

# A Framework for the

# CIO Position

By Brian L. Hawkins

**T**he CIO (Chief Information Officer) is a relatively new concept in higher education. There have been directors of college and university computer centers for over half a century, but the first CIOs did not appear until the late 1970s.

The need for the position in academia really began with the need to manage and coordinate computing and information technology services with the dramatic influx of microcomputers and networks in the early-to-mid 1980s. Today, twenty years later, the concept of a CIO still lacks definition: it has a variety of meanings, manners of being defined and operationalized, and methods for integration within the campus infrastructure, accompanied by an equally diverse set of realis-

tic and unrealistic expectations. As a result, the job of selecting a CIO can be confusing. A framework is needed to help define the CIO position and determine what characteristics make such a CIO effective, thus enabling campus leaders to successfully recruit and select a CIO for their institution.

### Executive Team Involvement

In thinking about hiring a CIO, members of the executive team first need to decide whether they and the campus are prepared to make a commitment to technology, to the executive role of the CIO, and to their own role and responsibility in understanding and managing the information resources within their functional areas and on the campus. These considerations are important to discuss thoroughly and to understand fully before any

hiring process is initiated. In a *Harvard Business Review* article about IT decisions that should not be made by IT people, the point is clearly made that the involvement of the entire executive team—and especially of the president or chancellor—is critical if information technology is to help address strategic issues. The authors of the article state: “An IT department should not be left to make, often by default, the choices that determine the impact of IT on a company’s business strategy.” The involvement of the top-level executive leadership in IT decisions is as crucial for colleges and universities as it is for corporate institutions.<sup>1</sup>

The executive team—and ultimately the CIO candidate—must understand that the role of CIO is not about technology itself; rather, it is about the ability of a campus to achieve its goals and objectives *through* technology. The focus of the executive team should remain firmly on the

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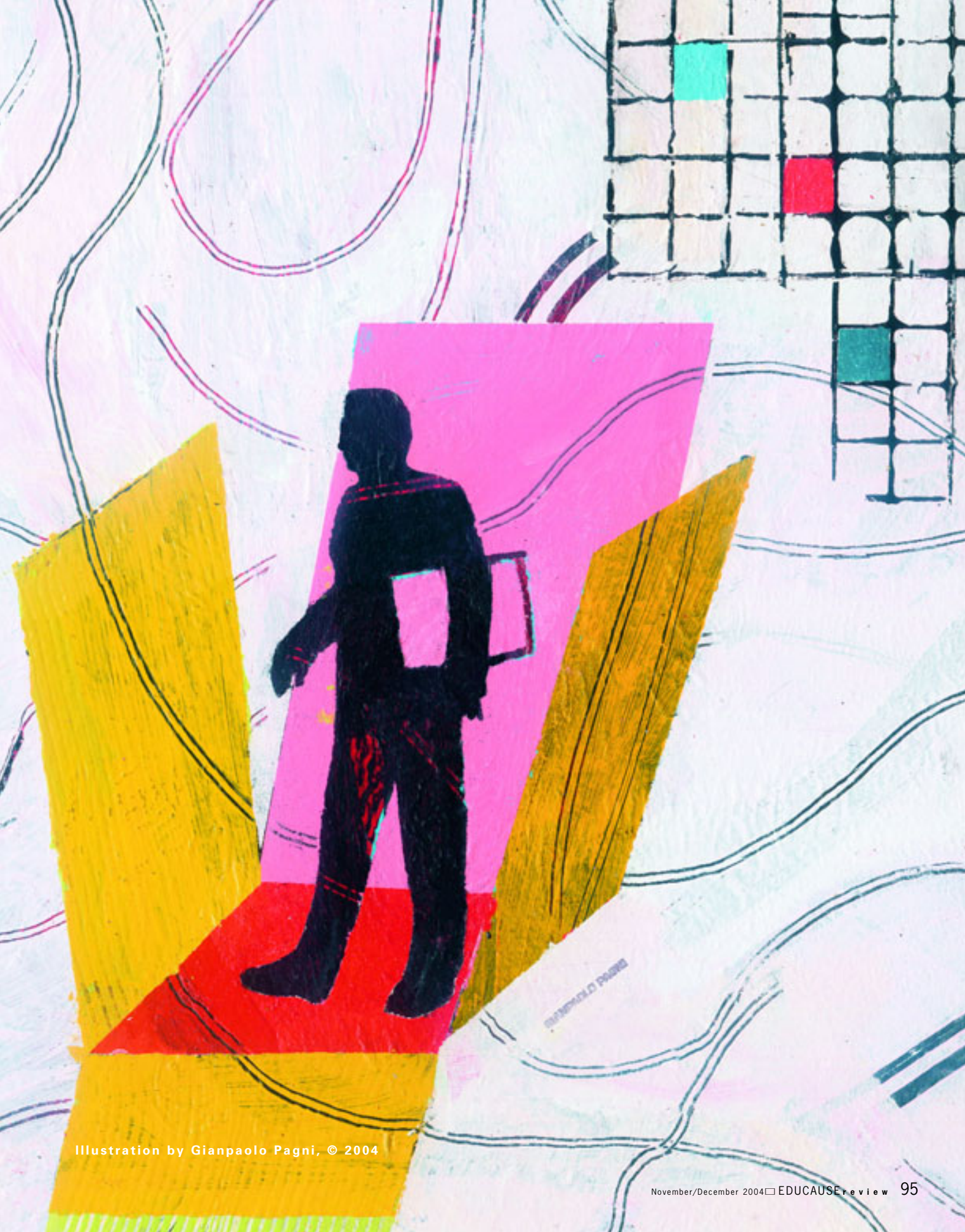


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institutional mission and should set the tone that technology and decisions about technological innovation must be considered in light of the extent to which the technology advances this mission. This point is best illustrated by a statement by James Duderstadt, former president of the University of Michigan:

Decisions involving digital technology raise very key strategic issues for colleges and universities requiring both attention and understanding at the very highest levels of institutional leadership. Technology is comparable in importance to other key strategic issues such as finance, government relations, and private fund-raising where final responsibility must rest with the president. The pace of change is too great and the consequences of decisions too significant to simply delegate to others such as faculty committees or chief information officers. The road ahead is littered with land mines and tipping points that require informed attention by the executive leadership and governing boards of academic institutions. Leadership on technology issues must come from the president and the provost, with the encouragement and support of the governing board.<sup>2</sup>

Hiring a CIO does not take technology off the plates of these senior leaders. Having a CIO is not a surrogate for the active involvement of the chief executive officer, the chief academic officer, and the chief financial officer in decision-making related to information technology across the functions of the campus. Senior campus officers must take responsibility for overseeing the systems that manage the information assets in their domains of responsibility and for working with each other and with the CIO to maximize the institutional effectiveness and efficiency in using technology. Instead of abdicating and distancing themselves from IT, all senior officers must learn more about IT, take more responsibility for IT, and engage in ongoing education so that they can assume these new responsibilities.

The CIO must be integrally involved in shaping this education, but ultimately the campus strategy and the commitment of the executive team to work collaboratively will be critical.

Although the CIO will certainly have direct managerial responsibility, the job of managing technology is unlike other line responsibilities. Information technology is not a hierarchical and independent functional area of responsibility. Technology is much more of a spider web, creating and allowing interdependencies among existing structures, and it can potentially be used to break down these often dysfunctional silos on campus. Whereas higher education has historically been organized in vertical administrative structures or silos, technology—as a cross-cutting function—creates horizontal interdependencies that require administrators to manage these campus-wide functions. The CIO has thus been described as an orchestra leader who tries to get various elements within the campus to play together. This coordinative role is absolutely necessary, of course, but one quite appropriate rejoinder to this metaphor is that the role of the CIO is more like that of the leader of a jazz ensemble, who coordinates but also improvises, allowing others to express their own uniqueness and making it all up more or less on the fly. In either case, the role of the CIO is never a solo performance. The CIO must be able to get all units to harmonize, and the ultimate score must be defined by the entire executive team. All members must understand and assume their collective responsibility for the success or failure of the institution's technology program.

### Questions to Ask

The most important element of a successful CIO search is the degree to which the senior administrative team has engaged in the definition of this role and the degree to which it understands the implications of incorporating this position within the campus. The executive leadership must understand and agree on the reasons for hiring a CIO and must com-



mit to making the institutional changes required for the CIO to be effective. The executive team must ask—and answer—several critical questions. It should be noted also that the wise CIO candidate will probe for the answers before accepting the position.

### Why Are We Hiring a CIO?

The first step in hiring a CIO is to examine why a CIO is being sought. Is this person being hired to replace a seated CIO who has failed in some way to accomplish what was expected of him/her? Or is this a new position? The hiring process will differ depending on the answer to this question. This should be part of the strategic planning and discussion about the need for a new CIO. Having unrealistic expectations or hiring for the wrong reason has been the downfall of many CIO searches.

Whether the search is focused on a replacement because of a bad situation or on the creation of a new position, the first step that the executive team needs to take is to address the “why.” Members of the executive team and the CEO must understand what they are trying to accomplish by replacing a current CIO (“What are we trying to fix?”) or by creating a new CIO position (“What do we want this position to do for us?”). If there is something that needs to be fixed, the executive team must understand what is currently failing—and why—so that they can do a good job of defining roles and expectations.

Quite often, the decision to hire a CIO follows a period of frustration and dissatisfaction with IT, with the lack of dependable support for technology on campus, and with the existing computing service structure. The idea is to hire a CIO and then to sit back and wait for this messianic person to solve all of the problems.

But unless the campus is realistic about the position, the role, and the person, failure is in the offing. There are many examples of this “death by expectation” on campuses. The person hired in a new CIO role cannot be expected to be a technological guru and also someone capable of securing the funding necessary to supplement a legacy of underfunding of technology. No person can solve these problems alone. It is a group process!

If the campus wants this position to succeed, it must force itself to grapple with issues about its own willingness to change and to embrace both this position and an increasing role for technology on campus. Will the existing governance culture permit IT leaders to engage in timely decision-making, which sometimes must be done without the full participation of all interested parties? Can existing budget processes and lead times be modified, or will “the way we have always done it” become a cultural barrier to effective IT management? Not only the executive team but also the search committee and other interested and involved parties need to get engaged early and thoroughly in thinking through these expectations.

#### *What Is the Campus Commitment to IT?*

Part of the recognition of the importance of IT as a strategic resource for the campus and of the relevance of IT to campus policy is having realistic expectations regarding what the CIO will be able to accomplish within the context and con-

straints of the campus culture, values, convictions, and governance conventions. Before launching a search, the executive team needs to come to terms with how prepared the campus is to change—both in terms of supporting the CIO and in terms of dealing with the results of having someone in the CIO role.

The institution needs to be prepared to address budgetary issues associated with the commitment to hire a CIO. When the hiring of a CIO is the result of frustration with ineffective IT services and support, often there is an associated lack of funding, understaffing, or inadequate infrastructure for IT as well. If a campus decides to hire a CIO, it must be prepared to provide adequate support to allow this position to succeed. Comparisons of campus funding can be found via the EDUCAUSE Core Data Service.<sup>3</sup> It is likely that the better candidates for the CIO position will have already done these comparisons. Furthermore, to attract a solid candidate, the campus needs to be able to demonstrate its understanding of any possible shortcomings that could affect its expressed mission and goals and must be prepared to explain the extent to which it is willing or able to address these shortcomings as part of the commitment to the IT environment.

An example is the recruitment and retention of IT staff. Although the dot-com bust has relieved some of the pressure, at least for the moment, of finding and keeping qualified IT personnel, this is a

difficult and ongoing challenge. No longer can most campuses hire qualified IT staff significantly below the market level outside of higher education, as was once the case. Furthermore, retaining such individuals is an increasing challenge and requires a commitment to ongoing professional development and continuing education. If a campus is to get what it is paying for, it must continue to invest in these personnel; the speed of change within technology requires continually updated skills. These needs may require IT staff training and development procedures that are more innovative, less traditional, and more expensive than in other areas of the college or university. These are the kinds of “tools” that allow the CIO to be successful and that will make a given position attractive. In short, the campus needs to be committed and willing to support the candidate in helping the institution succeed with IT.

#### *What Is a Chief Information Officer?*

This article focuses on the CIO who serves as the chief *technology* officer, rather than the CIO who oversees both the library and the technology areas (as is the case for many CIOs at smaller institutions). The concept of a “chief information officer” originated in a piece by William R. Synnott and William H. Gruber in 1981.<sup>4</sup> They suggested that the CIO should be

- a member of the senior administrative team,
- a manager of the technology and other information resources,
- the individual responsible for IT planning,
- the individual responsible for the development of new systems,
- the individual responsible for policy development, and
- a participant in the overall institutional strategic planning processes.

“Information Technology Leadership in Higher Education: The Condition of the Community,” a study published by the EDUCAUSE Center for Applied Research (ECAR) in February 2004, suggested that approximately half of the top IT positions in higher education could be considered in this CIO definition, up considerably from a study done about a decade ago.<sup>5</sup>

## The Hiring Process

After a framework has been established to help define the CIO position and to determine the characteristics that make such a CIO effective, campus leaders must successfully recruit and select the CIO for their institution. Several actions are required in this process:

- Deciding whether to look internally or externally
- Choosing whether or not to use a search firm
- Adequately staffing and managing the search committee
- Finding out where to look
- Checking candidates’ references
- Interviewing the finalists

Further details on each of these steps can be found in the longer, online version of this article: Brian Hawkins, “Selecting a CIO,” <<http://www.educause.edu/er/erm04/erm046.asp>>.

Before recruiting for the CIO role, the executive team must ask several key organizational questions, the answers to which will affect the definition of the role of the CIO as well as the desirability of the position from a candidate's point of view. Minimally, there are three questions:

1. *Where does this position report in the organization?* The reporting role of information technology has historically been a function of the campus and of the initial use of IT on that campus. In research institutions, that initial use of IT was in the academic arena, whereas in many smaller and less research-oriented institutions, the initial use of IT was in administrative areas such as billing and registration. In addition, many campuses had (and some still have) separate academic and administrative computing centers, resulting in multiple reporting relationships on campus. With the advent of microcomputers and networking in

the early-to-mid 1980s, many campuses started to revisit whether they should have separate centers and what the appropriate reporting relationship was for the campus. With the increasing importance of IT in achieving campus goals and enabling needed changes on campus, these considerations of where IT should report need to be continually evaluated.

According to the data of the 2003 EDUCAUSE Core Data Service, about 30% of CIO positions reported to the president or CEO, about 28% reported to the top academic officer, and about 33% reported to the top-level administrative or financial officer.<sup>6</sup> However, there were significant differences in these patterns when the Carnegie classification was considered. Community colleges averaged 43% reporting to the president, while this was true for only 28% of baccalaureate institutions. Doctoral and bac-

calaureate institutions were most likely to have the CIO report to the chief academic officer, but this was least common in community colleges. Reporting to the top administrative or financial officer was most common in baccalaureate institutions and least common among doctoral institutions. Knowing what similar institutions are doing is useful in understanding the overall market and milieu for CIOs, but the direct reporting relationship is often focused on too much. The key point is whether the CIO is part of the executive decision-making team on a campus. The reporting relationship is completely independent of this second issue.

2. *Does this position sit on the presidential cabinet?* Many prospective CIOs have rejected the offer of a position because the CIO did not sit on the president's cabinet. This issue is of increasing importance to candidates

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seeking the CIO position. Many do not feel that they can accomplish the kind of institutional transformation that IT promises or meet the expectations of the campus community without the chance to be part of the executive team. The reporting relationship is another signal to CIO candidates of the institution's understanding of, and commitment to, the CIO and of the institution's willingness to grapple with the financial and political consequences of establishing such a position.

The EDUCAUSE Core Data Service findings indicate that about 44% of all top-level IT positions served on the president's cabinet in 2003. Sitting on the president's cabinet was most common for community colleges and doctoral institutions and least common for baccalaureate schools (35%). This percentage is substantially higher than the 30% of CIOs who actually report to the president. This inclusion of IT in the campus executive decision-making body helps the CIO in understanding competing priorities, strategic issues, and the campus mission and in making technology investments accordingly. In addition, having the CIO involved in these discussions helps leaders of other campus functions understand how they might more effectively integrate IT into their own operations. The ECAR study "Information Technology Leadership in Higher Education" notes: "Senior-most IT leader respondents who are members of the president's/chancellor's cabinet have significantly more interactions with higher-level executives and the governing board, make greater use of planning processes and models, and participate more in non-IT institutional decisions."<sup>7</sup>

3. *What should this position be called?* The title of the top-level IT position is incredibly varied across institutions. Interestingly, there is evi-

dence that the title may have some impact on the perceived desirability of the position to prospective candidates. In the Core Data Service findings, there were 294 unique titles given by 822 respondents. This is largely because of the wide variation in where IT reports. It should be noted that there are enormous differences in the patterns of titles for different Carnegie classifications of schools. A vice presidential or vice chancellor title occurs in about 20% of all schools but in more than 37% of doctoral institutions. The most common titles of the entire sample were dean, director, and executive director, which were the titles often used in baccalaureate institutions and community colleges. According to the findings, 29% of these positions were either called "CIO" or had "CIO" embedded in them, such as "associate vice president and CIO." The title is just one more way that a campus can send the message that IT is important.

### CIO Characteristics and Criteria

Linda Fleit has provided an excellent summary of what is needed in this position. She lists the following requirements for a CIO:

*First, and most important, the person should have a vision about the role of information technology in higher education and some clear ideas about where it can make the greatest contributions at your institution. Then:*

- 1) excellent oral and written communications skills, including listening as well, and an ability to communicate well with and at all levels of the institution;
- 2) the ability to form alliances and relationships with key campus constituents to make sure that all information technology efforts are in line with the institution's goals;
- 3) the ability to work collaboratively and effectively, both with one's staff and with one's peers;



- 4) the ability to make and stick to hard decisions that are in the institution's best interests, combined with the agility to stay flexible and open at all times;
- 5) the ability to manage resources in an environment where the demand is far greater than the supply; and of course,
- 6) deep expertise in at least one aspect of the technology itself.<sup>8</sup>

Most of these requirements involve managerial and leadership skills, not technical skills. Although the last bullet was certainly more than an afterthought, the need for technical expertise is far less prominent than it was just a few years ago. Increasingly, the CIO must assume a more generalized role, acting as teacher, facilitator, coach, and partner.

There is no defined career path for CIOs, nor is there any certification, degree, or even common body of knowledge that such a person should have mastered in order to fulfill this kind of position effectively. Like the search for any other executive position, finding the right CIO is more about aligning personal traits, skills, professional orientation, proven success, and vision with a given campus culture and climate. Thus, the following qualities should be emphasized in the CIO job description.

### Strong Communication Skills

The CIO needs to be a very good communicator, and most important, the individual must be adept at dealing with a host of different audiences. One CIO reported that the president of the institution with which he was interviewing asked him, "What is the strongest attribute that you bring to the job?" The candidate re-

sponded that he was multilingual. Somewhat perplexed, the president asked him to explain, and the candidate went on to say that he felt he was versatile and effective in talking with faculty, with students, with trustees, with vendors, with colleagues in different administrative positions, and with many others. This ability to effectively deal with multiple audiences and get the “buy in” for technological changes is essential to being a CIO.

The CIO also needs to be a coalition builder, which requires a strong ability to listen. He or she needs to be relatively facile in public speaking as well, since the position often involves putting forth future plans and doing so in a persuasive manner. This persuasion will ultimately depend on the individual’s credibility, which in turn depends on two critical elements that should be explored during the interview process. First, the candidate should present the capabilities of the technology realistically, not overselling technology and its benefits. Second, if the candidate is going to sit on the president’s cabinet, this person should be able to

converse reasonably about key issues facing the other senior officers. Does the candidate have at least a passing familiarity with grants and contracts, with the challenges of intercollegiate athletics, and with financial aid pressures? Does the candidate understand spending rules on endowments, or the nature of formula funding, so that financial plans can be made reasonably? Does the candidate know about the kinds of tools that humanists use, as well as those in the physical sciences in terms of academic applications? To be effective, the CIO (perhaps more than most other senior executives) needs to have a working knowledge of a variety of areas so that the administrative and academic systems that are being supported by IT can best serve the changing needs of these other areas and thus the campus.

#### *Boundary-Spanning Ability*

Directly related to a candidate’s communication skills is the ability of the candidate to easily cross over the artificial, but often immense, boundaries between silos in the

campus organization. As mentioned in the last section, the person must have credibility that is borne from a working knowledge of many different functions within the campus. The individual most certainly will be seen as an advocate for technology, but he or she also needs to be perceived as realistic and fair. The CIO must be a team player, someone who tries to advance the campus agenda. Since technology is so intertwined with change, the CIO must be a change agent, since change management will occupy much of this person’s time. However, the person in this role is not *the* campus change agent. To portray oneself in this regard, or to be perceived as trying to assume this role, will lead to failure. The effective CIO understands that in advocating for technological change, his or her ultimate credibility comes from effectively communicating and realistically evaluating the goals, costs, options, tradeoffs, and risks associated with pursuing a proposed technological direction, implementation, or innovation. The CIO must be an active participant in campus discussions and

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must be able to help other institutional leaders understand the complexities of information resources, service delivery, technologies, and the information demands of the community. Likewise, CIO candidates should assess the ability of the members of the executive team to comprehend and assimilate the key technical issues under debate at any given time. In the ECAR study "Information Technology Leadership in Higher Education," sitting CIOs were asked to name the top three issues that were instrumental to success. They answered (1) the ability to communicate effectively, (2) strategic thinking and planning, and (3) an understanding of business processes and operations.<sup>9</sup> It is this third element that is all too often ignored both in the performance of CIOs and in searches for CIOs.

### *Leadership Ability*

Undoubtedly, leadership ability is a truly amorphous quality. Leadership involves more than being a good manager; it consists of having a dream and being able to get others to also want to strive for this vision. A history of this ability should be obvious in a candidate's previous positions, since leadership is not something that is bestowed upon an individual when he or she attains a top-level position. Leadership is something that individuals show at every level in the organization. On the other hand, it is not something that emerges in every setting or circumstance, and it is not an innate quality. Leadership has to do with a situational context and the ability to bring others together for a shared goal. CIO candidates should thus be able to identify where they have exhibited leadership in the past. At the same time, CIO candidates should assess whether the campus culture and governance conventions will permit the CIO to lead appropriately.

Finally, the CIO must be actively involved in policy issues relating to IT and must be capable of effectively incorporating these issues in executive team discussions and regular IT operations. Aligning campus policy with federal policy, regulatory demands, and campus operations

is a major role of the CIO, and the awareness of this role and of relevant policy issues is increasingly important.

### *Other Considerations*

*Degree requirements.* Many CIO searches limit their candidate pools by starting out with the requirement that the candidate hold an earned doctorate. The ECAR study found that of the senior-most IT officials on campus, 78% had an advanced degree and 22% had a Ph.D.<sup>10</sup> However, a degree alone does not ensure success, and imposing such a requirement may work against a successful search.

On the other hand, it is absolutely imperative that a person have a reasonably strong understanding of the academic environment. Although there certainly have been exceptions, many of the CIOs who have been brought into a college atmosphere from business, industry, or the military have had very difficult struggles learning to work effectively within the academic milieu. Consensus decision-making and faculty governance are foreign and often frustrating to such transplants. Having the ability to walk into a job and be able to sit down and both understand and demonstrate that understanding and value for the faculty committees that they will work with is extremely important.

Again, the CIO need not have gone through a doctoral program to have an appreciation of campus culture, faculty perspectives, and academic priorities. To further restrict the market by requiring that a candidate have a doctorate in computer science or some related field probably adds little in terms of specific skills or abilities that are essential to the success of the CIO.

*Technological skills and understanding.* The CIO is the lead technology position for the campus, but this person need not be the "best" technologist or the most technologically savvy person that a campus can find. Although many CIOs are indeed enormously talented and extremely knowledgeable technologists, these skills alone



do not ensure success as a CIO. The individual, no matter how technologically advanced, must depend on and trust the capabilities and advice of others—specialists in networking, applications development, and the like. These "other" sources may be staff within the IT unit, faculty in computer science, colleagues at other institutions, or fellow members of professional associations. A CIO who can draw on an informal network of colleagues and informational resources is better for the institution in terms of the breadth and depth of knowledge that can be applied.

In addition, the CIO must be someone who understands both the possibilities and the limits of technology and who can adequately explain both. Caution should be exhibited if a candidate wants to create a "showcase" for technology. The CIO's role is not to focus attention on the technology but to emphasize the opportunities that are possible through the effective use of technology.

*Management experience.* The CIO is the lead administrator of a functional unit with a potentially large budget and complex staff. This position thus requires significant skills in terms of managing budgets and supervising staff. Hiring a person with little experience in these routine managerial responsibilities would be a serious mistake. It is also imperative that this person be able to delegate effectively and to create redundancy in the organization, since the demands for IT services don't observe vacations or campus breaks. Faculty, staff, and students have become dependent on technology, and the expectation that technology services will be available 24x7 is only growing. Therefore, the CIO must create a staff structure that can handle these demands

within the resource constraints that have been given to the CIO and the campus. This calls for creative and effective management, delegation, and resource allocation skills.

## Conclusion

Finding an effective campus IT leader is not an easy task. Doing so takes more energy and active effort on the part of the higher education institution than a typical search because of the combination of skills required and the limited market pool currently available. The campus needs to find a person who sees himself or herself not only as an IT professional but as someone capable of leading the IT unit and managing the available resources in support of the academic mission. Just as important, the campus must carefully examine the institutional commitment, including the institutional resolve to implement the changes that will allow the success of both the CIO search and the individual selected. The campus cannot hope to capitalize on its investment in information technology until it

comes to terms with its own expectations and obligations. *e*

## Notes

1. Jeanne W. Ross and Peter Weill, "Six IT Decisions Your IT People Shouldn't Make," *Harvard Business Review*, November 2002, 86. The points made in this article were considered in the context of higher education in David Ward and Brian L. Hawkins, "Presidential Leadership for Information Technology," *EDUCAUSE Review*, vol. 38, no. 3 (May/June 2003): 36-47.
2. James J. Duderstadt, Daniel E. Atkins, and Douglas Van Houweling, *Higher Education in the Digital Age: Technology Issues and Strategies for American Colleges and Universities*, ACE/Praeger Series on Higher Education (Westport, Conn.: Oryx Press, 2002), 181-82.
3. The EDUCAUSE Core Data Service (<http://www.educause.edu/coredata/>) consists of a Web-based survey, a Web-based database service available to those who participate in the survey, and a publicly available annual survey summary report.
4. William R. Synnott and William H. Gruber, *Information Resource Management: Opportunities and Strategies for the 1980s* (New York: Wiley, 1981).
5. Richard N. Katz et al., "Information Technology Leadership in Higher Education: The Condition of the Community," *EDUCAUSE Center for Applied Research Study*, 2004, vol. 1 (February 19, 2004): 24.
6. The categorized results are available online: <<http://www.educause.edu/coredata/>>. For those schools that participate in the EDUCAUSE Core Data Service Survey, a Web-based database ser-

vice allows for direct comparison to specific institutions that are perceived to be relevant comparison points.

7. Katz et al., "Information Technology Leadership in Higher Education," 83.
8. Linda Fleit, *The EDUTECH Report*, vol. 15, no. 3, p. 8.
9. Katz et al., "Information Technology Leadership in Higher Education," 83, 85.
10. *Ibid.*, 84, table 8-1.

## RELATED RESOURCE

 For campus leaders looking for a CIO, announcing an open position in the EDUCAUSE Job Posting Service (<http://www.educause.edu/jobs/>) can help in the successful recruitment of a suitable CIO. For CIO candidates, the EDUCAUSE Institute Leadership Program (<http://www.educause.edu/conference/institute/>) and the Frye Leadership Institute (<http://www.fryeinstitute.org/>) offer the opportunity to explore and analyze leadership challenges faced by those in the CIO position.