information from professional licensure and graduate admissions examinations around the United States. However, National Report Card authors state in the 2006 report that new student assessment tools are badly needed, as are “incentives for states and institutions to participate in such efforts and use their results honestly.”

The third strategy participants urged higher education to adopt is a **focus on the whole student**. In the past, a university education was concerned primarily with classroom learning; today, the trend is toward a broader understanding of “education.” Colleges and universities are recognizing their role in developing students comprehensively, not only their minds but also their bodies, emotions, social skills, and leadership potential; the schools are acknowledging that learning takes place under a wide range of circumstances and in a variety of settings. Departments such as student affairs, health services, and recreation are growing in importance and forming new partnerships with academic departments. The results of these partnerships are programs such as learning communities, “theme housing,” service learning, leadership development, and peer education. Thought Leaders participants saw efforts such as these as critical to help higher education retain its core values while exploring new models for education designed with 21st century students in mind.
Potential obstacles and potential strengths

Changing Stakeholder Expectations—
Obstacles and Strengths

Obstacles that could get in the way of success:
+ Perception of higher education as a luxury
+ Competition from other providers
+ Pace of change

Strengths to address challenges:
+ Intellectual capital
+ Alumni base
+ Collaborative culture
+ Record of success

With a good understanding of the challenges ahead and an assessment of the strategies necessary to confront those challenges, Thought Leaders participants considered the obstacles to success.

The first potential obstacle is the perception of higher education as a luxury. As tuition has soared around the United States, higher education is having a harder time making a case for itself as a necessity—even though higher education is widely perceived as critical to a high-quality job. So costly is college attendance, so ill-understood are financial aid offerings, and so debilitating are college loans that it’s easy to understand why lower middle-class high school students—and their parents—look at higher education as beneficial yet sadly out of reach.

A second potential obstacle is competition from other providers, particularly for-profit universities. In 2006, the most successful of the for-profits—the University of Phoenix Online—enrolled more than double the number of students than the next-closest institutions, with 117,309 students compared with Miami-Dade College’s 54,169 and Arizona State University’s 51,612, according to the National Center for Education Statistics. Students and parents have started asking, “Why move across the state or the country to make big tuition payments when you can get a degree for less in the comfort of your living room?”

Higher education must be able to answer that question, with individual institutions prepared to explain the benefit of attending their particular school. Otherwise, for-profits will draw students away from traditional institutions and make it difficult for these schools to find the resources to confront their challenges.

The final obstacle to success is the pace of change. No question—change is happening fast, and respect for tradition is declining. Thought Leaders participants predict that only a few of the most highly respected institutions valued primarily for their traditions will be able to hold out against rapid change. Harvard might be able to say, “This is how we’ve always done it and this is how we always will,” but the average institution won’t have that luxury. Students attend Harvard precisely because they value its reputation and tradition, but they don’t feel that way about most schools.

However, higher education can draw upon several key strengths to overcome these obstacles. The first strength is the intellectual capital of the college or university. As discussed in the previous section in the context of IT challenges, the institution’s reserves are vast and, when harnessed, can achieve amazing things. Already, progress is being made in many of these areas as college and university faculty, staff, and students band together to develop creative solutions to problems. We must remember that the enthusiasm of students is unquenchable—most 18-year-olds believe themselves capable of anything. Combine that with the experience of faculty and staff, and you’ve got a powerful force for change. The second strength is the alumni base. Colleges and universities have alums working in every conceivable field of endeavor. Add their skills, connections, and ideas to the mix, and you strengthen the potential of the institution.

What makes the intellectual capital within and outside the university so potent is the collaborative culture generated by higher education. No other type of institution cultivates such a spirit of collaboration or has such long experience in working cooperatively. Business and government wish they could collaborate as well as graduate students teamed up on a research project, faculty co-teaching a class, or students completing a group project.

Finally, higher education’s record of success also works in its favor. We think of higher education as static, as remaining the same generation after generation; but in fact, higher education has transformed itself multiple times. Colleges and universities responded to the influx of GIs after World War II; they adapted to the admission of women and, later, to desegregation. Educational models have come and gone, and the institution has survived. Higher education should gather confidence from its previous successes and address today’s challenges courageously.
Section II: Top Ten Critical Facilities Issues 2007–08

On the first day of the 2007 APPA Thought Leaders workshop, participants focused on understanding the issues of technology and changing stakeholder expectations; on the second day, they focused on the most critical issues facing educational facilities and their institutions. The goal was to identify the most important challenges facilities managers are facing today and will continue to face over the next several years. These challenges were considered in the context of the first day’s discussion—in fact, it was hard to talk about any of these issues without touching on the challenges of technology, changing stakeholder expectations, and the impact of competition.

Participants highlighted the ten issues summarized below. They also developed questions that facilities managers and staff, as well as other college and university administrators, can use to evaluate their institution’s preparedness and to develop strategies for the future. Participants envisioned a process in which university facilities teams sat down and worked through a set of questions, honestly assessing the preparedness of their institution and department, determining strengths, identifying weak points, and coming up with new approaches. The result should form a solid starting point for a plan for the future.

1. Improving communications

The issue

Facilities departments face challenges communicating both up the administrative chain and across department boundaries.

Wider context

Changing stakeholder expectations: accountability, efficiency

Strategies

- Understand communications challenges.
- Use a variety of forms of communications.
- Be prepared for a two-way exchange.

Communications challenges hamper many college and university facilities departments, which find it difficult to explain their roles and responsibilities effectively. Architects, engineers, and building maintenance staff are accustomed to talking about CRDM, NFPA 25, FAM, and COPS1—terms that are generally unintelligible to anyone outside the realm of educational facilities. Communications glitches can include misunderstandings of procedures; a system that makes perfect sense from a facilities point of view can seem frustratingly complex to an outsider. For example, campus life departments may butt heads with facilities departments over priorities and processes. If a dorm restroom needs a toilet and sink fixed, why, the campus life staff ask, can’t the facilities staff just fix both while they’re there—why bother with a separate work order? Facilities staff, who need to allocate resources and determine campus-wide priorities, become frustrated when their procedures aren’t followed. The result is irritation on both sides. This challenge directly relates to the issue of changing stakeholder expectations: A wide variety of campus stakeholders expect to be regularly informed of the status of facilities projects and need information to assess the responsiveness and accountability of the department.

The most successful facilities departments are those that acknowledge and confront the challenge of communicating outside the department. Savvy managers target their communications to different audiences. They focus on the big picture for senior administrators, on the bottom line for a financial audience, and on pedagogical themes for faculty. This takes some insight—it’s easy to get stuck in a “facilities bubble” and fail to understand how other higher education stakeholders perceive their world.

Successful departments also rely on a wide range of communication tools, including newsletters, websites, and e-mails; the new communications technology available on college campuses makes the dispersal of information easier than ever before. These departments schedule regular meetings with other critical departments, such as campus life. They make a point of pushing communications out to their audiences rather than waiting for the audiences to come to them. They look to professional communications

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1 CRDM: capital renewal and deferred maintenance; NFPA 25: National Fire Protection Association’s life safety standard 25; FAM: facilities asset management; COPS: critical operations power systems. These are all acronyms found in recent issues of APPA’s *Facilities Manager*. 
staff for help, either hiring communications experts to work in the department or seeking the assistance of university communications experts. They provide staff with professional communications training.

**Data Point: Improving Communications**

**University of Iowa Building Coordinators Network**

When Buildings magazine recently named the University of Iowa’s facilities management department Number 7 on its top ten list of “Who’s Who in the Buildings Market,” one of the key factors was Iowa’s focus on strategic communications. One of the critical elements of Iowa’s communications plan is the Building Coordinators Network. For every building on campus, a building coordinator is identified to work with facilities management to communicate needs and issues, develop strategies for new initiatives, and serve as the primary contact for all facilities matters.

Building coordinators keep lines of communication open between building users and facilities staff so that everyone knows what’s going on and no one is taken by surprise. They also provide new perspectives to the facilities management staff on issues such as security and energy conservation. The department says initiatives such as the Building Coordinators Network were critical to achieving recognition by *Buildings*—and to improving communications across the institution.

True communication is two-way. Managers need to realize that when they start talking, other departments will respond in kind with positive and negative feedback. Open communication can be painful at first and require facilities managers to take a long, hard look at how they do things. Maybe certain processes are too complex; maybe some procedures need to be changed. If you communicate with different audiences, you may find out more than you bargained for; but in the long run it will only improve your operations and responsiveness. An educated customer is your best customer.

Following are several questions Thought Leaders participants urged facilities managers to ask themselves about communications in their departments:

1. What language barriers are getting in the way of communication in your institution (facilities-speak versus business-speak or academic-speak, etc.)?
2. Are effective strategies in place for communicating across departments? Up the administrative chain?
3. What different modes of communication can you put in place to communicate with key audiences?
4. Do you need the help of professional communications staff and/or communications training for facilities managers to improve your departmental communication skills?

**2. Addressing sustainability**

**The issue**

Facilities departments face the greatest pressure within the institution to increase sustainable policies and practices.

**Wider context**

Changing stakeholder expectations: sustainability

**Strategies**

- Assess the institution and the department’s current level of sustainability.
- Make a business case for sustainable practices.
- Form partnerships across the institution.

Sustainability is one of the most critical issues in higher education in general, as explored in Section I, and its impact falls more heavily on facilities than any other college or university department. Libraries may seek to increase the use of electronic journals; business offices may implement paper recycling programs; and food services may try to offer more organically produced foods, but only facilities can really affect the institution’s use of energy and water, its disposal of waste, and its output of greenhouse gases. The pressure is unprecedented—no one has ever paid this much attention to facilities departments over such an extended period.

Facilities managers can address sustainability in one of several ways. They can keep working as they always have, but as outside pressure for increased sustainability mounts, they’re likely to feel ambushed and put-upon as the demands keep piling up. Or they can get ahead of the situation, analyzing sustainability trends, assessing their
college or university's level of commitment, and taking
the initiative to implement environmentally sustainable
strategies. However, it's difficult to take path number
two—lifting your attention from the day-to-day opera-
tions to consider the big picture, convincing outsiders of
the need for new programs, and seeking new funding
sources, to a name a few challenges. The facilities depart-
ments that are aggressive about sustainability will be
those most valued by senior institutional officers and stu-
dents and those most influential in helping to shape their
institution's future.

One of the first steps in increasing the sustainability of
your institution is determining where you are today. A
sustainability assessment identifies a baseline that the
institution can use to mark progress and identify areas for
improvement. Once the baseline is in place, it's critical to
evaluate the institution's commitment to sustainability.
What are the institution's overall priorities and concerns?
Is energy reduction most important? Use of alternative or
renewable energy sources? Green buildings? Has the uni-
versity's president signed the Climate Commitment? Why
or why not? If the institution's commitment to sustainabil-
ity is relatively low or inconsistent, should the facilities
department take the lead or form alliances with other con-
cerned groups to increase sustainable policies? Facilities
professionals have the tools to make a strong business case
for sustainability, and administrators and business offices
often find a business rationale (cutting energy costs by
building to LEED standards, among other approaches)
more persuasive than the “softer” arguments used by other
stakeholders. This approach is far better than staying in
the background.

Another way facilities departments can step forward is
to offer substantive support for sustainability programs
and even curricula within the institution. We don't usu-
ally think of the facilities department as getting involved
in teaching, but our departments have a lot to offer envi-
ronmental studies programs and architecture and engi-
neering schools. Partnerships with student and faculty
groups can be very valuable. The current generation of stu-
dents is more committed to the environment than any
before—they've been raised to recycle and heard warnings
of global warming their entire lives. Facilities departments
can earn a lot of goodwill by seeking out student groups
that are committed to environmental action and working
with them on sustainability initiatives.

Thought Leaders participants developed the following
questions facilities managers can ask themselves about
their institution, their department, and their approach to
sustainability:

1. Has the institution performed a sustainability
   assessment? What is the institution's commitment
to sustainability?
2. Has the facilities department made a business
case for sustainability?
3. How should sustainability be integrated with
current or new facilities programs?
4. Do design and construction standards reflect
   sustainable principles and practices?
5. Does the institution have an Energy Strategic
   Plan that incorporates sustainability?
6. Does the institution include sustainability in the
   curriculum? How can facilities help?

3. Balancing and articulating expectations

The issue

Facilities departments need to become more proactive
about seeking stakeholder input and responding to
stakeholder expectations.

Wider context

Changing stakeholder expectations

Strategies

• Be upfront about soliciting input.
• Seek out stakeholder groups beyond the obvious
  parties.
• Honestly listen to new ideas.

As stakeholders of all types become more vocal and persis-
tent concerning their demands, facilities departments
need to be more proactive about responding to these
demands. It's not enough, for example, to design a new
building and present it as a fait accompli to the campus.
Facilities professionals must take a leadership role to make
their case and be upfront about their choices.

In fact, they need to solicit input from stakeholders
before critical choices are made. It's not news to any facili-
ties department that the outrage of a stakeholder group
can scuttle the best-laid plans. What is new is the number
of stakeholders and their willingness to express outrage over any given decision. Satisfying stakeholders early in the decision process is the best way to demonstrate your department’s responsiveness, and that means listening—really listening—to their input. Going through the motions of gathering stakeholder opinion or only paying lip service to their ideas won’t cut it. You need to honestly assess proposed ideas and be prepared to explain why they would or would not work. Reasonable accommodation of truly good ideas will go a long way to improving community engagement and involvement.

Quantifying your decision making is also essential, particularly for the stakeholders most crucial to the future of the institution. State legislatures and commissions, community college boards, donors, and alumni—all want solid data on why new plans are being pursued and which investments in the institution will bring the highest return and rewards. Costs and benefits should be detailed and translated into a language stakeholders will understand.

When preparing to gather stakeholder input, you must take two critical factors into account. The first is that stakeholders are a wide and varied group, including more parties that you might have considered 5, 10, or 20 years ago. College and university neighborhoods are expressing increased concern about institutional expansion and need to be involved in planning; area businesses want to know about goals for the future; and funding sources, including state legislators and donors, need to be confident that their dollars are being spent wisely. The second critical factor is that it’s hard to get people interested in providing input on something that will happen far in the future—particularly students, who will be long gone by the time a new building, road, or plan is put into place. Nevertheless, gathering their input is still important.

Thought Leaders participants developed the following questions to help facilities managers assess their skills at balancing and articulating expectations:

1. Who are the affected stakeholders? Have you brainstormed to identify stakeholders you might not have considered?
2. Do you have a system in place to receive input from these stakeholders?
3. Do you provide opportunities to present trade-off scenarios early in the decision-making process?
4. Have you quantified and evaluated costs and benefits?

4. Integrating with IT

The issue
IT and facilities often operate on completely separate tracks, despite the growing need for the two to work together.

Wider context
Evolving technology

Strategies
• Seek ways to work with IT to resolve existing issues.
• Identify the experts who can help.
• Strive to develop common goals and a vision that is in alignment with the college or university’s vision and mission.

Because evolving technology is one of the most critical factors facing higher education in the near future, facilities departments must be prepared to confront IT challenges and improve their interaction and integration with IT professionals.

The key word here is “integration”—something often lacking between facilities and IT departments. Both departments proceed on their own tracks, and their interactions often are sources of conflict and frustration. Information technology is no longer a “box” that exists separately in its own special room and environment; it is an infrastructure as pervasive as running water and electric lights. Thus, facilities must be involved in the implementation and management of IT. It takes a concerted effort to effectively partner with IT professionals—attitude, openness, and willingness to collaborate will go a long way in improving and enhancing these departmental relationships.

A good first step is to identify existing problems and issues that need to be resolved. Success breeds success, so successful partnering in solving one problem can pave the way toward resolution of multiple issues. Another early step involves identifying the experts. Who knows what you need to know? Who can help you as you go forward? This might not be as simple as it sounds. While most colleges and universities have formal IT departments, information technology uses are probably scattered among other groups as well. Individual colleges, schools, departments, and programs often have their own IT units and operations, some
of which might require closer integration with facilities than the university-wide department. For example, a simulation lab or research group with a data center might need intense, specialized support from facilities.

The key objective for facilities-IT integration is to develop a common vision and common goals that are aligned with the overall vision and goals of the institution. It takes years of partnering to develop alignment and agreement of vision and a sense of common purpose.

Thought Leaders participants suggested the following questions to ask concerning facilities-IT integration on your campus:

1. What are the issues and concerns with your current IT processes and interactions?
2. Who are the IT experts, within and outside the IT department?
3. What solutions do you expect IT to provide?
4. How can you maximize your IT outcomes?
5. How can you optimize communications with IT?
6. How can you develop a common vision, goals, and objectives with IT?

5. Focusing on the customer

Higher education facilities departments need to focus on customer service to meet increased consumer demands and to renew their sense of purpose.

Wider context

Changing stakeholder expectations

Strategies

- Assess customer satisfaction to establish a baseline and to measure future progress.
- Implement training programs for employees.
- Consider the use of customer relationship management technology to streamline customer service.

At the circulation desk at the Texas Christian University library, a sign reads, “Questions by our patrons aren’t an interruption—they’re our reason for being.” It’s a refreshing attitude toward service that isn’t always found in higher education; except for student affairs, colleges and universities generally aren’t accustomed to thinking they’re in the customer service business. Yet higher education stakeholders such as students and parents increasingly see themselves as customers and demand high-quality service. For facilities departments, adopting a customer service mind-set can be an enlightening and rejuvenating experience. Rather than resenting the demands of stakeholders or seeing the requests of patrons as an interruption, departments should consider such requests as their reason for being.
One of the first steps in improving customer service is to assess all the stakeholders you serve and your current relationship with each group. What do users think of your work today? What is your response time to calls? How do you prioritize maintenance? Facilities departments should establish a survey methodology to regularly gather and process customer feedback. Initial surveys will provide a baseline, while future surveys can be used to measure progress and suggest areas that need improvement. The University of Florida’s Physical Plant Division has been evaluating customer satisfaction since 1995; today, in addition to an online survey, it gathers feedback through an e-mail system advertised all over campus, including on towel dispensers in campus restrooms. The department has been able to measure the success of its customer service training programs and has noted that response time and communication responses have improved over the years.

**Data Point: Focusing on the Customer**

**University of California, Santa Barbara, PM PLUS Program**

As part of an overall plan to improve facilities services at UC-Santa Barbara, the department established a program called PM PLUS. The program consisted of teams of all trades who traveled the campus along with a preventive maintenance team. Building customers were told that while preventive maintenance tasks were performed, the team would also perform general maintenance tasks according to a priority list.

That meant “painting like there was no tomorrow,” according to a former director of physical facilities for the campus, and the program was a huge hit with customers. Building occupants liked having facilities staff show up without being called. Facilities staff also liked the program, which generated a lot of goodwill and provided a major morale boost to the department.

A second step is to make sure front-line employees have the customer service training they need. It’s one thing for top managers to talk the customer service talk, but it’s the front-line employees—replacing light bulbs, fixing leaking faucets, and adjusting air-conditioner settings—who need to walk the customer service walk. The University of Florida provides comprehensive customer service training for its employees through its TOPGUN program (Team, Own, Prompt, Greet, Understand, and No-no’s). Employees attend two-hour basic training and one-hour refresher courses designed to improve customer service skills. Training is reinforced with an employee recognition program and a bonus program that rewards excellence in customer service. Many higher education facilities departments could benefit from a program like TOPGUN, which won a 2003 APPA Effective and Innovative Practices award.

Finally, the technology of customer service has made enormous strides; customer relationship management systems streamline processes such as customer data collection and call center operations. These systems can be combined with facilities management systems to improve overall productivity and customer satisfaction. New wireless maintenance systems, for example, provide workers with wireless smart phones loaded with software that tracks individual work orders, directions, and detailed notes; employees can enter data about their progress, which immediately updates the system database. While the upfront investment in these systems can seem daunting, cost savings in improved efficiency can be significant, and they increase customer satisfaction.

Thought Leaders participants proposed the following questions facilities managers should ask themselves to evaluate their standard of customer service:

1. Who are the players? Who in your department is responsible for customer service? Are they prepared for the job?
2. What is the purpose (mission)? Does your department see customer service as part of its purpose? If not, how can customer service become more important in your day-to-day efforts?
3. Where do you want to go (vision)? Where does your department want to be in terms of customer service? Have you identified a quantifiable level of customer satisfaction that you want to achieve?
4. How do you get there? Do you have a program in place for improving customer service? Should you provide training, implement software, or develop other customer service programs?
5. Did you reach your desired destination?
6. Aligning facilities planning with institutional goals

The issue

Facilities master plans need to reflect institution plans so that facilities can truly support the academic mission.

Wider context

- Changing stakeholder expectations
- External competition (for students and faculty)

Strategies

- Get facilities involved early in the overall planning process.
- Understand where the institution wants to go and what it wants to be.
- Evaluate the facilities implications, including the financial implications, of academic plans.
- Develop specific outcomes for generalized goals.

The University of Rhode Island has taken seriously the task of aligning the plans of all schools, divisions, and departments with the overall institutional vision. The university maintains a Department of Planning Services whose sole purpose is to integrate university-wide planning efforts. The planning services group strives to make goals as specific as possible, with defined and measurable outcomes for the most overarching goals.

For example, the 2006–2009 university strategic plan includes an initiative to enhance student recruitment, retention, involvement, and graduation rates. This initiative was broken into several goals, including one that calls for URI to cultivate a university-wide focus on students. Numerous strategies that affect facilities were identified to support this goal, including a strategy for having all new construction promote recreation, wellness, and out-of-class social interaction. This strategy was further defined with a specific metric calling for a 10 percent campus-wide increase in social interaction/networking spaces.

The end result of all this planning will be new areas for student interaction—such as courtyards with movable tables and chairs, and lobbies with comfortable couches. The students who hang out in these spaces will probably never realize that they are reaping the benefit of a long-range university initiative contained in an integrated strategic plan.

Once the institution’s plan is in place, the facilities department can work to understand its implications. For example, if the academic plan calls for an increased emphasis on science and technology research, will current research facilities support this increase? Can other facilities be repurposed to meet the need? Will new buildings be required? Have funding sources been identified to pay for renovation or new construction? The sooner the facilities department starts asking these questions, the sooner solutions can be found.

Sometimes academic plans aren’t as specific in describing desired outcomes as the facilities department might wish. Good master plans are hard to prepare, as facilities managers well know, and it’s all too easy to create a plan that is vague in defining results. To take the above exam-
ple, what does “increased emphasis on science and technology” actually mean? New research programs? Additional faculty? Higher enrollment? The facilities department may need to lobby for greater specificity. If you can’t pin down the details, make sure the facilities plan includes enough flexibility to adapt as the situation becomes clearer.

Thought Leaders participants suggested the following questions to help develop a facilities master plan that is aligned with institutional goals:
1. Is there a current and effective academic master plan? A current and effective physical master plan?
2. How are the plans aligned with the institution’s mission, vision, and core values?
3. Is the institution’s strategic plan effective in describing desired outcomes?
4. How does the capital plan reflect the goals?
5. What is the funding model that makes the plan possible?

7. Making master planning effective

The issue

Facilities departments need to develop master plans that define a vision for the future and strategies to achieve that vision.

Wider context

+ Changing stakeholder expectations
+ Evolving technology

Strategies

+ Cultivate visionary thinking.
+ Formulate a detailed plan with specific, achievable outcomes.
+ Ensure that plans are kept up-to-date with regular meetings and review.

It’s one thing to talk about aligning facilities planning with institutional planning—it’s another to actually develop and execute an effective campus master plan. An effective master plan provides a road map to the future as well as a sense of vision that can give purpose to the department and meaning to ordinary tasks.

The most powerful master plans combine two seemingly contradictory elements: They are both visionary and specific. Consider vision first. It can be hard for facilities managers—caught up in the day-to-day demands of deadlines and meetings, burst pipes and cracked pavement—to peer into the future. It may be necessary to step back—at an offsite meeting, a professional training session, or a conference—to get a sense of perspective. Talking with other facilities leaders can be a powerful motivator: Managers can learn about efforts under way at other campuses that might work at their own. Vision also helps to lengthen the planning horizon. Rather than only considering the next 3 to 5 years, try looking at the next 15 to 30 years. The shift in perspective may allow realizations that are unclear at an incremental level. Take parking, for example: In a short time frame, you can plan to add parking spaces bit by bit. But look 20 years ahead: If current trends continue, does that mean every available surface will be covered with asphalt? Would a more radical option make sense: offsite parking, parking garages, more transit solutions, or designated pedestrian-only areas?

While vision is essential, it isn’t enough. Plans can’t be overly generalized or vague; they must be concrete, specific, and real. Specificity starts with understanding your current situation. Master plans should include a detailed assessment of the physical context of the campus and the site’s opportunities and constraints. Good plans also include examination of existing buildings and plans for their adaptation and reuse. Sure, it’s more fun to build new, but realistically, the school of tomorrow is probably already on the ground. Specific details then extend into the future: plans for new buildings, expansions, and renovations; details of timeframes; and strategies for funding.

Finally, a master plan is useless if—all the meetings, workshops, late nights, and headaches—it’s put on the shelf and never opened again. Effective master plans are living documents. Successful institutions work deliberately to keep the master plan at the forefront of their thinking and use it to guide their efforts. Regular meetings should be planned to review the plan and the department’s progress in reaching its goals. If factors come up that require changing the plan—and they will, inevitably—the plan should be revised accordingly.

Thought Leaders participants created the following questions to help facilities managers begin the master planning process or assess a process that is already in place:
1. How do you create visionary thinking?
2. How do you lengthen the planning horizon?
3. How do you define “effective” for your institution?
4. What specific goals and plans can you use to measure success?

5. Is there a process for ongoing master plan review and evaluation?

8. **Implementing total cost of ownership strategies**

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<tr>
<td>Considering the total cost of ownership (TCO) of new buildings can help facilities managers and institutional officers make the best long-term decisions.</td>
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<th>Wider context</th>
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<td>Changing stakeholder expectations</td>
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<tr>
<td>Make TCO part of the facilities department thinking for every project.</td>
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<tr>
<td>Evaluate different systems and building options not only for their upfront cost but also for their long-term expense.</td>
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<tr>
<td>Seek to balance upfront and long-term costs according to institution needs.</td>
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<td>Articulate TCO thinking to senior university decision makers.</td>
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 Wouldn’t it be fantastic if, when you finished a building, it never broke down? Never needed painting or cleaning or updating? Never got too crowded or too dark or too hot? Never required replacement AC equipment, an updated elevator, or a modern fire protection system?  

The reality is that buildings are “the gifts that keep on taking,” to quote the title of a recent APPA book on the total cost of ownership (TCO). If the experience of struggling with deferred maintenance has taught facilities professionals anything, it is the importance of considering TCO from the start.

TCO is defined as the sum of a building’s costs throughout its entire life cycle, from concept through decommissioning, including the amount required for planning, design, construction, operations, capital renewal, and demolition. From the TCO perspective, capital costs for a new building represent less than half the building’s price. However, few people think in these terms. Architects and engineers are accustomed to thinking about getting the building on the ground—what it costs for design, building supplies, trades, and so on. Administrators focus on upfront costs rather than long-term expenses, partly because of the way costs are budgeted. The opening of a new building is a one-time event that requires specific fundraising efforts; utilities, maintenance, and even renewal expenses are buried in annual facilities budgets that are spread out over decades. And, frankly, new buildings are more interesting to donors than long-term maintenance.

But crucial decisions during the early stages of planning and designing a building can have long-term payoffs when the total cost of ownership is taken into account. A highly efficient air-conditioning system might cost more upfront, but over time the energy savings will reduce the TCO. The sustainability movement is bringing some much-needed attention to these sorts of trade-offs, and with many universities seeking LEED certification for their new projects, more institutions are choosing to invest today to ensure cost savings tomorrow. Sustainability is not the only reason to plan ahead, and simple decisions can have long-term results. For example, specifying one type of lighting fixture for an entire building (or group of buildings) creates cost savings by allowing materials to be purchased in bulk and speeds maintenance.

One of the challenges in implementing TCO strategies is prioritization. At what point does investment in the longest-lasting or most efficient system become counterproductive? Is the 30-year system really worth $X dollars more than the 25-year system? Facilities departments have widely competing needs—a dollar that goes into system A is being taken away from system B. Decision making requires running the numbers and weighing the costs.

Another challenge for facilities experts is to articulate the concept of TCO to administrators during the planning process. Fortunately, this is becoming easier as materials vendors and consultants become accustomed to the concept and make more information available about long-term costs. Spelling it out for top decision makers usually requires making the trade-offs as clear as possible. It also requires tapping into a sense of stewardship and responsibility. You won’t get very far in promoting TCO if the prevalent attitude toward the future is to let someone else worry about it.
Thought Leaders participants developed the following questions to address total cost of ownership issues:

1. Is consideration of TCO part of the process for all new projects?
2. Is TCO evaluated for energy-efficiency and sustainable building practices as well as for non-sustainability-related cost savings?
3. How well do you quantify TCO and prioritize TCO investments against competing resource needs?
4. How can you articulate TCO to administrators?

9. Managing maintenance and adaptive reuse

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<td>Institutions must prioritize maintenance needs while evaluating facilities for potential adaptive reuse.</td>
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<th>Wider context</th>
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<tr>
<td>• Changing stakeholder expectations</td>
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<td>• Evolving technology</td>
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<th>Strategies</th>
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<tr>
<td>• Prioritize deferred maintenance needs according to the institution’s overall goals.</td>
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<tr>
<td>• Consider the use of priority indices to help determine facility goals.</td>
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<tr>
<td>• Include consideration of total cost of ownership for existing facilities whenever improvements are made.</td>
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Unless an institution was remarkably prescient and considered total cost of ownership long before the term became popular, deferred facilities maintenance is likely to be a problem on that campus. It’s an old story by now, but here’s just one statistic to help the scope of the issue sink in: While higher education in the United States spends about $20 billion each year on facilities operations, including up to $18 billion on new construction and renovation, the cost of deferred maintenance is estimated at $36 billion. With higher education finances in a precarious state, no one expects those dollars to be budgeted any time soon.

Thought Leaders participants made one point very clear: Not all deferred maintenance is created equal. As William A. Daigneau noted in an article in *Facilities Manager*, only unplanned deferred maintenance is bad. Some facilities are not likely to generate future return on their initial investment. As a sunk cost, sensible financial planning dictates that investment in these buildings should be curtailed. Further, priorities need to be evaluated when considering the backlog of maintenance needs. APPA’s recent report on facilities (*Buildings…The Gifts That Keep on Taking: A Framework for Integrated Decision Making*) proposes a structured approach to prioritizing maintenance in which managers consider the performance implications of their decisions as well as how those decisions line up with institutional goals. The report also points to several tools facilities managers can use to develop priorities, including the U.S. Coast Guard’s Mission Dependency Index (MDI), the Department of Interior’s Asset Priority Index (API), and Brigham Young University’s system-based priority approach.

Whatever is done to existing facilities, the principles of TCO should be applied whenever possible. If a heating and air-conditioning system needs to be upgraded anyway, shouldn’t the college or university look at methods to increase energy efficiency? Can a higher upfront price ensure lower utility or maintenance costs in the future? College and university facilities have remarkable lifetimes, and managers need to do whatever is in their power to maintain them as efficiently as possible. Even historic buildings can be renovated to become high-performance structures. The new field of retro-commissioning can be a valuable tool in assessing the status of a building; building experts can help facilities managers understand the condition of individual systems as well as how systems are working together and can propose options for improving operational efficiency.

In some circumstances, Thought Leaders participants advocated abandoning the deferred maintenance issue altogether—or at least refocusing the discussion to one of reuse. At some point, buildings become so outdated and reach such a state of disrepair that the best solution is to devise an entirely new strategy for the structure—particularly if institutional goals have changed. Several issues should be evaluated when considering this point:

• The value of the existing facility
• The value of improvements
• The value of a replacement building
• Opportunities for reuse or adaptation
• The emotional/political investment in a structure
Data Point: Managing Maintenance and Adaptive Reuse
Department of the Interior Asset Priority Index

The U.S. Department of Interior’s (DOI’s) critical mission requires management and oversight of approximately 40,000 buildings, 4,200 bridges and tunnels, 126,000 miles of highways and roads, and 2,500 dams, particularly those with historic or cultural significance. Many DOI assets are valued for their environmental resources; recreational and scenic value; cultural and historical resources; and the commodities and revenues they provide.

The department’s Asset Priority Index (API) was developed in response to an Executive Order to the Federal Real Property Council in February 2004. The API has two parts: (1) a direct measure of an asset’s mission dependency, producing an objective measure of how critical an asset is to the mission performance of the department and its bureaus in meeting their goals; and (2) a substitutability measure, which reports on the availability of an alternative asset that can satisfy the operational requirement of the asset being evaluated.

A version of the API was developed at the University of Illinois at Urbana-Champaign to support its Restoring the Core Program—an initiative intended to increase visibility and funding support for long-needed renovation of older buildings on the campus. The metrics of this index were coupled with information about the condition of the facilities at issue that was derived from a Facility Condition Audit performed by outside consultants. The combination of asset priority and asset condition ratings produced an overall priority ranking for 51 major buildings in the central part of the campus—approximately one-half of the total space devoted to academics on the campus.

College and university administrators may want to adapt these examples to their own environments. What is important about these examples is that they provide an illustration of a useful and relatively simple analytical tool that can be used for evaluating needs, determining priorities, or making the business case for facilities.


Facilities managers must proceed with sensitivity. It’s one thing to propose tearing down or significantly renovating purely functional structures; it’s another thing entirely to suggest reuse or demolition of a beloved building donated by faithful alumni. One factor in determining the appropriate level of investment in a structure is its emotional or historic meaning to a campus. Further, even unpopular buildings—say a 1960s classroom building no one really likes—might soon be achieving historic status under new Department of Interior guidelines, and green building guidelines generally advocate restoration over new construction. However, if a building has become so outdated that realignment or reuse is required rather than maintenance, the facilities department must develop a system for reclassifying the structure, obtaining the funding needed to improve or raze it, and determining the case for adaptation or demolition.

Participants at the Thought Leaders conference suggested the following questions to evaluate the issue of deferred maintenance and adaptive reuse on campus:

1. How does the institution prioritize maintenance needs?
2. How do we make current facilities work well far out into the future?
3. Should we abandon deferred maintenance as a program and shift resources into reuse?
4. How do we refocus deferred maintenance resources to address reuse requirements?
10. Instituting metrics for performance measurement

The issue
Performance metrics are the most powerful tool available to facilities managers to achieve excellence.

Wider context
Changing stakeholder expectations

Strategies
- Use the master plan to develop metrics.
- Consider the use of benchmarking models such as APPA’s Facilities Performance Indicators (FPI).
- Don’t make measurement an end in itself; rather, use metrics as a tool for continuous self-improvement.

A topic that kept getting attention during the Thought Leaders conference was the concept of key performance indicators (KPIs). Participants agreed that the concept of KPIs for facilities could mean the difference between adequate and great, between acceptable and extraordinary. It’s a simple idea: How can you get better unless you know how you’re doing? A sprinter in training times each and every race; otherwise, how can that athlete know if he or she is running fast enough to win a state competition? A national final? The Olympics? We manage what we can measure.

Yet facilities departments have largely done without metrics, other than the basic “Are the lights on and the water running?” Comprehensive measurements of performance may seem overwhelming to implement, but in the long run, they provide an essential tool for continuous improvement.

The question for any organization looking to adopt KPIs is what should be measured? You can answer this for yourself, of course. The master plan is the obvious starting point; as discussed earlier, effective master plans include measurable outcomes. Additional measures can be useful to assess performance across a wide range of factors and allow institutions to compare themselves with their peers. APPA offers one such tool in its Facilities Performance Indicators (FPI) survey, an annual collection and reporting of data related to educational facilities.

FPI takes a comprehensive look at facilities’ operating costs, staffing levels and expenses, building and space costs and usage, and strategic financial measures. Designed specifically for educational facilities, including K–12, FPI has helped many institutions determine their organizational effectiveness and develop strategies for improvement. Other performance systems are also available, including the Malcolm Baldrige National Quality Program, the Balanced Scorecard, and ISO 9000. Institutions should consider the approaches of these different systems to decide what will work best for them.

The most important step in implementing performance measures, however, is not measurement. Metrics aren’t an end in themselves; they are a tool to guide continuous self-improvement. Regular assessment should be part of a process in which weaknesses are identified and strategies developed to turn those weaknesses into strengths; it should foster continuous improvement.

Thought Leaders participants suggested the following questions that facilities managers can use to assess their department’s use of metrics for performance measurement:

1. What are the most effective/valuable measures for your institution?
2. Have you defined the key performance indicators for your facilities and begun measuring them?
3. Are you completing APPA’s FPI survey and using its indicators to strategic advantage?
4. How can you use these indicators to get you to world-class status?
Section III: Looking Ahead

No question—the future looks challenging. Participants at the Thought Leaders workshop listed the following qualities and skills that facilities and institutional leaders will need to deal effectively with future challenges:

- collaborative
- analytical
- risk-taking
- media-savvy
- business-savvy
- technology-savvy
- data-driven
- value-driven
- confident
- energetic
- visionary
- passionate

It’s a tall order to be both data-driven and value-driven, both business-savvy and visionary, both analytical and passionate. Probably no mere human could possess all the qualities listed above, but some combination of these traits will be necessary to face the future with confidence. As part of its mission to train, develop, educate, and support the facilities leaders of today and tomorrow, APPA can help.

Tools such as the Thought Leaders series and this white paper will help colleges and universities understand the challenges before them, develop strategies to face those challenges, and implement solutions to meet their needs. The purpose of the Thought Leaders series is to engage in an annual discussion and distillation of the major issues affecting higher education—and, as a consequence, college and university facilities—and to inform senior facilities officers about ways to approach these problems and concerns. It is critically important for senior campus facilities professionals to understand the major trends affecting the future of higher education and to ensure alignment of the facilities mission with that of the institution. Understanding what our senior institutional officers are concerned about will help us frame facilities issues more effectively. The greatest value of this paper will be to engage those leaders and begin a dialogue about the future of the institution and the role of facilities in supporting that future.
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APPENDIX B: REFERENCES AND RESOURCES

Section I: Critical Issues Facing Higher Education

Evolving technology


Changing stakeholder expectations


Section II: Top Ten Critical Facilities Issues 2007–08

Improving communications


Integrating with IT


Customer service


Making master planning effective


Implementing total cost of ownership


Managing maintenance and adaptive reuse
