

THE WAY FORWARD: FROM INPUTS TO OUTCOMES

The CSU has a long and rich history of institutional research and systemwide data collection and reporting, particularly in the areas of student enrollments, academic programs, space management, and financial records. Research on IT resources and practices was more modest until the inception of the MOS in 1999-2000. Perhaps the ultimate question for a report of this nature is how successful the CSU will be in institutionalizing a long-term commitment to a “culture of evidence” in IT planning, at both the campus and system levels, particularly in light of budget cuts and fiscal constraints.

It is fair to say that the MOS focused heavily on “inputs” to academic, administrative, and network systems, such as asset inventories and student, faculty, and staff use of those technologies. There is no doubt that inventory and user activity data are essential to both operational management and strategic planning. However, such data rarely inform broader policy concerns that require outcome-based measures. While input data on technology will continue to be collected in the CSU, the emerging need is for a greater focus on policy questions and outcome goals of student learning, personal productivity, and institutional efficiency.

One of the major decision points for future systemwide data collection is whether the primary intent is to inform system initiatives (such as those contained in the ITS and MOS) or campus operational needs and strategic planning, or both. It should be noted that many individual campuses conduct assessments and studies of IT programs on their own, and perform many surveys of students, faculty, and staff with their own resources.

In spring 2008, several campus CIOs or their representatives agreed to be interviewed about the principles and options that should guide future data collection. This ad hoc data team then met to review the findings and their implications, and their recommendations are scheduled to be presented to the full Information Technology Advisory Committee (ITAC). Following are the major items for the ITAC discussion and eventual transmission to the presidential Technology Steering Committee (TSC) in early 2009. In effect, these principles and recommendations represent the agenda for institutionalizing a culture of evidence in a post-MOS environment, with the ultimate decision resting with the TSC.

Principles of IT Data Collection

- Gather data once and only once; coordinate with external data collection, especially if it is required (e.g., WASC).
- Institutionalize a regular process for campus surveys; avoid ad hoc institutional surveys.
- Where possible, use and participate in national surveys that permit institutional comparisons.
- Relate any data collection effort to the concept of minimum baseline.
- Use the expertise of individual campuses to define baselines and develop metrics.
- To the extent possible, gather evaluation and outcomes data as opposed to inventory and activity data while recognizing that a balance is necessary.
- Collect data on issues that involve systemwide collaboration and common needs and priorities.
- Develop metrics that show trends over time, especially cost and life cycle data.
- Metrics should be closely related to system and campus goals and be publicly shared.
- Measure only what is going to be used for policy or operational decision-making, but with an eye toward future campus and system needs.
- For user surveys, consider drawing limited samples to answer a targeted range of questions on an ad hoc basis. However, be attentive to individual campus needs for making comparisons that in turn require larger sample sizes.
- Where possible, make data available in accessible and interactive formats for real-time decision-making, perhaps using email and web-based formats.
- Rely on and participate in national surveys for organizational, governance, and opinion data.

Recommendations for Campus IT Data Collection

CSU campuses should:

1. Participate in the annual Campus Computing Survey and the EDUCAUSE Core Data Services Survey.
2. Continue to collect a subset of the annual MOS survey data and other information deemed important by ITAC. The vehicle for collection will likely be an addendum to the national Campus Computing Survey, if the cost can be negotiated.
3. Conduct user surveys of faculty, staff and students every three to five years using a subset of CSU campuses for each survey. Campuses should be selected with the proper mix so the costs can be shared and results can be extrapolated to the system.
4. Develop IT metrics for the eight commitments in the Access to Excellence accountability report (these data probably will be collected by departments of institutional research).
5. Review the Academic Technology Baseline Plan when it is published, including metrics. CIOs should be actively engaged in the data collection for this baseline and be required to approve all submissions as part of his/her ITAC designee role.
6. Insure that all IT initiatives, whether campus-based or systemwide, contain metrics for success in the pilot or proof of concept phase. Metrics should be well established prior to widespread implementation of the initiative.

Recommendation for System IT Data Collection

ITAC should make a formal recommendation to the TSC that a structure and process be established and resources appropriated to satisfy the data collection needs for a policy agenda which may include, but not be limited to: using IT to resolve lower-division bottleneck courses; expanding online courses and degree programs; increasing student remediation using IT; improving e-learning outcomes; providing faculty, staff and student IT training and support services; responding to state manpower needs; standardizing best business practices; tracking total cost of ownership in IT expenditures; and improving space management through IT.

The implications of this final recommendation are far-reaching and therefore deserve further comment. In recent years, research on the role of information technology in higher education has expanded rapidly on the national scene. It includes the EDUCAUSE Center for Applied Research, the Campus Computing Survey, and the EDUCAUSE Core Data Services survey. Within the CSU, the MOS project has produced eight years of institutional and user survey data on academic technology, administrative systems, and technology infrastructure. Although a solid base of scholarship has been established at both levels, several problems are evident.

The MOS approach provided information on "who has what and who uses it," but did not adequately address broader policy issues of cause and effect, or the outcomes of technology in terms of learning effectiveness and institutional and user efficiency. Doing the latter requires a much more ambitious and costly research agenda than simple surveys alone can provide. A new approach is needed to perform comprehensive research that informs executive decision-making, one that is policy-focused and centered on outcomes rather than on technology inventories alone.

The policy questions posed by the TSC will require, at a minimum, a coordinated effort on the part of IT, academic affairs, and institutional research divisions. While some of the required information may already exist, it usually is spread across several academic and administrative units. The missing link is a central organizational unit charged with designing, integrating, and analyzing the pieces of a very large puzzle. The most pressing issues confronting the CSU tend to be pedagogical in nature, and technology is an enabling tool in that broader process.

Basically, the CSU has a "design problem" in data needs and collection procedures for information technology. A great deal of relevant information is available, but it tends to be scattered among several divisions such as academic affairs, student services, administrative offices, institutional research, as well as the technology organizations themselves. In some cases, national research data could be better integrated with system data, and campus

research data could be better integrated with both. Very often, it may be less a matter of collecting new data (although that may still be needed) than of better managing the data and information already available from a variety of sources.

The basic questions confronting a post-MOS data collection environment are therefore: what information is required; what metrics can provide that information and from what sources; how often should it be collected; and who is responsible for data base management and reporting? A new policy research agenda would bring the centralizing power of the network to bear on these questions for the entire system, and use the collaborative efficiencies and expertise of individual campuses to answer them.

"Business as usual" will seldom resolve the kinds of overarching, strategic questions that state lawmakers, trustees, and presidents have to ask. While sporadic or even regular institutional and user surveys can be helpful, they rarely enjoy the scope and sustained support that genuine outcomes-based research requires. In addition, much of the operational data needed for routine management of networking, workstations, libraries, CMS, MERLOT, degree audits, remediation, online degree programs, and the like already are collected at the system level.

The TSC policy concerns listed previously are "constants" because, to date, the system has not committed the resources to resolving them. Still, the 23 campuses of the CSU are laboratories in waiting. The telecommunications infrastructure buildout and the common administrative system implementation are good examples of what can be achieved through coordinated planning, resource allocation, and presidential leadership. A high-level policy research agenda will require similar levels of commitment.

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