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Developing A Shared Vision: Strategic Planning As A Guide To Technology Funding

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Report from
The ACUTA Forum for Strategic Leadership
in Communications Technology

Developing a Shared Vision: Strategic Planning as a Guide to Technology Funding

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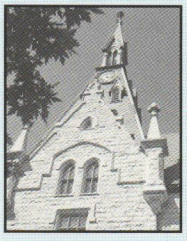

The Association for Communications Technology Professionals in Higher Education

Key Findings from the ACUTA Trends Survey, and a Strategic Approach to Technology Planning

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In December 2004 ACUTA and WTC sent a survey to 768 ACUTA primary members to determine what issues were important on campuses today and what issues respondents felt will be of importance in the next few years. Questions related to management, strategy, infrastructure, technology, organization, policy, and funding. One of the most interesting observations is that the current and five-year rankings are nearly identical— today's concerns are also your concerns for the future. Here are the highlights of our findings:

A cluster of five **management** issues were rated very close to the same importance. This cluster included developing a vision of the future; keeping up with current technology trends; keeping up with demand for services; creating new funding sources; and promoting the importance of the technology investment to senior officials.

Four **strategic** issues also remained at the top of the list for the present and the future. These included: development of a strategic master plan; funding models; network survivability; and business continuity planning.

Six issues topped both today's and tomorrow's lists of concerns about **infrastructure**, with the top two—infrastructure performance and planning for new construction projects—noticeably more significant. Third was preparation of the physical infrastructure to support VoIP. Preparation of electronics for VoIP was fourth; wireless VoIP, fifth. Sixth was preparation of the network to support SIP-enabled services. In this list, the only significant shift is that respondents believe wireless VoIP will be more important tomorrow than it is today. Perhaps underestimated is support for SIP-enabled services, which are thought to be the strategic "glue" that will hold all the applications together in the most productive way. Another potential problem area related to infrastructure that was revealed by the survey is a fundamental misunderstanding of the role of wireless technologies. Many among senior level administrators don't understand that it takes a lot of wire to run a wireless network. There are physical infrastructure issues as well as funding issues, which may mean some strategic tradeoffs as those who fund projects consider wireless as a core substitute for basic technology.

The **technology** issue considered most important by survey respondents was the role of mobility. Mobility needs to be considered in four categories: personal area networks, local area networks, metropolitan area networks, and wide area networks. At issue are the interweaving, connection, and migration of all of these. Close behind mobility on the survey was the storage area network. As we amass information, there is recognition that the value of the network is soaring, and we need to put the things of high value in safer and safer places. The message from this is that the value proposition is changing, and as the value of the network increases, so must the funding behind it.

At the top of the list of important **organizational** issues for today and tomorrow was internal relationships with other departments. Closely related, as we experience convergence of departments as well as technology, was working collaboratively so that everyone is pulling in the same direction—more and more challenging, but essential. The other two most important issues on both today's and tomorrow's lists were the development of a network security office and ownership of and accountability for network resources.

The four most important **policy** issues both now and in the future included development of network security policy and procedures, meeting the refreshment cycle of network systems, chargeback versus central funding, and cabling standards.

Regulatory issues, Internet2, contracting strategies, and state networks were at the top of both lists of important **external** issues. Significantly, ACUTA now has a voice in the regulatory process with the appointment of Tamara Closs to the FCC CAC.

Asked to select the top five issues that will require **funding** resources over the next three years, survey recipients had a difficult time narrowing the list. Network infrastructure performance topped the list, followed closely by keeping up with demand for services, keeping up with current technology trends, refreshment cycle of network systems, business continuity planning, preparing the physical infrastructure to support VoIP, network survivability, and developing network security policy and procedures.

WTC concludes from the survey that what everyone worries about today is nearly identical to what they expect to worry about tomorrow. This emphasizes the importance of strategic planning for its impact on behavior and funding models. Because the rate of change will continue to accelerate, the strategic plans must be updated regularly. Just as a rocket undergoes corrections as it heads toward its target, so the institution or department must update its strategic plan to stay on course. A benefit of updating may be the opportunity to get back in touch with the positive effects of the process: It is very collaborative, high intensity, interactive, horizontal across the organization and vertical through the administration, and it builds consensus. Returning to the strategic planning process puts you back in touch with that energy and is an important way to connect the results of strategies to the funding mechanism to keep things current.

The strategic plan should help you reduce the cost of being wrong. The implied question is how best to channel technology investments today, guided by a vision of the future. Network infrastructure performance will continue to be critical; wire will always outperform wireless. So you must invest in your wired network, and investments must be leveraged as you plan for convergence to fit your campus.

No single issue stands out in a compelling way, according to the ACUTA/WTC survey. In every category, four to six issues vie for the top concern, without significant changes over the next five years. This suggests that today's problems don't appear to have solutions—and that strategic planning is more important than ever.

The Forum

Since 1997, the annual ACUTA Forum for Strategic Leadership in Communications Technology has provided a unique opportunity for campus leaders to exchange ideas and discuss issues relevant to the use of technology in meeting the goals of higher education. Held in conjunction with ACUTA's Annual Conference and Exhibition, this forum brings together men and women of vision, foresight, and authority to discuss strategic directions for the campus of the future.

Goals

- To provide a venue for the examination of issues and challenges facing the higher education community as we grapple with planning, financing, and implementing technology on our campuses.
- To establish a forum in which senior university leaders with responsibility for communications technology can meet with their peers, share their collective expertise, and come away with solutions that will meet their institutions' needs.

Executive Summary 2005

As we planned to consider our topic, "Developing a Shared Vision: Strategic Planning as a Guide to Technology Funding," ACUTA and WTC conducted a survey to identify important issues. Questions related to management, strategy, infrastructure, technology, organization, policy, and funding. One of the most interesting observations is that the current and five-year rankings are nearly identical—today's concerns are also your concerns for the future.

These issues were addressed at the 9th Annual ACUTA Forum for Strategic Leadership in Communications Technology and some interesting insights were shared:

- When it comes to strategic planning and funding, mapping and measuring provide a way out of the realm of anecdote and can earn us a seat at the planning table.
- Funding for IT depends on the stake IT is given in the strategic planning process. To be invited to the table, IT must develop its own plan for measuring its impact and communicating that information to those at the highest level.
- The rate of technological change is accelerating exponentially, and making wise investments is not only more challenging but also more expensive than ever. Having an IT strategic plan may seem redundant or futile in the face of change, but without one, you will not succesfully manage the future.

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ACUTA Higher Education Advisory Panel

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Strategic Planning and Funding: Mapping and Measuring Our Future

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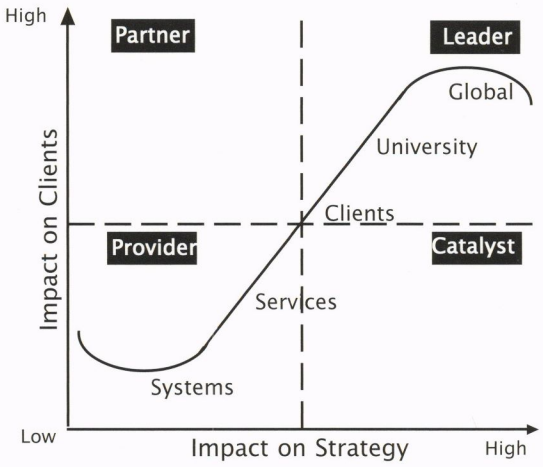
When it comes to strategic planning and funding, mapping and measuring provide a way out of the realm of anecdote and can earn us a seat at the table. Doing the metrics that illustrate the return on investment on capital projects, reporting results back to the funding committee that show how targets have been met, and conducting portfolio analyses that indicate alignment with institutional goals have totally changed the funding paradigm for us at Stanford.

Transforming the role of IT means doing the right IT projects and programs and doing them right. As long as we are perceived as more administration just asking for money, we will always be just a cost to be controlled. Doing a project right requires a commitment to excellence that includes learning and improving with experience, gaining confidence and credibility through communication, and delivering a measurable return on investment.

From Forester, we borrowed the Total Economic Impact™ Premise. With this formula, we identify what we are doing to improve some activity, describe how we will measure its value, and assign a dollar value to the difference. At the base of this model is the technology cost—which includes the IT budget and IT accountability. The benefits include the business value, which is quantified and measured outside of IT, and for which the business unit owns the project and from which they profit. This allows us the flexibility to explore options with the business unit. After running the options through a risk filter, we produce a Total Economic Impact. When we quantify an impact with actual figures, we are able to convey the value of infrastructure and paint a picture for the future.

One of the tools we use to determine if we are allocating our resources wisely and doing IT right is time tracking. Beginning from the top down, we began Web-based tracking of time spent on all projects. These journals help us justify additional personnel and serve other organizational purposes as well. We also published client-facing metrics, such as how much of the time the network was up, and we derived a total cost of IT to the University, which revealed some surprising disparities in allocation of funds. All of these activities help us measure how we are doing IT right and will support our efforts to be a value partner at the planning table.

As the IT organization grows within the University, its development tracks along a technology S curve that begins at the system level. This S curve is very important if you're going to be able to define your project portfolio management. It is a tool that helps us measure the impact on the University strategy and the impact on the clients.



Initially, IT provides a system to improve the way things are done. We provide, others consume. They do not understand what we do, exactly, but they know their life has become automated and routine tasks are easier than they were before.

Next we move into the service level. We know what core services are, and we build service-excellence programs. Our clients see us as service providers.

This evolution takes us next to the client level. We become client-focused, and we know our clients' business as well as they do. To build trust, we talk tech-to-tech and leader-to-leader, and we find out what they want. We also conduct surveys to get valid data and dispel existing myths.

You really become a player when you can talk about the value to the university from outside the university. For example, we are supporting such an extensive research environment that faculty are choosing to come to Stanford because of it. However, you can't skip any of the stages; you must develop each one fully and sequentially. Most of the IT organizations I see in higher education are just starting to learn how to be truly client-focused.

Transforming the role of IT means doing the right IT projects and programs right. It requires effectively mapping the strategic direction. And it means measuring the results using metrics like I have described here to earn a place at the planning table.

Joint Presentation

The Relationship of Strategic Planning and IT Funding

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Higher education's challenge today is not just to deploy networks and provide access to computers, but to develop compelling and cohesive technical environments and services that will attract and retain the finest faculty, students, and staff. In addition, we must organize the information within the institution's reach in ways that foster learning and a shared sense of community. Information technology is a core element of the infrastructure and vital to the achievement of the institution's strategic mission.

For most of us, annual updates to strategic plan objectives for IT have become standard practice, but the financial plan may become problematic. Most funding is based on historical patterns; but we should be asking what we *should be* spending, not what we *are* spending. An institution cannot know if a strategic initiative is affordable if it does not know the total cost of maintaining its currently deployed technology infrastructure. For every strategic initiative, at least three cost components exist: capital cost, yearly operating cost, and annualized replacement. No project should be undertaken unless all cost components have been fully funded.

At Rowan, we rely on 10-year projections based upon our replacement cycle model that is built on a series of spreadsheets that allow us to categorize and maintain current data on all campus information technologies. We built our replacement-cycle funding model after completing an institution-wide technology assessment that included an inventory of all information technologies, a review of technologies for applicability to Rowan, and an assessment of their sustainability.

Trends affecting strategic planning for IT at Rowan include integrating IT into our core activities, funding replacement of IT hardware and software, escalating cost of end-user support, and leveraging IT to create potential advantages. Our planning priorities include clarifying goals for information resources at the institutional and college level; assessing benefits of existing IT resources; developing funding sources; and developing specific plans for those activities that have the potential to yield a competitive advantage.

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In *Strategic Planning for Public and Nonprofit Organizations,* John Bryson says, "Strategic planning is a disciplined effort to produce fundamental discussions and actions that shape and guide what an organization is, what it does, and why it does it." I would add to that that it builds teams and stakeholders in the plan and provides direction and buy-in.

Strategic planning at Northwestern is important because it aligns technology direction with the 5-year plan for the University which we call the Highest Order of Excellence. It enhances communications, develops stakeholders and partners within the Northwestern community, and it develops a roadmap for technology funding decision making.

Communication is key to successful planning. Before the planning formally begins, we hold discussions with different departments and committees to discuss their plans and understand the technology required to support them. Vice presidents, deans, directors, committees, and staff are all involved in discussions. Before we arrive at our strategic planning retreat, our directors have had the opportunity to study the results of these discussions, current technology and management literature as well as the existing strategic plan, so they arrive with as much information as possible.

At the retreat, we hold open discussion of interview results and staff input. We invite guest speakers; review the strengths, weaknesses, opportunities, and threats that exist currently for IT and the University; and develop strategic and operational objectives. Our strategic plan framework is based on four components: faculty and the environment for creative work, students and the environment for learning, staff and the environment for effective administration, and the technology-enabling infrastructure.

Our directors then describe these new strategic and operational objectives and, with their staff, develop a business plan including preliminary project plans and financials. Then we meet again on campus and prioritize objectives for the first budget year. Our three-year University Information Technology Strategic Plan is the platform for our funding presentation to the University's Planning and Budget Committee each year.

Thorough planning contributes to the respect we have earned and the technology we have been able to deploy. Provost Lawrence Dumas said, "The University's communications infrastructure is more than a utility. It is an essential tool for research, teaching, and administration for every member of the NU community," and President Henry S. Bienen stated, "At Northwestern, Information Technology is a key enabler for research, teaching, and administration."

Joint Presentation

Planning for the Technology of 2020

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If we are going to be prepared for the campus of 2020, we must begin now to visualize what it will look like. What is the key vision that people will want in IT? We believe that could be stated "everything all the time." The challenge is to make practical investment decisions on your network today, anticipating and adjusting for technology changes.

Today's students have had computers from their first day of school, and that makes them think differently from those of us who have not. They could be called "digital natives," because their world has always had this technology. Because all of us attending ACUTA are "digital immigrants" and have had to adjust to this new world, we need to be talking to these students to hear their expectations and see the future from their perspective.

In the years immediately ahead, look for these technology developments:

2007: Developments in Quantum computers

2007: Self-organizing integrated circuits

2008: Connectivity at 100 Mbps per home; fiber to the curb, desktop, brain

2009: Chips with 1 billion transistors. 90% of all calls will be tetherless.

2010: CPUs as fast as the human brain

2012: Everything connected to the network

We can make some other predictions that will influence how we plan in the near future: Student revenues will be gone by 2007. Rate structures will become centralized or per-capita based. Most institutions will be able to fully cost-recover their rate models. Tetherless will matter more than cost or quality.

Any network component less than 1 gig will be obsolete by 2008. Wide scale deployment of storage area networks will be the norm by 2008. The PSTN and cable networks are already becoming obsolete, and investing in cable TV is a mistake. Asset control is also a waste of money, as everything will have an RFID.

Within three years, card systems will be obsolete. Identity theft will continue to be a big problem, and biometric systems, which are more secure, will still require more expensive infrastructure. By 2009, any data center designed before 1997 will be obsolete due to heat, power, and processing trends.

Supporting the wireless on campus will continue to require a lot of wire that you will not be able to charge for. Access points will become a commodity like NIC cards, and will be put in rooms like light fixtures. There will no longer be any reason to want to compete in the local market because there will be no local market. Taxes from access will go away, but watch for new taxes to replace them.

To position the network and operations to meet expectations over the next five to ten years, we suggest the following strategies:

For the LAN:

- Plan on hardening the wired data network for the next five to seven years, but do not amortize anything for more than two years.
- Do not plan on wireless as a replacement strategy for the production data network.
- Plan central power management and UPS in every closet.

Regarding convergence:

- Stretch the life of legacy TDM investments. If you make a practical decision to keep the old and buy something new and make them work together, that's an entirely appropriate strategy.
- Prepare the physical plant for convergence that fits the campus. IP is coming. Avoid investing in wired VoIP; it will be leapfrogged by some other technology, which will be wireless.
- Nothing should be purchased that cannot handle all IP modes of voice, data, video, and cellular. Keep everything interoperable in terms of multi-modal capabilities.

Regarding rates and funding:

- To the extent possible, expense all wireless investments. Amortize them on 36-month max schedules.
- Do not plan on cellular as a long-term revenue source, and do not plan on deriving revenue from hot-spot operations.
- Recognize that VoIP on 802.11x will make entire campus rate structures obsolete.

Is an IT Strategic Plan Really Necessary?

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There are many definitions of strategic planning. They include words such as guidance, direction, process, and vision, and they all imply proactive change—envisioning and managing the future.

IT Alignment in Higher Education, a 2004 study by ECAR, identifies planning trends that have characterized the past several decades. In the 1970s, long-term planning was the approach of choice. Big, detailed plans usually involved many people and produced much detail. In the '80s, medium-term planning produced less detail but set vision and strategic direction. Greater emphasis was placed on plan fulfillment and greater business-IT alignment. In the '90s, short-term planning saw results delivered more rapidly in smaller increments. Today's "just-in-time" planning allows us to respond to the environment, a need, or an opportunity. The modular IT infrastructure that is the product of this planning—portals, Web services, ERP, and open source—has resulted in blended business-IT strategies and vision. Time horizons are getting shorter as implementation is broken into smaller, more rapidly achievable steps. We are seeing an increasing integration of business and IT vision and strategy, and a greater emphasis on "sensing and responding" than "planning."

There are positive and less positive aspects of strategic planning. Some say if you don't know where you are going, any road will take you there. Strategic planning involves many stakeholders and brings new ideas to the table. Planning allows organizations to imagine and see a desirable future. On the other hand, there is more than one set of future possibilities; which one do you plan for? A strategic plan is merely a document; realization of the plan's vision is what is important. The irony of this for IT is that technology has become a primary driver and enabler of change, but the rapidity of change and the potential for disruptive technologies makes IT planning less certain.

An effective strategic plan is a living document, not something that sits on a shelf. Resource allocations must be sufficient to achieve the plan, but we must bear in mind that a strategic plan is supposed to be about direction, not fulfillment. Additional findings from the ECAR study tell us that nearly 80 percent of institutions update their IT plans every two or three years and that few institutional leaders get truly involved in IT planning or decision making. Institutions with a clear institutional vision are nearly twice as likely to report IT alignment.

Some characteristics of a campus IT environment positioned for planning are the following:

- Effective IT management structures
- Senior leadership that is informed and engaged on IT issues
- An IT architecture that supports rapid and adaptive change

To be successful, organizations need to communicate with customers, partners, and employees; understand their environment/business intelligence; predict future states; respond rapidly to change; blend technology and strategy; and manage costs. In *Good to Great,* Jim Collins says this will require disciplined people, disciplined thought, and disciplined action.

Is an IT strategic plan really necessary? If this is your question, ask yourself these questions as well:

- Is it better to have a single, integrated institutional/IT plan or separate but aligned institutional and IT plans?
- Which is more likely to lead to stakeholder and executive buy-in?
- Which is more likely to be funded?
- Which is more likely to be successful?
- Is it better to create a good strategic plan or develop an effective planning process?
- Which is more likely to lead to continuous, integrated planning?
- Which is more likely to move the institution forward toward transformation?

If your institution has IT-aware, engaged senior managers; an IT architecture that supports rapid change; high-level information management and access; close integration between institutional and IT planning; and adequate funding to achieve the institutional/IT strategic plan, then you have a campus that is poised for success.

Making the Case for IT

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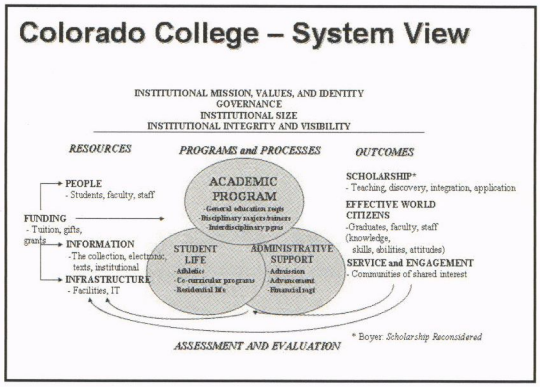
Colorado College in Colorado Springs offers what we call a "unique educational adventure" among institutions of higher education. A small liberal arts college with an enrollment of just under 2,000 students, we offer a block plan that enables students to enjoy a very low student/faculty ratio of 13:1. Students focus on one course at a time, and the depth of inquiry fostered by long class sessions and by field study create very effective contexts for learning.

Like our colleagues in IT at all institutions, we recognize competing priorities for funding. To make the case for support of IT Services, we have developed an ITS action agenda which includes (1) IT support for experiential, interactive, and authentic learning; (2) extraordinary service, balancing staff capacity with community needs; (3) ubiquitous, reliable, and fast access to information; and (4) sustainable computing which makes wise use of resources in the long term. As illustrated in the diagram below, this sets a context for learning and teaching which recognizes that information is just as vital to success as people, funding, and buildings.

We suggest four methodologies critical to accomplishing our action agenda and contributing successfully to the mission of the College.

• Start from an institutional perspective. Information is at the center of the learning context that moves from data to wisdom. We don't need more information, we need more intelligence in how to deal with it. There must be an institutional plan, whatever you call it (our current version is Vision 2010). That said, flexibility is also essential, and being ready to react is also critical.



• IT is more than a utility. Speak of it as one of several integrated learning support services. How do the things we are doing impact learning? That's what the people we serve—students, faculty, staff, alums, Board of Trustees, and others—want to see. They don't want to know about the core (data centers and telecommunications rooms, cable plant, applications servers, phone switch and network, etc.), but they must understand that the core is there and that it must be maintained and supported.

The library is potentially, and increasingly, a very good partner for IT. We worked with our library to create a learning commons that includes labs, writing center, conference room, and instructional commons. We recognize physical space as well as intellectual and digital space and try to find a balance among them.

• Get necessary and sufficient visibility with the president and Board of your institution. Presidential advisory councils, made up of carefully selected friends of the campus and those who have specific skills or expertise, can be very useful not just for fund-raising, but also to work with the staff and to make specific recommendations to the president. Take advantage of opportunities to get the attention of such a council.

User surveys are also an effective way of learning what is important to our clients as well as gaining visibility for IT Services. Such surveys also remind students and faculty of IT support for smart classrooms and teaching/campus life enhancements such as e-mail, Internet connections, listservs, and more.

• Measure, track, and report things that matter. Because we track all sorts of data, we can report that the Computers and Advanced Technology Lab served 1,839 patrons in the first year of operation. Total sessions at the Writing Center were up 27 percent. There were 678 visits to the Quantitative Reasoning Center in its first year. These are all services through which IT supports the integration and synthesis of technologies and contributes to the learning experience on campus.

Making the case for IT means leaving nothing to chance. At Colorado College, we will continue to provide excellent support services because we are vigilant about quality *and* visibility.

Highlights of Roundtable Discussions

Ongoing Challenges

- **Strategic Planning**

  Some institutions have no strategic plan. At those that do, some department heads do not think strategically. Planning that doesn't originate from the top isn't as effective. Differentiating the strategic from the tactical is a challenge for some. IT strategic priorities are often not on the same level as other area priorities.

- **Funding**

  When new initiatives are tabled due to insufficient funds, supporting expectations is impossible. In an environment of constraint, even maintaining current levels can become problematic, especially if there is no sustainable funding model in place. Input from experienced staff is sometimes valued less than the advice of hired consultants, which leads to morale problems and reduced productivity.

  Establishing valid metrics to measure progress is a challenge, especially if no strategic plan exists. Having no checkpoints impedes the progress toward a goal.

- **Security**

  The campus *and* its network face constant threats from malicious intruders and data thieves as well as uninformed students and both willing and unwitting accomplices on campus.

Solution Sources

- **Strategic Planning**

  Even if the institution has no strategic plan, IT can build its own plan based on the mission of the institution. An internally written three- to five-year plan that successfully accomplishes its goals can demonstrate the efficacy of the planning process to the campus. IT departments should not hesitate to publicize their successes.

- **Funding**

  Publishing an annual report that documents the return on investment can gain positive attention for the contribution of IT to the institution. Well-meaning IT departments should not step up too quickly with a "make it work" attitude that allows budget planners to allocate their limited funds to other departments. Preparing an annual project portfolio provides visibility and may help secure project sponsors.

- **Security**

  Security policies must be carefully crafted, strictly enforced, and regularly evaluated and updated. Raising awareness of risk factors to networks and facilities requires ongoing effort and campuswide cooperation.