

FUNDING INFORMATION TECHNOLOGY

AN EDUCAUSE EXECUTIVE BRIEFING

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This report was developed in cooperation with the National Association of College and University Business Officers.

At the same time that colleges and universities are under fire to be more accountable to both internal and external constituencies, they are faced with accelerating demand for information technology (IT) services, disappearing IT-related income streams, and increasing costs for IT infrastructure renewal and service delivery. The need for realistic strategies to fund information technology in higher education has never been greater. A current issues survey of EDUCAUSE member campuses conducted early in 2003 found the challenges of funding IT to be a top-ranked issue for the fourth consecutive year.¹

Colleges and universities depend on the use of IT for instruction, research, and administration to varying degrees. Thus each campus must develop its own approach to funding IT, congruent with its culture, mission, and the strategic importance and value it places on information technology. However, some fundamental principles and practices can guide campus leaders at all types of institutions in planning and budgeting for, as well as managing investment in, information technology.

This briefing suggests several such fundamental guiding principles and practices for funding IT based on the conclusions of a working group created by EDUCAUSE in cooperation with the National Association of College and University Business Officers (NACUBO).² Related literature is cited for further reading.

CHALLENGES AND OBSTACLES

Why are so many colleges and universities experiencing difficulties in funding information technology? Some external conditions that contribute to the challenges are obvious: a struggling national economy mirrored in major budget cuts for higher education at the state and institutional levels; a society increasingly dependent on information technology, which translates to increasing demand on college and university campuses; continually changing technological developments that require new investment to keep abreast; and federal initiatives (such as those related to security) that require unanticipated campus technology expenditures. These factors all contribute to a mounting crisis for colleges and universities—quite simply, total costs for IT are increasing at a rate that exceeds higher education's ability to pay.

These external conditions are givens for all institutions, but some internal campus management practices can also serve as obstacles to effectively funding information technology. Among the most salient of these are failure to:

- ▶ engage institutional leadership at the highest levels, as well as key stakeholders throughout the community, in planning for and funding IT as a strategic institutional resource, assessing and aligning the value of IT investment with institutional mission and strategies

- ▶ educate the community about the anticipated outcomes of IT investments, ensuring that those who are expected to benefit from such investment understand and have bought into the potential need to make changes in the way they work to reap the expected benefits
- ▶ determine replacement life cycles for different technologies and incorporate renewal funding into IT budgets, especially ensuring that the necessary financial investment is committed at the time a project is approved and will be available over the life of that project
- ▶ recognize that human resources are a major component of IT costs and that personnel costs represent ongoing, increasing annual expenditures
- ▶ standardize hardware, software, and support services as much as possible to deliver baseline services to enable economies of scale

IT FUNDING MODELS AND SOURCES

One of the most common IT funding models is the centralized model, where all major funding for information technology comes from an allocation to the central IT organization from the campus operating budget, and IT-related services are delivered without direct charge to campus users. This model is more commonly used by small, private liberal arts colleges than other types of institutions.

Another funding model—charging for services—is prevalent in larger, complex universities, where charges are routinely levied for some types of services (for example, telephony and network connectivity). Users can be charged on an actual use basis (for example, by minutes connected)

or on a “tax” basis, where users pay a flat fee for services (for example, a student technology fee or a monthly fee paid by a department for a network connection).

Debt financing (especially bonds) and special state funding are most often used for major infrastructure investments, which increasingly include enterprise information systems and related system integration efforts, not just the physical IT plant. Although several other potential IT funding sources (see the sidebar³) are not in common use, they are worth considering in light of the need to maintain and upgrade the campus IT infrastructure in the face of the severe resource constraints at many higher education institutions.

An institution’s financial model will necessarily mirror the culture of the campus—highly centralized versus highly distributed, central funding versus responsibility center budgeting. However, it is not uncommon for institutions to combine multiple funding models and funding sources, centrally providing a basic array of services at no charge, while charging for usage or levying flat technology fees to cover special services.⁴

POTENTIAL IT FUNDING SOURCES

- ✓ Central funding from institutional operating and capital budgets
- ✓ Debt financing/bonds
- ✓ Special student technology fees/tuition add-ons
- ✓ Revenue-generating activities/charging for services
- ✓ For-profit subsidiaries/auxiliary funds
- ✓ Revolving funds
- ✓ New monies (private donations, federal or state grants, IT fundraising)
- ✓ Vendor arrangements (discounts, leasing arrangements)

GENERAL PRINCIPLES AND RECOMMENDED PRACTICES

PRINCIPLE #1:

Information technology must be comprehensively planned for at the institutional level and must engage the attention of executive leadership.⁵

- ▶ The “how much is enough” and “how leading edge do we want to be” questions are more important today than ever. These are institutionally strategic questions, the answers to which must be derived from involvement of IT leaders in partnership with executive leaders.

- ▶ IT planning needs to be solidly integrated into institutional planning. While it is necessary for the IT organization to do internal planning, all planning for IT development and use must be aligned with and serve the institution’s strategic goals and directions.
- ▶ The campus governance structure should include an IT policy and planning group with approval authority for major new IT investments and responsibility for setting funding priorities.
- ▶ The campus IT leader can be most effective if she or he has a seat on the executive cabinet or council. This governance structure will facilitate the sharing of responsibility for IT-related institutional challenges and ensure that such challenges are placed on the agendas of senior campus leaders.⁶

PRINCIPLE #2:

Long-term financial plans for information technology must be incorporated into the institution’s overall planning and budgeting processes for effective cost management.

- ▶ Cost management begins with developing a comprehensive knowledge of institutional IT spending. Distributed expenditures for IT need to be monitored as part of the overall institutional IT budget and investment process to ensure that all IT resources are leveraged, planned for, and budgeted coherently.
- ▶ Information technology needs will require both operating and capital support, as IT involves both ongoing, operational costs (including maintenance and renewal) and expenditures for major new systems and infrastructure.
- ▶ A set of replacement cycles needs to be established for each of the different components of the technology infrastructure (hardware, software, wiring, physical plant, personnel), and funding to cover the cost of replacement must be incorporated into the IT budget. Deferral of maintenance is a risky strategy when applied to some technologies.⁷
- ▶ Institutions need to make budget decisions based on accurate and realistic cost figures, budgeting not only for new implementations but also for ongoing operational costs. In particular, the cost of staff to support technology must not be underestimated.
- ▶ A good working relationship between the chief information/technology officer and the chief financial officer will ensure that the CIO understands the nature and language of both short- and long-term financial planning while the CFO understands the nature and language of technology expenditures and investments.

PRINCIPLE #3:

The justification of technology investments is an institutional challenge, not just an IT organization challenge.⁸

- ▶ Assessment of expected benefits and statements of desired outcomes for both administrative and academic technology investments should be part of the institutional planning process, at the time such investments are proposed, and should be understood by and communicated to the entire community.
- ▶ A realistic assessment needs to be made of how much change must occur in order for an IT investment to be leveraged as anticipated, of how ready the community is to embrace such change, and of how willing the institutional leadership is to promote such change.
- ▶ Using only return on investment (ROI) analyses in higher education can be problematic; a more coherent approach involves analysis of value on investment (VOI),⁹ which takes into account qualitative benefits derived from IT.
- ▶ It is not possible to fund every technology initiative that is proposed. The planning and budgeting process should include an exercise in setting priorities for funding, and such prioritization should be driven by an evaluation of how critical the investment is to the institution's strategies.

PRINCIPLE #4:

Effective information technology funding is dependent on effective information technology management practices.

- ▶ Standardizing on hardware, software, and support practices at the institutional level means more effective use of resources and the ability to achieve economies of scale. While a highly decentralized environment makes this difficult for large, complex universities, standardization must be explored if costs are to be effectively managed, especially for common, baseline services (such as campus networking) where unique needs are not a factor.
- ▶ The cost of delivering each IT-related service needs to be ascertained and shared with leaders and the campus community, for a full understanding of budget requirements.¹⁰
- ▶ Metrics need to be established for the delivery of all IT services, and costs need to be benchmarked. Benchmarking against peer institutions should be part of this process (see sidebar).¹¹
- ▶ Sustainability of investments in IT must be evaluated at the time of their proposal, looking beyond just start-up costs. This will avoid the "budget dust" phenomenon of using serendipitous, temporary budget surpluses to invest in IT without considering ongoing staff costs and downstream, life-of-the-technology costs.

- ▶ It is important to reevaluate the campus IT funding model periodically and not try to retain a legacy model that is no longer working, especially to recognize that some revenue streams that have provided significant cross-subsidization may be disappearing.
- ▶ As new investments in technology are considered, regular review of existing technologies for potential "sunsetting" should be conducted, seeking out services nearing the end of their life cycles and retiring them.
- ▶ Cost-shifting and re-allocation of IT funds should be considered in times of retrenchment to ensure that funding remains available for higher-priority information technology projects.
- ▶ Consortial or partnership arrangements can result in savings from sharing costs for the development and/or implementation of major systems as well as from sharing personnel and other resources. Such arrangements require cooperation and often require compromise in setting expectations and standards for functionality.

SUMMARY

Fundamental to meeting the challenges of funding campus information technology is a governance structure that engages the chief information/technology officer, executive leadership, and advisory groups in an integrated strategic planning process that includes long-term financial planning for IT. In addition, decisions and priorities for investment in campus information technologies should be based on an assessment of the value the technology is expected to bring to achieving institutional goals and strategies. Finally, ongoing, effective information technology management practices must be employed to help reduce costs as well as leverage resources institution-wide.

BENCHMARKING IT: EDUCAUSE CORE DATA SERVICE

Last year EDUCAUSE began a data-sharing project that captures and provides access to comparison data about campus IT environments and practices to help benchmark, plan for, and make decisions about IT on college and university campuses. Data collected through an annual survey are accessible through a Web-based service to all who complete the survey. Authorized participants are able to access data, using tools that enable the creation of peer groups of like campuses, on-the-fly generation of summaries of the data for each question, and viewing of raw data identifiable by institution. Information about the EDUCAUSE Core Data Service and a summary report of data collected for FY 2001–2002 are available through the CDS Web site (<http://www.educause.edu/coredata/>).

ENDNOTES:

1. For a complete summary of the survey, see “Fourth Annual EDUCAUSE Survey Identifies Current IT Issues,” *EDUCAUSE Quarterly*, Volume 26, Number 2, 2003, pp. 12–26, <<http://www.educause.edu/ir/library/pdf/eqm0322.pdf>>.
2. From June through December of 2002, a working group of four dozen campus information technology leaders and business officers engaged in electronic discussions to explore major IT funding issues on campus, under the leadership of Laurie Antolovic, Indiana University; Ardoth Hassler, Georgetown University; Karen Leach, Hamilton College; Allan MacDougall, South Orange County Community College District; and H. David Todd, University of San Diego. See <http://www.educause.edu/committees/itfunding_workgroup.asp> for a list of all participants.
3. For a description of many of the sources listed in the sidebar, see R. A. Phipps and J. V. Weldman, *Funding the “Infostructure”: A Guide to Financing Technology Infrastructure in Higher Education*, Lumina New Agenda Series, April 2001, <<http://www.luminafoundation.org/publications/infostructure.pdf>>.
4. D. Smallen and J. McCredie, “Getting Beyond Budget Dust to Sustainable Models for Funding Information Technology,” *EDUCAUSE Review*, Volume 38, Number 2, March/April 2003, pp. 42–50, <<http://www.educause.edu/ir/library/pdf/erm0323.pdf>>.
5. D. Ward and B. Hawkins, “Presidential Leadership for Information Technology,” *EDUCAUSE Review*, Volume 38, Number 3, May/June 2003, pp. 36–47, <<http://www.educause.edu/ir/library/pdf/ERM0332.pdf>>.
6. B. Hawkins and J. Rudy, “Stalking the Elusive, Venerated IT Worker,” *Trusteeship*, March/April 2001, pp. 32–35.
7. R. N. Katz, “The ICT Infrastructure: A Driver of Change,” *EDUCAUSE Review*, Volume 37, Number 4, July/August 2002, pp. 51–62, <<http://www.educause.edu/ir/library/pdf/erm0243.pdf>>.
8. B. Hawkins and C. Barone, “Assessing Information Technology: Changing the Conceptual Framework,” in P. McClure, ed., *Organizing and Managing Information Resources on Your Campus* (San Francisco: Jossey-Bass, 2003), <<http://www.educause.edu/asp/doclib/abstract.asp?id=pub7007>>.
9. K. Harris, M. Grey, and C. Rozwell, “Changing the View of ROI to VOI—Value on Investment,” Gartner Research Note, 14 November 2001. See also J. McCredie, “Does IT Matter to Higher Education?” *EDUCAUSE Review*, Volume 38, Number 6, November/December 2003, pp. 14–22, <<http://www.educause.edu/ir/library/pdf/erm0360.pdf>>.
10. For details about participating in the COSTS Project, which collects data about the cost of supporting technology services in colleges and universities, see <<http://www.costsproject.org/>>.
11. For a discussion of sources of reliable data for benchmarking purposes, see J. Savarese, “Benchmarking IT Costs,” *University Business*, August 2003, pp. 51–52, <<http://www.universitybusiness.com/page.cfm?p=339>>. See also D. Smallen and K. Leach, “Seven Benchmarks for Information Technology Investments,” *EDUCAUSE Quarterly*, Volume 25, Number 3, 2002, pp. 22–27, <<http://www.educause.edu/ir/library/pdf/EQM0234.pdf>>.



EDUCAUSE (<http://www.educause.edu>) is a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology. EDUCAUSE activities include an educational program of conferences, workshops, seminars, and institutes; a variety of online and print publications and electronic resources; information and data-sharing activities; policy and advocacy programs; and several leading-edge initiatives. Membership includes nearly 1,900 campuses, organizations, and corporations.



The National Association of College and University Business Officers (<http://www.nacubo.org>) is a nonprofit professional organization representing chief administrative and financial officers at more than 2,100 colleges and universities across the country. NACUBO's mission is to anticipate the issues affecting higher education and to promote sound management and financial practices at colleges and universities.