

IT IMPACT: STATUS IN 2008

Preparation of this report represented an opportunity to get an overall assessment of the ITS, and of IT generally, over the past 15 years from the two groups most responsible for guiding CSU technology policy: the presidential Technology Steering Committee (TSC) and the CIO Information Technology Advisory Committee (ITAC). Accordingly, interviews were held in spring and summer 2008 with members of both groups. In addition, information was gathered from: the presidential Executive Council retreat in 2008; a CIO 2008 goals and challenges survey and leadership conference on system collaboration; the fall 2007 CIO retreat on budget and fiscal issues; and a 2005 systemwide study of IT strategic planning among executives on a sample of 11 CSU campuses. Together, these sources speak to the broader impact of the ITS and the MOS over the years, particularly in terms of cultivating structures and processes for IT governance and strategic planning.

The TSC Perspective

One of the most impressive features of the ITS has been the involvement of CSU campus presidents in its planning and execution. The TSC, comprised of between six and eleven presidents and two system executive vice chancellors, has met almost every month since its inception in 1993 to guide the ITS process. This degree of collaborative presidential leadership in IT is a rare occurrence in higher education, and has placed technology near the center of the policy agenda in the CSU system. More recently, an academic technology steering committee of campus provosts, augmented with CIOs, was formed to complement the TSC.

In the early 1990s, CSU presidents recognized the potential threat to the system posed by a growing technology gap. The exponential growth in digital and network technologies was far outstripping the ability of campuses to provide them to faculty, students and staff. In addition, these trends exacerbated existing technological gaps among CSU campuses. The policy solution chosen was to leverage the size and resources of the system through collaboration, and the vehicle for doing so was the ITS. Since then, the initiatives within the ITS have nurtured an unprecedented culture of collaboration among CSU campuses, which have adopted a greater system and statewide perspective as a result.

When asked about their top policy priorities, each TSC member had a very clear idea of the questions he/she would like answered through additional research into IT, although most overlap with academic and institutional research as well. These included:

Academic Priorities

Bottleneck Courses: demonstrate the efficacy of IT for improving student retention and graduation rates in high-volume, lower-division courses and for courses addressing the English Placement Test and the Entry Level Math requirements.

Online Courses and Degree Programs: improve student access and time to degree through online and hybrid course delivery; share courses across the system as a means of reducing costs per FTES with attention to faculty workload considerations; measure the effects of changing faculty incentive and reward systems, especially in the Retention Tenure and Promotion (RTP) process.

Remediation: overcome the quality deficits in K-12, especially for minority and historically underserved students; evaluating the software already available; focus on math and English.

E-Learning Outcomes: expand faculty use of Internet-based learning objects by discipline, and document their relationship to student success; use WASC and disciplinary guidelines along with the CSU Access to Excellence standards to develop IT outcome measures; assess the academic implications of social networking applications and of new cognitive learning styles among students; transform course design to both increase student success and lower instructional costs.

Faculty, Staff, and Student Training and Support Services: consider the role of mandates along with the development of a reliable funding stream to support them; identify baseline metrics in key academic technology areas with special attention to instructional design staffing and IT professional development.

State Manpower Needs: conduct community and state impact studies and expand the models of CalStateTEACH and the statewide nursing program.

Administrative Priorities

Standardization of Business Practices: use standardization and mandates to achieve efficiencies; in student services, administrative processes, and strategic planning; provide real-time, interactive, Web-based, dashboard data for decision-making and continuous improvement of best practices.

Total Cost of Ownership: demonstrate efficiencies attained through the use of technology on both the academic and administrative sides; test the long-term efficacy and cost of new technologies prior to system adoption; find common ways to measure and track costs over time, and make desktop, server, classroom, and other forms of refresh cycles part of this equation.

Space Management: investigate the effects of setting aside a percentage of the capital outlay budget for IT projects; reconsider space design and allocation formulas for a technological age (e.g., smart classrooms), and study the potential for replacing and expanding physical space through online instruction.

The CIO Perspective

An informal survey of CIOs in spring 2008 indicated that the following IT issues and concerns were among their top priorities:

- *Refresh Funding:* upgrade and maintain workstation hardware and software for faculty and staff, and smart classroom environments.
- *Minimum Baseline:* manage the ITS minimum baseline infrastructure, with emphasis on user training and support services and identity management.

Unfunded Mandates: In addition to the CSUs mission to provide equality of educational opportunity to all its students, federal and state requirements mandate a variety of important yet unfunded services such as adaptive technologies for the disabled or network security and privacy. These items must be funded from already constrained resources.

- *CMS:* keep abreast of upgrades, improve performance, and adopt best practices.
- *Integrating IT into the Curriculum:* operationalize and implement academic transformation and support for online learning.
- *Reduction in Services:* mitigate funding shortages, especially for support services such as help desk.
- *Staffing:* retain existing staff, fill critical vacant positions, and avoid lay-offs.

In fall 2007 and spring 2008, CIOs met to address areas for potential collaboration in the future, including: a LMS collaborative; off site disaster recovery and business continuity; common, outsourced email systems; process management; CMS modifications and upgrades; green data center; identity management; IT professional development; and academic technology governance. Some of these priorities may lead to strategic initiatives for the system as a whole while others may remain as operational concerns of individual campuses.

Organization And Governance

IT organizational models and views about strategic planning vary greatly in the CSU. The results of a recent presidential IT organization survey found that nine CIOs report to the president, five to the provost, and six to the administrative vice president. Among the 20 campuses with CIOs, 17 are sitting members of the president's cabinet, and two join the cabinet as needed.

Beyond personalities and campus culture and history, the 2005 strategic planning study found that sheer size may be the single most important factor in IT organization. Smaller campuses rarely need elaborate planning committees and larger ones often are too decentralized to make them effective. It is probably no accident, then, that some of the most integrated planning structures and processes were found on medium-size campuses. No matter the topic, the issue

of “breaking down silos” (both organizational and cultural) came up repeatedly in campus interviews with CIOs. Balkanization among academic colleges and departments and the failure of IT and libraries to work more closely together were recurring themes.

On balance, campus interviews suggested that: success in IT *organization* depends on a formal structure and systematic processes; success in IT *governance* depends more on having effective processes, e.g., stakeholder consultation, than any given structure;. however, that a prerequisite for *both* is an institutional strategic plan widely disseminated and understood by campus stakeholders.

IT Strategic Planning

Evolution Of The ITS

The ITS was both similar to previous strategic planning efforts at the system level, and yet different from them. The two closest examples were the strategic plans released in 1983 and 1990. Like the ITS, the former had a long list of specific initiatives for academic, administrative, and network efficiencies using technology. Also like the ITS, the latter relied heavily on presidential leadership to drive the IT agenda. However, unlike these examples, the ITS was more of a bottom-up approach where campus stakeholders determined priorities and shaped the programmatic agenda to address them.

However, the ITS was never designed to be a static planning document, and indeed has changed over the years. The first phase focused heavily on the telecommunications infrastructure buildout, implementation of the common management system modules for finance, human resources, and student records, and data center consolidation. The academic initiatives were less sweeping in scope or expense, but yielded important institutional efficiencies in library resource sharing and electronic student application and registration procedures.

Phase two ushered in the Measures of Success reporting series. It tracked progress in campus movement toward minimum baseline standards in workstation availability, network connectivity, and user training and support services, and provided the first systematic evidence of user IT behavior and attitudes.

Phase three witnessed completion of the infrastructure buildout and the common management system implementation, together with the emergence of ambitious new initiatives in academic technology (such as transforming course design, e-learning, and foundational skills), and in wireless technologies, information security, and learning management systems. Currently, work groups are developing a set of baseline standards for the more “nuanced” and complex environment of academic technology.

Campus Strategic Planning

The spring 2008 survey of presidents showed that 19 campuses currently have an institutional IT strategic plan and three are currently developing such plans. One campus had strategic plans at the divisional level.

Institutional strategic planning in the CSU can be thought of as a continuum, ranging from relatively simple mission and goals statements posted to the Web, to full-scale public relations campaigns that permeate the campus, to detailed “no-nonsense, by-the-book” technical exercises. Campuses tend to develop IT planning that mirror their culture of institutional strategic planning.

In general, technology seems to be better integrated into campus strategic plans when a formal planning structure, process, and methodology are used to develop them. “Thematic” campus strategic plans often provide a compelling vision but the operational underpinnings, such as technology, may receive little or no mention. IT advisory committees are indispensable in bridging the gap between strategic vision and practical application.

According to a recent EDUCAUSE study, campuses nationally with a high degree of IT alignment:

- had a clearly articulated campus vision and/or priorities;
- considered planning important and closely linked to the institutional budget;

MOS X: IT Impact

- had published an institutional plan or campus IT plan or engaged in planning activities continuously;
- reported dynamic or stable environmental climates (as opposed to turbulent or volatile ones);
- perceived both their IT governance process and their IT strategic planning process to be effective;
- had greater communication with and involvement of key constituents, especially faculty and deans; and where objectives are clearly documented at the time IT initiatives are approved.

A 2007 study by the-EDUCAUSE Center for Applied Research, found that the degree of IT alignment in the CSU was very similar to levels nationally. The 11 case studies in the 2005 study of campus strategic planning identified these emerging patterns of IT alignment in the CSU:

Academic Alignment:

- Campus IT strategic planning must take into account the movement towards a new institutional culture and ethic that points to fundamental changes in the traditional teaching and learning paradigm, such as greater use of online technologies and less reliance on “seat-time” in the instructional process.
- Digital technologies, lifestyles of the “net generation,” and the expansion of online learning will drive this potential “transformation” by forcing pedagogical changes that increase convenience, collaboration, and individual control.
- Traditional functions such as academic libraries and student services are similarly being transformed by the proliferation of virtual environments. Automation and self-service applications will allow staff to devote more time to personal interaction with students.

Infrastructure Alignment:

- A robust network infrastructure, “smart” learning spaces such as electronic classrooms and libraries, and the active involvement of IT in the design, construction, and renovation of the campus physical plant are central to infrastructure alignment.
- Flexibility and modular design together with opportunities for social interaction are two of the primary factors that should drive building and space decisions in a technological era.

Fiscal Alignment:

- There is a lack of stable, predictable and adequate funding sources for IT in the CSU and elsewhere, especially in the area of academic technology. This is crucial because all evidence indicates that IT strategic plans will not be implemented in the absence of direct linkages to the overall institutional budget.
- In order to make the IT business case, both CIOs and CFOs must recognize and articulate the operational, tactical and strategic value of IT to the institution.
- There must be a “culture of evidence” surrounding IT investments, including a formal accountability process, well-defined success indicators, and appropriate metrics.