A Roadmap for IT Leadership and the Next Ten Years

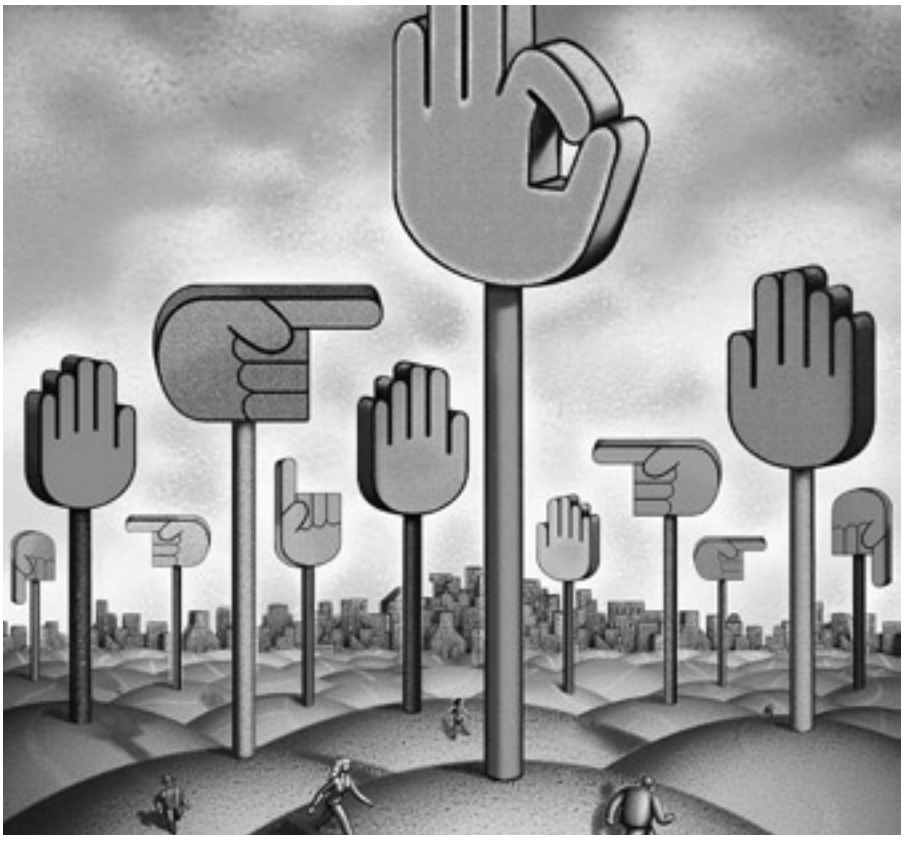
The newest challenge facing CIOs in higher education is to become technology advocates and CIO leaders, not leaders of technology mechanics

By **Timothy M. Chester**

Shortly after becoming a CIO, I read an article by Gregory Jackson in the January 2004 *Chronicle of Higher Education* entitled, "A CIO's Question: Will You Still Need Me When I'm 64?"[1] Jackson, one of the most widely known and respected CIOs in higher education, argued that CIOs in higher education face four challenges over the next ten years. Three of these challenges are unfinished tasks from the 1990s: supporting centralized administrative systems, creating economies of scale, and negotiating and establishing technical standards.

Jackson's fourth challenge—technology advocacy—is both new and different, however. It has emerged as a result of the rapidly changing technology landscape and the current climate in higher education. Jackson argued that as resources become scarcer, making the right technology investments requires a consistent, strategic view of technology and its role in higher education. "Developing and espousing that view is the fourth and most rapidly evolving element of a CIO's role," Jackson noted.[2] After serving as a CIO for several years, I have come to understand both what Jackson's fourth challenge means and how one can respond to it effectively.

The challenge of technology advocacy (for CIOs in both higher education and the private sector) requires a shift in roles—from being "technology mechanics" (or leaders of technology mechanics) to being "CIO leaders."[3]



Technology mechanics deliver services upon request. CIO leaders sit at the executive table and are considered one among equals: they deliver services that are closely aligned with institution-wide goals and are seen as creating strategic value for their institutions.

At every institution, decision makers think about how technology can best enable the institution to fulfill its mission. Technology mechanics implement the results of those discussions. CIO leaders convene them. Ask yourself how you spend most of your time: sitting with your institution's leaders discussing how technology can transform the institution's practices? Or reacting to the plans, sometimes half-baked, of those who possess little or no technology experience? If it's the latter, you're a technology mechanic.

While both technology mechanics

and CIO leaders have important roles in higher education, only CIO leaders can deliver on Jackson's fourth challenge. Becoming a CIO leader is achievable whether you're currently a technology mechanic who would like to expand your role or a new CIO establishing your career. Both the rapidly changing technology landscape and the current environment in higher education provide tremendous opportunities to step up and deliver on Jackson's challenge. The six opportunities below, if properly embraced, will go a long way to help you cement a reputation as a CIO leader.

Accept That Nicholas Carr Is (Partly) Right

No author has provoked more controversy in our community of higher ed IT leaders in the past three years than Nicholas Carr. His 2003 article,[4] "IT Doesn't Matter," spawned dozens of letters of rebuke to the editors of the *Harvard Business Review*, numerous rebuttal articles (several published in *EDUCAUSE Review*[5]), and some very heated debate. Many in the technology profession have reviled Carr on the grounds that he has devalued them and the importance of their work and that he has provided unneeded ammunition to those already skeptical of IT investments in higher education. If you look beyond the over-the-top title and the emotional response it provokes, however, Carr's basic framework is quite sound. In fact, Carr's underlying reasoning and perspective are vital to a developing CIO leader looking to formulate a consistent and, yes, strategic view of technology and its role in higher education.

Carr's basic premise is simple: "As information technology's power and ubiquity have grown, its strategic importance has diminished. The way you approach IT investment and management will need to change dramatically."[6] He compared IT to other once-revolutionary technologies, including the steam engine, electrical power grids, railroads, and the telegraph. At one time these technologies provided significant market advantages to early adopters, particularly those who applied the new technologies in a novel way (consider Amazon.com, for example, or Ebay). Over time, as new technologies become affordable and accessible to all, they become ubiquitous and commoditized. When that happens, the technology itself becomes strategically invisible: individual organizations can no longer gain competitive advantage over their rivals through their use of said technology. Today, much of IT has become ubiquitous and commoditized, thus Carr's argument that IT doesn't matter.

Our goal as CIO leaders must be to take this mass of commoditized technology and apply it to today's problems in creative and fundamentally different ways

Carr was right when he argued that the management of commoditized technologies such as bandwidth, desktop computing, and other IT infrastructure services requires a fundamentally different approach, particularly with respect to cost and risk containment (more on this below). He was also right when he said that commoditized technologies, because of their ubiquitous nature, by themselves don't offer competitive advantage. But some of his assertions were wrong, particularly when he lumped all IT (particularly software applications built on open standards) into the same category as commoditized technology and when he ignored the natural human tendency to innovate. Our goal as CIO leaders must be to take this mass of commoditized technology and apply it to today's problems in creative and fundamentally different ways. That's where IT remains strategic, and it's how we can provide value as CIO leaders.

Carr's analysis also suffers from an overly narrow definition of the word "strategic," which for him refers to something that enables one organization to corner a major portion of the market. This might be true in the private sector, but in higher education being strategic means being closely aligned with both the academic and business missions of the institution. This situation offers significant opportunity for potential CIO leaders.

Be Strategic: There Are No More Technology Projects

Being strategic means accepting that, by and large, there are no more technology projects. For your typical end users (or at least 98 percent of them), technology itself simply doesn't matter. This is true in higher education with a few exceptions, such as support for research activities or work towards open standards.

Instead of technology projects, there are teaching projects, admissions projects, financial aid projects, finance projects, human resource projects, or campus-wide projects to enhance communication, share information, and create efficiencies. This doesn't mean that technology isn't important—it means that technology can no longer be an end in and of itself. IT organizations succeed when the people they serve succeed. This requires a remarkable shift in the culture of technology organizations, and this new attitude needs to be understood and adopted by every employee in the CIO's organization.

Recent changes in my organization aptly illustrate the value of this necessary shift in perspective. In the summer of 2002, Texas A&M University welcomed a new president. The previous president had been a staunch advocate for expanding the role of technology in the institution and had significantly increased the university's investment in IT. But when our new president announced his top four priorities, nine months after taking office, IT wasn't one of them. Many of us were disappointed, not because we didn't share our new president's priorities, but because we were concerned that this reflected a misunderstanding of the importance of IT and its role in the university's mission. Would we soon see flat or even reduced university investments in technology?

What a difference a few years makes. Our president is, contrary to our concerns, a strong advocate for IT—but

only when it is closely aligned with the university's strategic goals. For example, IT projects in admissions that support the university's goal of increasing diversity have benefited from significant new investments. In addition, the president has approved a multiyear project to replace the institution's core enterprise information systems, a project aligned with his goal of increasing the quality of our programs. In the meantime, however, funding for nonstrategic projects has remained flat or been reduced.

The new maxim in IT, driven partly by its commoditization, is that technology projects that don't support strategic goals have declining value for the institution. For the majority of employees in IT departments today, what's important is how end-user problems are solved and how IT deliverables help realize the institution's strategic goals. Potential CIO leaders should understand that the value of IT comes from the benefits realized by those outside the IT organization. Success is best understood from their perspective.

Reorganize and Reshape the IT Organization

IT organizations over the next ten years will need to be very good at two fundamentally different tasks:

- delivering (or managing the delivery of) ubiquitous and commoditized services (infrastructure-level basic computing), and
- working with academic and business leaders to develop and align specialized technology services with the institution's strategic goals (academic and business transformation).

Potential CIO leaders need to reshape their organizations to perform both these tasks well.

IT organizations today, particularly those in higher education, are predominantly staffed with technology mechanics. While exceptionally good at building and supporting technology, they often don't understand end users and can't communicate with them in everyday language. IT organizations of the future will be leaner and will be staffed predominantly with individuals who possess significant functional knowledge of the academic and business processes of the institution, have strong communication and project management skills, and can understand day-to-day challenges on the same level as end users. Technology mechanics with hard skills will still be needed but will represent less than one-half or one-third of the IT organization's total employees.[7]

Basic infrastructure-level services (including support for research activities) will still be needed, of course, and will continue to form a part of the IT organization's mission. Infrastructure-level services such as bandwidth and local-area networks and computing basics such as workstations, e-mail, storage, print services, telecommunications, and other services should be delivered in a way that minimizes costs, takes advantages of economies of scale, and reduces complexity. Many of these services may even be strong candidates for outsourcing.

In managing these infrastructure-level services, Carr's basic rules[8] apply: spend less by using commoditized hardware and software; reduce complexity by delivering solutions based on open standards; and focus on vulnerabilities, not opportunities. This last point is absolutely critical: while no institution builds its mission around its use of bandwidth, e-mail, or disk storage, a loss of these services could be devastating. Thus, the infrastructure services part of the IT organization must focus its work on preparing for glitches, outages, and other threats rather than thinking about new opportunities or emerging technologies. Staff working in these areas should be evaluated and rewarded based on how well they reduce costs, minimize complexity, avoid problems, reduce risk, and maintain consistency of operations—not exclusively on their productivity or technical skills.

The rest of the IT organization will focus on the delivery of services defined and understood from the points of view of end users, not technology professionals. This part of the organization will be staffed with individuals who work hand in hand with decision makers and end users to ensure the best use of information and processes; who work with faculty and the academic leadership to build services that transform teaching and learning; and who are well versed in strategic planning and process transformation. Staff working in these areas will grow from an IT base and understand the details of technology as well as the details of the institution's academic and business processes. Their primary function will be to act as intermediaries between the academic, business, and technology worlds. These staff will create and deploy strategic information services, using rapid development and other standardized, component-based tools. Staff working in these areas should be evaluated and rewarded based on their ability to work with others to leverage technology to creatively solve problems and improve academic and business processes.

Don't neglect the importance of placing individuals in the proper roles—which has less to do with technical skills and everything to do with attitude, communication skills, and motivation. Success will come in large part by correctly assessing your staff and assigning them to the right projects, because nothing could be more detrimental to the IT organization than to put people in the wrong places (for example, technology mechanics directly supporting academic or business process transformation).

As a potential CIO leader, you have the opportunity to support all the infrastructure-level functions on which your institution has come to rely, while at the same time reinventing the rest of what you do to ensure your IT organization operates with the proper strategic focus. Funding for these new initiatives will have to come through a mix of savings from cost reductions, chargeback, and central funding—without any noticeable increase in overall IT spending. In general, strive to use 100 percent chargeback for commoditized services while reserving your centrally provided funds for services that have a direct strategic impact.

Engage in Strategic Sourcing

Outsourcing strikes fear in the hearts of IT employees like almost nothing else. Even broaching the topic of out-

sourcing can reduce the productivity and loyalty of employees and create distrust between them and management. There are significant positives, however, that cannot be ignored. In addition to potentially reducing costs, outsourcing some of the infrastructure-level services you currently provide can give your entire organization more time to focus on delivering strategic value. The opportunity for potential CIO leaders is to source services to the provider best suited for the task and to manage all those providers in a way that maintains and preserves employee loyalty.

Broadbent and Kitzis used the term "strategic sourcing"[9] to refer to a process that considers the best possible source for every IT service required by an institution. In their process, all stakeholders (including employees) are engaged in a discussion that considers all possible providers equally, including internal providers. This kind of open, deliberative process makes employees more apt to support decisions to use external service providers and reduces fear throughout the organization.

Eighty percent of IT outsourcing deals based on cost alone fail,[10] so the sourcing process must go beyond considering costs and evaluate more strategic factors: the institution's short- and long-term goals, required versus existing competencies, and risk. By considering all of these factors, the IT organization can reach decisions to source services to providers that most effectively meet the needs of the institution.

Once sourcing decisions are made, the CIO leader must manage all service providers—including internal providers—identically, through the use of service level agreements. External service providers should be managed as subcontractors of the central IT organization and not as alternate providers. Internal service providers will need to act like external service providers and be managed as such.

What services are appropriate to source to external providers? The answer to that question is unique for each institution—that's why process remains important. Typically, services involving ubiquitous, infrastructure-level services are the best candidates for outsourcing because the deliverables are standardized and do not require specialized knowledge of the institution and its goals. Discussions regarding the sourcing of these types of services should begin with the question, "Why can't we source this externally?"

Objective, quantifiable data are necessary to motivate and direct employees, support IT investment decisions, and show that IT delivers strategic value

What services are more appropriate to source internally? Services that require support by individuals possessing deep and specialized knowledge of the institution's academic and business practices, services that are closely aligned with the institution's strategic goals, and activities that support both academic and business transformation are best sourced internally. Discussions regarding the sourcing of these types of activities should begin with the question, "Is there any advantage to sourcing this externally?"

Measure and Report Outcomes

As you shift the culture of your organization to become more strategic, nothing is more important than measuring both the outcomes of your organization's efforts and the job performance of your employees. Objective, quantifiable data are necessary to motivate and direct employees, support IT investment decisions, and show that IT delivers strategic value. If you evaluate your performance from outside the IT organization, it is critical to know how other groups become successful and relate that back where possible to the services you provide. Once you have the information, report it publicly and broadly, even the bad numbers. Doing so will increase the accountability of your organization and motivate everyone to perform better.

Your metrics must be framed in concepts that are meaningful to those outside the IT organization. This is particularly important when measuring the performance of commoditized services—no one is interested in the uptime for electrical power or the telephone system, and they feel the same way about ubiquitous IT services. Instead of concepts such as uptime or help-desk volume, focus on metrics that demonstrate value for end users such as help-desk responsiveness (how many help-desk requests were resolved within a day, two days, a week, and so forth).

Performance dashboards and project scorecards can increase the productivity and accountability of your employees. In my organization, our help desk and project management systems track time to completion of requests for assistance as well as individual project tasks. The system provides real-time data to both employees and management and reveals at a glance how the organization is functioning.

While employees may initially resist objectively measuring their performance, most find the system invaluable in the end, particularly because it helps them set priorities. A word of warning, though: dashboards and scorecards coupled with unreasonable expectations have the potential to create a pressure cooker for your employees, rapidly demoralizing them and leading to stark reductions in their productivity. When establishing this type of system, dialogue and communication are important. Expectations should be clearly established, and both support staff and end users should have the opportunity to inform and shape those expectations.

In addition to measuring employee performance, IT organizations should also routinely gauge end user satisfaction through surveys and qualitative methods such as focus groups. In my organization, end users making requests of our help desk are randomly selected to complete a satisfaction survey. The survey asks questions about the user's experience as well as the process for resolving technical problems. These data are gathered not just to identify problems but also to support our belief

that the help desk provides solid, reliable, and efficient service. We're also working to create an instrument for a campus-wide technology survey that will be administered on an annual basis, similar to what LibQUAL[11] has done for libraries in higher education.

Collecting objective data is vital for potential CIO leaders. Occasionally, disgruntled end users, through their power or authority, try to spin one-time mistakes into an urban myth of recurring problems within central IT. No organization has a perfect batting average, and when problems do occur, they can be placed in the proper context as anomalies—provided you have the right data. In addition, periodically reminding end users how their success relies on your work will create IT advocates throughout the institution.

Finally, Be Bold

Despite a climate in higher education that is skeptical of technology, despite the collapse of the technology industry, and despite shrinking budgets, potential CIO leaders realize that this is a time to be bold. Accept the commoditization of IT and use it to your institution's advantage by shrinking costs. Become strategic by changing the culture of your organization and linking its success to the success of others outside the group. Reorganize and reshape your organization to reflect these new realities. Take advantage of strategic sourcing, even though it can sometimes lead to painful and difficult decisions. And measure and report the performance of your organization. Potential CIO leaders who embrace these opportunities will find that they and their IT organizations can thrive, no matter what the environment. *e*

Endnotes

1. G. Jackson, "A CIO's Question: Will You Still Need Me When I'm 64?" *Chronicle of Higher Education*, January 30, 2004, pp. B22–B23.
2. Ibid., p. B23.
3. M. Broadbent and E. S. Kitzis, *The New CIO Leader* (Cambridge, Mass.: Harvard Business School Press, 2005).
4. N. G. Carr, "IT Doesn't Matter," *Harvard Business Review*, May 2003, pp. 5–12.
5. See articles by Jack McCredie and others in *EDUCAUSE Review*, Vol. 38, No. 6, November/December 2003, <http://www.educause.edu/apps/er/erm03/erm036.asp>.
6. Ibid., p. 5.
7. N. Gohring, "Gartner: IT Groups Shrinking, Changing," *Infoworld*, November 9, 2005, <http://www.infoworld.com/article/05/11/09/HNitshrinking_1.html> (accessed February 2, 2006).
8. Carr, op. cit., p. 11.
9. Broadbent and Kitzis, op. cit., pp. 180–181.
10. Ibid, p. 180.
11. For more on LibQUAL+, see <http://www.libqual.org>.

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