The Future of IT Governance

The purpose of IT governance is to make decisions that ensure IT investments help achieve institutional goals. To do that, IT governance focuses on matters of key strategic value—baseline principles, investment priorities, infrastructure and architecture standards, and critical applications choices—and provides both a forum for collecting viewpoints and data, and a process for making decisions.

Nothing about these defining characteristics of IT governance is likely to change in the near future. IT has become so intertwined with the life of higher education institutions, and consumes such substantial resources, that some high-level process for making big decisions has become essential. IT governance is here to stay.

Yet a great deal about IT governance is dynamic. Some issues requiring executive attention or constituent input will dwindle away, to be replaced by others that have suddenly gained new significance. Committees that were appropriate to one set of circumstances will fail when a new set arises. Institutional priorities will change, and shifting economics will affect both the cost-benefit calculus of technologies and the nature of the constituent bases they serve. In general, anything that “politicizes” a technology or a process that depends on IT has the potential to affect IT governance, perhaps by changing it from a purely operational concern to a community concern.

With the help of eight IT leaders who shared their thoughts on how IT governance is evolving, we look in this chapter at the dynamic aspects of IT governance as we think they’ll unfold over the next 5 to 10 years. While the picture is complex, and not all our interviewees agreed on all matters, one point stands out clearly: In the 21st century, ITG in higher education will have to serve the needs of a growing and increasingly diverse body of constituents who will demand more sophisticated services and more options in how they obtain and use them.

Catalysts for ITG Change

Our investigation of coming changes and challenges in IT governance uncovered both centrifugal forces that tend to send services outward to departments and users, and centripetal ones, which imply their movement toward central IT or other parts of the institutional core. The theme that cuts across all of them is that IT governance will deal with a constituent community with increasingly complex needs, providing overarching guidance and a degree of institutional (and extra-institutional) “glue” to hold the activities of an empowered and collaboration-minded user community together. In this section, we
look at four particular areas that interviewees described as critical: the growing impact of commodified services and consumer choice, research cyberinfrastructure, data management, and the increasing difficulty of funding innovation.

The Democratization of IT Services

Minicomputers, PCs, and servers have long since enabled users at many levels of the institution to strike out on their own and provide independent IT services. But a new generation of commodified services is now taking the sourcing granularity of sophisticated, networked solutions down to the individual user level, lowering the bar of independence still further for schools and departments. Today, individuals or groups can find their own solutions (often free of charge) for e-mail, calendaring, work-group collaboration, office applications, web hosting, storage and backup, and many other things traditionally supplied by the institution. Courses can be delivered and evaluated independently of any institutional infrastructure, and social networking tools not only bring constituents together but also increasingly act as platforms with portal-like integration capabilities. Heavy-duty computing services can be ordered from the “cloud” on a usage-fee basis with no up-front capital investment and no need for housing or routine system updates.

To Internet theorists like Yochai Benkler, this emerging cloud of commodified, collaborative services facilitates a new mode of “social production,” helping talent and resources to flow to interesting problems, opening new forms of creativity and new social relationships, and permitting fast, effective collaboration. Its impact on higher education is already clear, from the intense effort students put into their social networks to the highly collaborative, globalized, and technologically enabled ways that research teams now work in many disciplines. It has also affected IT politics on campus, as every CIO responding to open source or peer-to-peer file-sharing communities knows. What remains unclear is the extent to which institutions will supply such services themselves, integrate with them in what Benkler calls a “permeable” environment, or allow consumer choice to prevail.

Such questions have begun to make their way into the visions our interviewees’ institutions have developed of their future strategic goals, most notably in the priority given to technologically enabled collaboration. At Princeton, Vice President for Information Technology and CIO Betty Leydon used the occasion of an institutional strategic planning process to develop a strategic direction document for IT in which collaboration plays a prominent part. “What we did was translate the [institutional] priorities into the central IT initiatives,” Leydon says. The document calls for an information infrastructure that supports collaboration and a services infrastructure “comprised of a set of integrated online services that will facilitate people-to-people interactions by simplifying and standardizing interactions between people and information.” As a concrete example, Leydon notes that Princeton has recently decided to offer a “bridge year” for admitted Princeton undergraduates who choose to delay their freshman year in order to pursue international service opportunities. “We have to figure out how we’re going to stay in touch with these students,” Leydon says. “Those business initiatives translate into IT needs.”

Similarly, the University of California’s system-wide Information Technology Guidance Committee, in a two-year initiative sponsored by the University of California Office of the President Provost, produced a report noting among other things that “Collaboration is the way forward.... The University should deploy IT infrastructure, tools and services to support collaboration within the UC community.” As at Princeton, this recommendation reflected university, not IT, goals. “The intent [of the
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ITGC report] was not to develop a detailed operational strategic plan,” says Kristine Hafner, former associate vice president, information resources and communication, at UC Office of the President. “It was to surface the high priorities for strategic investment in IT. It has been shared with the regents and has led to requests for investments in the future.”

Our interviewees also saw strategic possibilities in the new services-oriented technologies that apply to more traditional business concerns. In particular, some thought that this more lightweight and commodified approach to IT could reinvigorate discussions about outsourcing noncore functions. “If we’re going to continue to be able to provide new services, we have to start shedding some of the old ones,” says James Hilton, vice president and CIO at the University of Virginia. “The successful IT unit in the future is going to be the one that figures out how to source commodity services as efficiently as possible and focus internally sourced talent on helping students and faculty directly.” Hafner agrees. “I feel like every university should be looking into these things,” she says. “We need to figure out how to take cost out of the business. The university has to acknowledge that it should not care about differentiation in certain things, and then there are things above the line that are academic related in nature, and there you need to preserve the flexibility and uniqueness.”

What’s lacking from the picture of commodified, consumer-oriented services as promoted by vendors (and often by their champions in the user community) is the sense of enterprise vision that is one of institutional IT’s key areas of competence and concern. As Princeton’s emphasis on “simplifying and standardizing interactions” suggests, some institutional role will be necessary to ensure that users really can connect with one another in straightforward and secure ways. End users of commodity services in many cases have little sense of how systems interact, where security threats may come from, or how the convoluted rules that increasingly apply to institutional records and other sensitive data apply to them. Yet IT cannot just unilaterally make all the decisions that make the new environment enterprise friendly.

For one thing, the relevant user community for any given service can change radically in size and composition, demanding flexibility and responsiveness from IT governance. To Dan Updegrove, consultant on IT in higher education, a particular challenge for IT governance is anticipating and responding to “contagion phenomena” caused when a sudden upward inflection of a new technology results in large-scale user expectations of support and performance. Contagion can be triggered by successful university pilot projects, such as early explorations of web-based course materials publishing that led, in very short order, to demands for robust course management platforms integrated with student information systems. In other cases, “community choice of consumer electronics and Internet services influences demand for enterprise-level services,” Updegrove says. “Users expect administrative systems to be as convenient as Amazon.com, instructional systems to be as compelling as Second Life, and lectures to be downloadable to their iPods.”

One example is the sudden shift in user expectations for ubiquitous wireless, which arrived hard on the heels of major investments in Ethernet connectivity in dormitories. “Nothing fell out of the CIO budget to fund deployment of 1,500 wireless access points,” says Updegrove. Looking to the future, Updegrove points to the emerging universe of networked consumer devices, especially mobile phones. “Vendors want to sell hot new stuff to individuals,” he says, “but many of those individuals on day two will want to connect that piece of consumer electronics to the infrastructure.” At the University of Cincinnati, Vice President and
CIO and Professor of Information Systems Fred Siff concurs and has spearheaded an institutional cell phone initiative featuring UC-centric applications designed for students and faculty. “Mobility happens to be a big deal in my book,” says Siff, adding that “it’s not yet a big deal on a lot of campuses.”

To really exploit emerging IT services, however commodified, will still require the institutional viewpoint, the cross-organizational scrutiny and give-and-take that IT governance provides. “An obvious focus of IT governance is setting priorities and determining resource allocations,” says Dan Updegrove. “Implicit in this is campus expectations-setting.” With effective communication between IT and the community, Updegrove adds, “there can be broader understanding that just because a new product became available yesterday, it’s not reasonable for the community to expect to be able to call the help desk today about it.”

This is not to say that IT governance won’t have to take into account the reality that local units can and will wish to serve their own interests. Yet the central/local divide is already getting fuzzier. To leverage the full range of available resources and sourcing options, institutions will increasingly wish to deliver IT in the form of services whose component sources—central, local, or commodity—are of no concern to the user.

At UCLA, Jim Davis, associate vice chancellor for IT and chief information officer, says that “we have a basic need to get out of the business of central versus decentralized kinds of deployment for many IT infrastructure services, especially those at or supportive of the frontlines of research, education, and the academic environment.” Instead, the university tries to identify services that benefit from both an enabling institutional layer and local layers that can be built on top of it. In addition, UCLA looks at the academic implications of the service, balancing discipline-specific and interdisciplinary objectives, institutional and local operational requirements, and academic and administrative priorities by getting input from different (and carefully chosen) groups. “One of the most important tasks for our governance structure is to resolve when, where, and how a service should be balanced,” says Davis. “It also speaks to where that balance point is as seen from strategic, functional, deployment, and investment standpoints.”

Research Cyberinfrastructure

Our interviewees unanimously stressed research support as a key challenge of the near future, one driven by both strategic importance and the growing role of IT in all facets of scholarship. “The fabric of inquiry is changing,” says Virginia’s Hilton. “Computation, simulation, visualization, and communication technologies are fundamentally changing the way that knowledge is discovered and transmitted.”

These changes will be especially evident in the provision and support of cyberinfrastructure—the National Science Foundation’s term for the advanced computing, network, and storage resources that support research, and the applications and collaboration tools that investigators use to get work done. An example of a broad cyberinfrastructure effort rooted in the strategic imperative of research excellence can be found in the report of the University of California’s IT Guidance Committee, mentioned earlier. The committee placed cyberinfrastructure items in the forefront of its recommendations, advising that the university invest in network connectivity, connect all of its institutions to a grid architecture, and plan for next-generation data centers to permit larger-scale and more flexible hosting of high-performance hardware, as well as investing in tools and services to support collaboration.

These recommendations involve a breathtaking range of initiatives and partnerships, ranging from upgrading local campus
networks so that they match the speeds of the external backbone, to investing in California’s regional network provider, CENIC, to working with national and international networking partners. Hafner describes these proposals collectively as “the blueprint for how we move on research cyberinfrastructure to serve the community using new models.”

The most transformative aspect of cyberinfrastructure is the challenge to the tradition of “cottage industry” science conducted by isolated investigators who use grant funds to buy (and often jealously guard) the resources they need for their own research, even if they use only a small fraction of their capacity. In a recent ECAR study of IT and cyberinfrastructure in higher education, survey respondents (mostly CIOs) gave low marks to their institutions for the collaborative use of research cyberinfrastructure and for the existence of incentives to collaborate. Yet creating and supporting cyberinfrastructure implies sharing, attention to economies of scale, and a degree of the kind of centralization researchers have historically gone to great lengths to avoid. It requires, in short, a multilevel approach to governance that can cross professional cultures and decide on priorities that serve institutional, and often extra-institutional, interests.

At Princeton, Betty Leydon describes a research IT governance model that triangulates between a research computing advisory group—“which is faculty who are major users of high-performance computing in their research and some of the technical people from their departments”—a senior advisory group on IT composed of university executives, and central IT. The process helped Princeton assemble a variety of central administration, central IT, and research funds to establish its Tigress Computing Center for hosting high-performance computing, and it has recently enabled the university to add shared storage for high-performance computing clusters. “The researchers put in money to help pay for the machine itself,” Leydon says, “but my belief is that the infrastructure pieces should be paid for by the central administration.” (For a detailed look at Princeton’s approach to high-performance computing, see the ECAR case study “Supporting Research Computing through Collaboration at Princeton University.”

Other interviewees described more informal mechanisms that nonetheless emphasize faculty involvement and mobilization of their passion for research. James Hilton frankly concedes that “I often have a hard time figuring out what to do with the university committee on information technology” when it comes to academic, and especially research, issues. “So what I have started doing is creating informal advisory groups where I see a focused need—I go out and recruit a set of faculty.” Hilton has created advisory groups in computationally intensive science, digital humanities, and course management and collaboration software. He also has turned over resources typically controlled by central IT, such as cluster upgrade funds, to faculty for allocation decisions. “I reserve the right somewhere downstream to take them back if it’s not working,” he says, “but I go with these advisory committees because I get a group of people who share a vision in a particular area—they aren’t blind, loyal fans, but they care.”

The need to rethink IT/researcher relationships is highlighted in some conflicting impulses revealed in ECAR’s recent study of IT and cyberinfrastructure. Asked what might help central IT support more effective use of cyberinfrastructure, respondents gave high ratings to improved communication and outreach between researchers and central IT, but were much less likely to name inclusion of researchers in institutional IT governance. This may simply reflect a preference for a broader principle than a more specific one, but it’s hard not to infer as well a certain willingness among CIOs to keep researchers at arm’s length. As
cyberinfrastructure becomes more tightly bound to research in diverse fields, however, the relative segregation of the IT and research worlds will become harder to justify.

No amount of governance tweaking or researcher passion, however, can change the fact that cyberinfrastructure investment is a highly competitive game, both within and between institutions. Costs are high, funding is limited, and a certain amount of conflict is unavoidable. Updegrove puts it bluntly: “Advanced research cyberinfrastructure is frightfully expensive.” For all its promise, Updegrove points out, today relatively few faculty members make use of it and benefit from it. Institutions intensively dedicated to science and engineering may find it easy to define cyberinfrastructure as a strategic priority, but “at a more multidisciplined institution you have to come up with some governance process, some review that asks are we starving the humanities and the social sciences here in this headlong commitment to be at the bleeding edge of infrastructure in support of collaborative sciences.”

Another dimension of cyberinfrastructure governance, Updegrove adds, is what he calls “co-opetition.” Two institutions may, at one point, be in competition to recruit the best scientists and win the most research funding, while at another point they may wish to see their researchers collaborate effectively. “The governance question is at two levels,” Updegrove says. “How much of what we need can we do ourselves, and how much of what we need do we have to collaborate with others to achieve?”

**Data Management**

Closely related to cyberinfrastructure, but perhaps still more daunting as a challenge to traditional research and IT practices, is the question of data management. Modern science produces huge quantities of data, which investigators may guard even more jealously than their grant-funded apparatus, and which are often stored in inaccessible locations and formats without regard to security or long-term preservation. Add to that the mass digitization projects that are revolutionizing arts and humanities research, and the abundant transactional data that institutions collect in their administrative and online learning systems, and the sheer quantity of data being generated is staggering. The value that might be harvested by better access and integration is hardly less impressive. Finally, information in many areas, including student records, employment, health care, and human subjects research, is increasingly regulated. It’s not surprising, then, that a recent ECAR study found that data storage and management was the cyberinfrastructure technology whose importance CIOs thought was most likely to increase during the next three years.

Data management is especially critical because of the growing expectations relating to quick, ubiquitous access to information of all kinds. “Google wants to digitize the surface of the earth and all the information that’s out there,” says Pat Burns, vice president for IT at Colorado State University. “That’s incredibly compelling. We have to figure out better ways not only of quantifying information from web resources, but qualifying it and vetting it, teaching students how to go to different sources of information. I think that’s going to come to roost in the academic environment.”

Hilton argues that “Universities are no longer gateways to information. Knowledge is what you do with information through critique, reflection, collaboration. Universities have always been in the knowledge business, but we’ve profited a lot by looking like we were gateways to information. Now we live in a world where access to information is pretty much ubiquitous.”

Developing this ability to produce knowledge rather than just information—to organize and connect data, and deliver it to those who need it—means mastering higher education’s embarrassment of data riches. Simply making
more data technically accessible will not be enough. Indiana University Vice President for Technology and CIO Brad Wheeler argues in a recent *EDUCAUSE Review* article that higher education is confronting an emerging “era of certitude” that succeeds earlier publishing and participatory models by addressing “higher thresholds of certitude through authenticity of source, credibility, and even dialogue for refinement of answers across time and distance.” In this environment, access to data will be supplemented by value-adding services such as immediacy, personalization, interpretation, and authenticity. Value creation, Wheeler writes, will shift “from content access to intelligent matching of questions with answers that meet an information seeker’s threshold of certitude at the moment and place of need.”

Both the problems and the possibilities of data management are making their way into campus IT planning. “We are drowning in data,” Princeton’s IT strategic directions report notes, yet it adds as well that “we want online access to everything, anytime and anywhere.” The report calls for a “data life-line” providing mechanisms for searching and archiving institutional data, along with policies for retention and disposal. The most critical need, the report says, is for “integrated data repositories that allow people to store, access, and share data [that] will help the University respond to emerging judicial data-reporting requirements and reduce the widespread data duplication and proliferation of ‘shadow’ systems on campus.” Likewise, the University of California’s IT Guidance Committee has recommended that “the University should create the capacity to manage scholarly digital assets” in part by ensuring that research and instructional information “is effectively secured, managed, preserved, and made available for appropriate use by others.”

To a greater or lesser degree, all higher education institutions are likely to feel a similar need to tame the data beast and put it to work. Doing so will demand not only technical skill but also a great deal of investigation, collaboration, and negotiation. Simply knowing what data resources an institution has on hand is a huge challenge, while legal requirements relating to ownership, fair use, privacy, and retention are difficult to determine and even harder to communicate to all relevant communities. As ECAR research has found, even in the relatively narrow confines of academic analytics and identity management, different people often have different definitions for the same data, and technical issues can block effective use even when rights and access issues are clear. Nor is business ownership of information easily determined. At Griffith University in Australia, Pro-Vice Chancellor (Information Services) Janice Rickards says that data management issues touch on a number of strategically critical areas, including a new customer relationship management system, a national research quality framework initiative, and a data warehouse project that will support learning assessment. Yet responsibility for information remains a cloudy area looking for a governance solution. “Overall coordination of knowledge management at the enterprise level is not a defined area of anybody’s portfolio at the moment,” Rickards says. “It’s an area where the vice chancellor and I are having some conversations about whether to make this more explicit somewhere in the organization, even if it means modifying some roles.”

Finally, new data often implies new processes, which in turn must be reconciled with old cultures. Whether in academic disciplines or administrative departments, the incorporation of new information can upset interests and relationships that many would rather leave undisturbed. ECAR research has shown that institutions are a lot better at collecting information than absorbing it; few make sophisticated management use of the abundant data contained in their transaction systems, and this study has found CIOs less than enthusiastic.
about their institutions’ use of measurement and reporting in IT decision making.

Some of our interviewees thought that this brewing concoction of research, instructional, and administrative information issues will require IT to fortify its relationship with a natural partner: the library. “Both the IT and library worlds are changing,” says Hilton, “and the difference is becoming blurred. I don’t know that you have to bring them into one organization, but making sure that they are coordinated and collaborating is critical.” Updegrove believes IT can learn governance lessons from the library. “In some institutions there is a very well defined governance process for the library that is very plugged in to the faculty,” observes Updegrove. “There is a formal, well-respected process for engaging the community and allocating resources, whereas IT may not be as well connected to the faculty, or as legitimate from an academic point of view.”

All of these trends promise to bring a multitude of data-management-related issues into contention, requiring adjudication and prioritization by governance processes, IT and otherwise. As with services-oriented computing and cyberinfrastructure, such issues are likely to mobilize a diverse body of constituents and to politicize questions that could once be handled in smaller, more intimate communities of interest. Governance, Wheeler writes, will be crucial to shaping a holistic institutional response to the demands of “certitude.” “Shifts to leveraged platforms require gaining trust, giving up control, and ensuring quality service delivery,” he argues. “Since such shifts may represent a cultural discontinuity, leadership is essential in pressing through the many obstacles and objections that reinforce the status quo.”

**The Innovation Challenge**

Not everything that our interviewees saw looming large on the IT governance horizon was something new. Funding, a perennial issue, was on everyone’s mind. An ECAR study in 2004 highlighted a troubling trend in institutional IT budgets: the growing predominance of fixed costs over the discretionary spending that feeds innovation. Since then, the portfolio of IT services has only expanded, and demand for services, already almost universal in extent of constituents involved, has grown in intensity. As a key forum for aligning IT to institutional strategy and for prioritizing investment, IT governance seems destined to play a large role in carving out the space for IT innovation.

“The critical factor in my experience with IT governance is that there is potentially infinite demand for two related products,” says Dan Updegrove. “One is ubiquitous and highly reliable infrastructure and services, and the other is continuous innovation.” Updegrove notes that hypothetically all available resources could be devoted just to keep utility services functioning at high levels. “Yet we could not possibly stop all innovation, because universities are fundamentally innovative. The twin pressures of doing what we’ve been doing better, and doing new things, is a critical issue for governance.”

James Hilton makes much the same point when he notes a distinction between the essential and the strategic, which in turn is related to what he sees as a shift in emphasis from administrative and regulatory concerns to academic ones. “Essential is like oxygen—you have to have it but it does not give you any competitive advantage,” Hilton explains. “Strategic investments are the things that give you a competitive advantage. My number-one priority is how to improve and align the funding that we spend on IT with the actual strategic value that it could have. Against that backdrop is the great danger that compliance trumps strategy every time.”

Because of its role in aligning IT with strategic priorities, IT governance is the appropriate tool for cutting through the fog of conflicting interests and achieving an appropriate balance between (to use
Updegrove’s categories) infrastructure and innovation. At present, though, ITG is often connected loosely or not connected at all to institutional budget processes; only 58% of our survey respondents reported such involvement. No doubt real budget influence varies among even these, though we did find that institutions reporting ITG budget involvement tended to rate ITG overall effectiveness significantly more highly than those that did not (see Chapter 6, Table 6-3).

Kristine Hafner notes that IT governance can help raise awareness of IT among the executives who control resources, but even so it remains a challenge to fund governance-identified priorities. “The next barrier we have to break through,” she says, “is getting the funding entities to acknowledge what the community has set forth in the plan and allocate resources. We don’t have a mechanism for resolving that yet.” Improving coordination with and influence over the budget process should be a top priority for CIOs who want to build IT governance structures that effectively drive institutional strategic goals.

**IT Governance in the Next Generation**

None of our discussions with IT leaders uncovered really radical new forms of IT governance likely to emerge in the near future—no all-powerful IT tsars, no proponents of IT anarchy or appropriation of the means of information. They did, however, converge on a number of themes that cut across the various specific challenges that interviewees saw unfolding during the next 5 to 10 years. In this section we look at the characteristics IT governance will require in the next generation of higher education IT.

**Improving IT Governance Maturity**

Taken together, the forces that we’ve identified in this chapter make a strong case for taking institutional IT governance beyond its current relatively low levels of maturity (see Chapter 3, Figure 3-1), even where more informal structures currently function adequately. Whether it’s engaging with a more diverse and independent user community, supporting an increasingly IT-intensive research mission, managing the data explosion, or making difficult choices that favor innovation, IT leaders will need processes and relationships robust enough to facilitate strategically oriented decision making. This will mean paying more attention to the structural qualities associated with greater ITG maturity, such as documenting, communicating, monitoring, and measuring ITG processes. But it also means creating governance equipped to address issues on an institution-wide (or broader) basis.

These are, after all, qualities associated with institutional governance of all types, and indeed, greater governance maturity is one way to assert that IT has the level of strategic significance already recognized in such areas as financial management, curriculum development, and capital planning. “What it comes down to is this contention: Is IT an executive function?” says Fred Siff. “It really helps to not just think about IT governance but financial governance, facilities governance. IT governance is the least mature; it’s been around for the shortest period of time. I think the job of the CIO is to put it in place and be an equal member of the institutional governance.”

To highlight that idea, and to incorporate IT more fully into institutional governance, Siff insists that cabinet officers chair each of his three key IT governance committees. In addition, he adds, his own membership on the cabinet provides many opportunities to present IT in a strategic light. “When the four of us get together as an executive group, it carries weight,” he says. “When IT is suffering, it’s not executive enough; it’s plumbing.” At Griffith University, Janice Rickards credits the creation of a series of executive-chaired program boards dedicated to strategically
critical areas with improving stakeholder engagement in IT. “There’s still scope for more stakeholder involvement and real ownership,” Rickards says, but “having this much more structured approach with program boards, and then underneath that project boards with well-defined roles, we’re starting to get more clarity about who the business owner is.”

But enhancing IT maturity won’t require just executive sponsorship and participation in IT governance; it will demand flexible, responsive structures up and down hierarchies and across departmental lines, to give a voice to concerned communities and bring coherence to emerging issues in ways that decision makers can act on. At UCLA, Jim Davis cites the university’s use of management oversight groups—project-oriented, cross-unit entities that inform high-level governance decisions and develop broad priorities into concrete proposals or actions. One such group helps UCLA address the sensitive issue of moving to a standard, campus-wide collaboration and learning environment; another identifies research priorities and funding strategies, then guides IT in delivering appropriate support. Similarly, management oversight groups have been established for campus services such as campus data warehouse and identity management.

Davis thinks that a governance structure that distributes the respective endorsement responsibilities for strategy and policy, investment priorities, functional and programmatic objectives, and technology deployment with different groups, far from creating confusion, helps make IT governance more responsive and decisive. The distributed structure helps focus discussions, responsibilities, and alignment with the right people and ensures that when decisions are made, they are ultimately driven by functional need and programmatic priority. It also helps find the level of detail and the strategic message appropriate to each stage in the decision-making process. “The successful governance meeting at a particular stage depends on the ability to have real questions on the table and, at the same time, recommendations developed enough for a substantive discussion and then decision,” he says, “but not so much that it is a rubber-stamping process.”

What’s more, Davis thinks that the power to create such structures is vital to CIO success. “Management and oversight of the governance structure and process by the campus Office of Information Technology,” he says, “is a most important way to have substantive influence over IT on a campus-wide basis.”

Inclusivity and Participation

Our survey of IT governance identified a positive association between higher levels of participation in ITG and better ITG effectiveness (see Chapter 6, Table 6-4). On a qualitative level, our interviewees agreed wholeheartedly. As some of the examples mentioned earlier suggest, again and again they told us that emerging issues in IT governance demanded outreach to an ever more diverse constituent base, especially in the academic community. As IT increasingly moves from a stark central/local division of responsibilities to one in which users access services that integrate many different resources, the competence of connecting with the right communities, already important, will become essential to effective IT leadership.

Intricate institutional politics and a tendency to favor consensual decision making are both, of course, longtime characteristics of higher education. In a more complex and politicized IT environment, their impact will grow, and active efforts at inclusion are one way to minimize the surprises these cultural tendencies can inflict on an unsuspecting CIO. One of the things that keeps Davis awake at night, he confesses, is “how to achieve real acceptance of a decision so the decision process continues to move forward.” Too often, he notes, a lone voice or pocket of dissent will arise suddenly after the ITG process has appar-
ently reached an agreement, “and essentially one ‘no’ vote holds up the process.” Working with all affected groups and taking great care with developing background information that builds responsively on the progression of discussions among the ITG entities; using and documenting explicit voting processes; and documenting actions and decisions at each meeting are ways that Davis has found effective in preventing such situations.

But there’s more to inclusivity than protecting your back; it also offers a way to share the burdens and responsibilities of IT leadership—in effect, to distribute them in ways that parallel the mix of interests inherent in a hybrid central/local/commodity IT environment. “Part of my goal,” says James Hilton of his outreach efforts with faculty, “is to move governance out of the committee that sits back and critiques to a community that actually has a joint stake and joint accountability in this stuff.” Making a similar point, Fred Siff notes that users’ passion about their IT needs translates into a desire to contribute to the decision-making process—and an expectation that they’ll be included. “My take is that everybody in the university cares about what’s happening in computing,” Siff says. “Whatever you do affects them. So you want to keep them engaged. Part of that is having a governance process that allows them to feel that they’re not being told [to do something] — they’re being given an opportunity to direct the course of action.”

**Communicating Governance**

Inclusivity, of course, implies communication, but our interviewees emphasized it’s only the beginning of a more substantial process of effective communication with IT governance participants. As more technology decisions call for some kind of communal input and decision making, and especially as technologies get ever more deeply imbedded in the academic life of the campus, IT leaders will have to sharpen still further their ability to articulate the strategic implications and community interests that governance participants should consider.

This will involve a much more nuanced understanding of user concerns than the traditional task of explaining how the technology works. “For the longest time folks in IT talked about ‘how do you speak in laymen’s terms?’” says Siff. “I think we’re past that. The real trick is how do you engage these folks, how do you get them involved in the business?”

For all of our interviewees, the answer to that question is engaging with constituents on their own terms, shaping the discussion around business and academic issues, and presenting technology as an enabler rather than an end in itself. “To me, IT governance is really business governance,” says Betty Leydon, noting that at Princeton she successfully urged the institution’s leadership to eliminate a standing IT committee of the board of trustees in order to carry IT discussions into other strategically oriented venues. Though she also maintains IT advisory committees for enterprise systems and research computing, as well as a top-level senior advisory group chaired by the provost, she is careful to ensure that IT-related issues get on the agenda of other university governance bodies. “If you want to talk about IT, you should be talking in the academic affairs committee about how IT can improve the learning process,” she says, “or in the financial committee about how we can improve audit.” At Colorado State, Pat Burns points to a task force discussing how to implement blended learning as an example of how IT governance is getting more deeply involved in traditional academic decision making. Burns says that “IT governance is going to play a central role with our university curriculum committee and faculty council in terms of how we change our environment from a residential to a blended environment.”

Siff extends the point, arguing that CIOs will increasingly be required to take on the responsibility for making IT initiatives “compel-
ling and interesting to the entire community.” At the University of Cincinnati, Siff says, “we’re not talking about how many megs of bandwidth we have, we’re talking about our approach to plagiarism, or our approach to vulnerable systems. We want to make [the topic] policy, not operations.” Siff especially emphasizes the importance of mobilizing users’ self-interest, while also getting them to recognize institutional trade-offs and priorities as they participate in governance. By way of example, Siff notes, an institutional discussion of business continuity is likely to “bore people to death. But if you say you’re going to take all the systems and rank-order them in importance of protection, that gets people interested, because they want their systems to be number one.”

The CIO: More Vital Than Ever

Some of the issues we’ve identified as emerging challenges for IT governance have been interpreted as the swan song of institutional IT in general and the CIO in particular. In the well-known formulation of Nicholas Carr, developments like software as a service and cloud computing will transform IT into a utility service dominated by commodity suppliers, thus eliminating strategic advantages in the way IT is deployed. IT leaders, Carr suggests, need to reconcile themselves to this trend: Most companies “would be best served by adopting the view that IT should be managed as a commodity input, not a strategic asset.... CIOs’ ultimate professional goal may well be to render themselves obsolete.”

The overwhelming response of our interviewees was to reject this idea. “I think that’s all crap,” was Siff’s especially blunt, but not otherwise atypical, opinion. Reduced demand for institutional IT services was simply not a factor in our IT leaders’ current or anticipated experience, while recognition of IT’s strategic value, if not universal, appears to be gaining. “IT has been growing in importance,” Siff says, “and I don’t see that somehow reversing itself. Even if it doesn’t become any more important than it is now, it’s important enough that it should be cabinet level, and there should be a well-defined governance process.”

While the interviewees did recognize many potentially transformative possibilities in the new IT environment, they pointed out that decisions related to new products and services would actually make IT governance more important well into the future. James Hilton envisions “a central IT unit going forward that is supremely good at managing relationships and provisioning from whatever source is the best deal at the time—you become more of an integrating unit than a source unit.” Yet that change implies some way to orchestrate the complex interests, resource demands, and technical dependencies of a more virtualized IT environment. “I could not imagine making [an e-mail outsourcing] decision without thorough review by the IT steering committee,” Dan Updegrove says. “What are the cost implications? What are the behavioral implications? What do the attorneys have to say? You can crunch on this for months.”

This need for institutional review, in turn, implies a need for CIOs to take on the role of orchestra conductor. To Jim Davis, this is both a necessity and an opportunity for institutional IT leaders. “I think that the CIO is the ideal place to manage and run the governance structure for IT,” says Davis, adding that this constitutes one of his strongest, most recognized leadership roles on campus. “As we go down the path of dramatically changing how services are provisioned, responding to rapidly changing priorities and expectations, dealing with escalating policy and regulatory requirements, looking at truly transformative changes such as cloud computing or whatever, it becomes even more important that the CIO is there and managing this process.”

Conclusion

From time to time, most higher education IT leaders probably long for what may look
like the simpler, less political lives of their counterparts in private industry. Top-down decision making, crystal-clear performance goals, consensus about the importance of efficiency and economies of scale—wouldn’t these qualities of corporate life make it easier, and in some ways more satisfying, to oversee an enterprise’s IT governance?

Yet as IT governance researcher Ryan Peterson points out, commercial industries in the developed world have increasingly abandoned old models of vertical integration and authoritarian command-and-control management for more market-responsive structures that possess the strategic flexibility to survive and exploit turbulent change. In large organizations, strategic initiatives often involve acquisitions, start-up ventures, and partnerships, and international growth introduces regional complexities, all of which lead to integration challenges and central/local conflicts.

“Contemporary organizations do not have single goals,” Peterson writes; they must adopt “simultaneous strategic thrusts, in rapid and surprising manners, in order to offset competitors and satisfy customer needs.”

IT in such organizations must provide basic, reliable infrastructure services. But IT is also called on to deliver solution integrations that leverage resources and enhance the customer experience, and to foster strategic innovations that deliver new kinds of value. Sacrificing clear hierarchical lines in favor of synergy and creativity, such organizations typically address core/periphery conflict with “federal” IT governance arrangements that balance local business unit autonomy and enterprise needs.

IT governance in this regime, Peterson argues, demands both “formal” integration—the rule-based processes and structures that define decision making—and “relational” integration—the participatory and collaborative activities that allow stakeholders to recognize differences and solve problems. Achieving complementarity between business and IT through these means is far more important to effective IT governance than determining hierarchical control. “This emerging paradigm for IT governance,” Peterson concludes, “is based on a philosophy of collaboration where the need for distinct competencies is recognized and developed, and shared adaptively across functional, organizational, cultural, and geographic boundaries.”

Sound familiar? Seen from this vantage point, higher education institutions are neither as unique as they sometimes seem nor as doomed to muddling through the governance of a peculiarly ungovernable domain. Indeed, higher education’s innovation-optimized, service-centered, collaborative practices look positively progressive when considered in the light of modern strategic imperatives, and their tolerance for messy but vital interactions can be seen as a source of strength.

The question is whether higher education institutions can take these traditional competencies to the next level, adapting to a world where “social production” makes collaboration even more intense and evanescent, where all systems have some of the characteristics of enterprise systems, and the enterprise itself has permeable boundaries extending around the globe. With funding likely to be permanently tight and demand always outstripping supply, IT governance that effectively harnesses the creative power of the campus community—through mature governance structures, wise and purposeful inclusivity, refined communication, and strong IT leadership—may be higher education IT’s best chance to advance a proud tradition of innovation and service.

Endnotes
1. We are grateful to George Lorenzo of Lorenzo Associates for conducting the interviews and for contributing additional material that appears in this chapter.
8. Ibid., Chapter 3.
18. Ibid., 73.