Leading the Higher Education IT Organization

Building Blocks of SUCCESS

By Stephen J. Laster

With this issue of EDUCAUSE Review, we learn about higher education’s continuing IT challenges. Many of these challenges are well known: funding information technology; keeping up with consumer technology now leveraged in the enterprise; maintaining the difficult balance between security and openness; and staffing a quality team. Many of us in the higher education IT field may even take comfort in the fact that we know how to conceptualize these ongoing challenges. We have language that we can use to frame these challenges, and we are well suited to manage them.
But in fact, many of the worries for IT leaders are new—and much broader. The traditional teaching, learning, and research models of the past will not be and cannot be the models for the future. These models break down as costs (human and financial) continue to grow faster than they can be funded, as digital natives change forever the nature of being “in class,” and as technology advances our notions of community, connectedness, collaboration, and learning.

As if these traditional and new challenges within the higher education technology context were not enough, we face many pressures external to higher education. Think back to December 2006—to the world before iPhones. Whereas the learning management system (LMS) used to be a singular solution, today it is quickly becoming a federation of services, some of which institutions can run and some of which others must provide. We have entered the age of customer relationship management in higher education not just to enable admissions but also to develop lifelong connections to students and alumni. And of course, we are often being asked to help campus programs work with publishers to redefine the notions of textbooks and course materials. Yet with all of these advances and demands, we can never lose sight of our basic responsibilities for ensuring up-time and security and meeting FERPA requirements.

The higher education IT community faces some very serious questions: What value is the campus receiving from the institution’s technology investment? Why are so many stakeholders dissatisfied with the campus technology offerings? And how can IT leaders hold on to and motivate a great technology team to meet the increased IT demands of the campus? I would argue that rather than worrying about funding concerns and time demands, the IT leaders of tomorrow need to address more basic, core issues: hiring and nurturing skilled staff; using vision to encourage a culture of commitment, communication, and intellectual discourse; creating a world of deliberate and flexible IT planning; and providing a technology stack that is dependable and secure yet open and adaptable. These issues constitute six building blocks for forming a new pyramid leading to higher education IT value.

**The Challenges for the Higher Education IT Leader**

I am often asked why IT leadership in higher education is so challenging. As nice as it would be to offer a simple answer, the truth is complex. The IT leader is responsible for running a diverse and changing business that services a range of customers, 7x24x365. It is not enough to excel in academic technology, research computing, administrative technology, dorm networking, web development, or desktop support. At different times and for different customers, the IT organization must excel at all of these services and more.

So how can the IT leader prepare for such a large challenge? By remembering that the job is not just about the technology, how we operate, or our people. The value in higher education IT leadership is found in all three, woven together through our vision.

**Hiring Nice, Smart, Adaptable, Skilled People**

As seductive as the technology issues and opportunities are for many of us closet geeks (yes, I miss the days when I could write code and make the machine “dance”), information technology—at its core—is a people business. It is about working with and leading people with vision and passion in order to take the imperfect world of technology and apply it in a manner that enables the mission and vision of the institution. So as we spend our energy on the latest upgrade, the latest architecture, the latest device, we need to stop and think about how much time we are devoting to the people who create and integrate our solutions and help the rest of our community understand how to use these solutions.

Thinking about people begins with hiring. How much time do you spend understanding or defining your hiring criteria? Are you willing to hire an all-star who cannot play with others? Are you willing to hire a nice, smart, adaptable person who may be lacking in certain skills? (I maintain that specific skills are far less important than being nice, smart, and adaptable.) Does your hiring process afford you the opportunity to get to know the whole person, including his/her
hopes, wants, and desires? Hiring staff is the single most important activity an IT organization undertakes. To do this well, we need a thoughtful process that is reflective of our organizational values. By reference, then, we also need to establish values and vision.

Values and vision are more than words on posters on the conference-room wall; they exist to guide members of a team in daily decision-making. They enable support teams to make the tough call with a customer without having to work the issue through bureaucracy. They enable the engineer to determine when a shortcut is good enough. They enable the entire IT team to see where it is headed and how each individual fits in. Before you attempt to establish a hiring process and recruit people, ask yourself: What is our vision? What are our values? And most important, how do the vision and values of the IT team reflect and support those of the institution?

Hiring the right people and creating vision and values are just the beginning. How many of us have found promising hires, thrown them in with the existing team, and hoped they floated? How many times have we failed to plan for their transition into higher education and/or onto our campus? We are a complex bunch, driven by commitment. Making and honoring commitments elevates the members of an IT organization from plumbers to partners, from geeks to trusted advisors. To make and honor commitments, we all must learn how to clearly establish and negotiate goals and to agree that we have a social contract. To do this will require us to think about solutions. How many times have we heard back to the speaker, for confirmation. When a speaker appears to be finished, great listeners ask if there is more to be added. They reflect what they have heard back to the speaker, for confirmation. Only when they are sure that there is no more to be said and that they have correctly interpreted what was said do great listeners begin to think about solutions.

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Listening, Committing, Negotiating, Disagreeing

To sustain our teams, we need to nurture them. We need to help team members learn how to listen and hear each other. A wise former CIO taught me that listening—truly listening—is difficult for IT people. Too often, the solution engineer in us stops listening and starts formulating the implementation. We think we know the problem long before our teammate or customer has even stopped talking. Great team members understand what it means to actively listen—to listen not for what you want to hear but for what the other person is saying and trying to convey. When a speaker appears to be finished, great listeners ask if there is more to be added. They reflect what they have heard back to the speaker, for confirmation. Only when they are sure that there is no more to be said and that they have correctly interpreted what was said do great listeners begin to think about solutions.

Agreement on goals generally involves a process of negotiation. I learned my favorite negotiation model from Robert Berkley, an executive coach and management consultant with GroupMV. Berkley views negotiation as the cycle of request, restatement, and acceptance/rejection or yet another negotiation. This model is appealing because it depicts negotiation as a recursive activity that continues until we reach commitment based on well-known goals. When practiced, this model eliminates the opportunity for the non-answer or the partial commitment. The requestor states a goal and asks the receiver if he/she will commit. The receiver can commit, reject, or renegotiate. The renegotiation process involves another negotiation cycle, with the roles reversed. This process of negotiation based on clear goals and active listening can continue until commitments are mutually understood.

The final element of “people practice” is disagreeing—or, the art of conflict. IT practitioners tend to be engaged, passionate people. As a community, we are sometimes known as introverts—but let’s not equate being quiet with an absence of strong beliefs and passion. When we handle a support call, run a project, release code, or configure a server (let’s not even begin to discuss operating systems and software stacks), we tend to believe
that there is a “right way” and a “wrong way” to proceed. So as IT leaders, how do we and how should we handle conflict? How often should we strive to iron things out before a meeting so that the meeting is a “non-event”? What's wrong with an eventful meeting? How do we react when people challenge each other? What do we do with a quiet talker who gazes deeply into his/her screen during the staff or project-status meeting? Do we encourage always getting along and being polite? Do we foster a rough-and-tumble jungle of emotional, personal discourse? Or do we foster an environment of honest intellectual debate? And if we do promote honest debate, how do we handle the inevitable disagreement?

Great leadership is about encouraging spirited debate, disagreement, and conflict in a safe environment. Information technology is too large a practice for any one person to have all the answers and is too complex for our teams to always agree and “get along.” Healthy teams are built on healthy conflict. In successful organizations, this means acknowledging that conflicts will happen. It means understanding that conflicts are usually about broken commitments, competition for resources, or differences in perspectives. Conflicts are not and should not be personal attacks. Conflicts over broken commitments should begin with an apology and a new negotiation. Conflicts over competition for resources can be negotiated. Conflicts over differences in perspectives require active listening, goal setting, and negotiation. Handled in this manner, conflicts make teams stronger.

**Lightweight Enabling Processes**

With a foundation of a team committed to the organization and steeped in the understanding of communication, commitment, and conflict management, great organizations turn their attention to process. Early in my career, I was a process bigot. Process felt lazy and slow. Process was for those managers who wanted to stomp on my creativity. Today I understand that good process is nothing of the sort. Good, effective process frees us up to innovate yet still deliver a reliable product and service. Great process makes us fast and responsive. Great process enables organizational learning and contributes to a climate of trust and fun. The key for great process is that it is understood by all and is as light as possible. IT organizations in higher education need to be especially tuned in to the processes around governance and communication. This does not imply, of course, that the more traditional IT processes of support-call resolution, project management, software-development lifecycle, change control, and release management are any less important.

If higher education were driven solely by the profit-and-loss statement, decision-making and IT governance would be much easier to implement. This does not mean that we should avoid conversations about return on investment or how to leverage our IT investment to create new sources of income. It does mean that these kinds of conversations will not dominate the planning and governance process.

**Transparency, Shared Governance, Communicating**

Information technology in higher education exists to enable the institutional mission. The exact IT needs and strategy will vary from school to school and must be aligned to the school’s mission, vision, strategy, and tactics. Assuming that the IT strategic plan (and yes, there needs to be one) is in place, how should one govern the IT investment? In my experience, good governance is based on transparency, collaboration, capacity, and agility.

Perhaps most important is transparency. In my IT organization, we work closely with our liaisons (individuals in each operating group across our campus) to share our plans, our victories, and most important, our problems and technology failures. We pride ourselves on communicating clearly when we are having problems and on working closely with our liaisons to mitigate the impact of any problems. We do this to create customer intimacy and to take the mystery out of our technology offering.

We are equally transparent when it comes to planning. Our planning process starts with a definition of our capacity stated in hours for project work and in volume of activities for our operational work. In other words, we know how many support calls we can handle in a year, and we know how many software engineering hours we have to allocate to projects. To make this allocation process work, we also track our time. On a monthly basis, we report to campus leaders how much time we have consumed and on what projects. We are able to measure the year looking at capacity, consumption, and projects delivered. On the operating side, we measure events supported and calls handled, along with uptime achieved and currency of systems (we have committed to being no more than two versions behind on a technology unless we have a deliberate reason).

With our transparent reporting in place, we are able to join in a shared governance model. Working with a small number of campus leaders, we engage in a yearly process of canvassing the upcoming campus technology needs. The IT capacity is allocated to specific projects and operating groups across campus to utilize during the year as needs develop. We do not attempt to allocate the entire capacity for the entire year, since this would result in a very brittle approach to managing IT resources. For larger projects, we do allocate some of the capacity for the year. We use a multipoint rubric to evaluate...
projects and develop a prioritized list. The list is given to the IT organization and is turned into a candidate yearly production plan. The plan is presented to campus leadership for final approval. As we start a new academic year, we are able to say with certainty the large projects we will undertake and the capacity (in hours) that we have allocated to each campus department.

Our planning does not end with our yearly process, however. Working in partnership with our campus liaisons, we make plans for each semester. We flow into the semester plans the large projects previously prioritized, along with specific projects resulting from the allocation granted to each department. Once we have a semester plan in place, the IT department operates on a four-week plan (known as a “frozen four”). Within a frozen four, IT project managers plan each week and each day. We leverage an agile methodology and make all our plans publicly available.

We have woven our planning processes into the fabric of our work. They are lightweight in nature and are used to guide individuals and teams in delivering on commitments. They also allow us to methodically adjust as the world changes. They provide us with tools and processes to renegotiate commitments when necessary, and they identify when extra effort is required. Most important, they give the IT team and the campus a common framework for managing our limited IT resources to create the most value.

To achieve success with the technology stack in higher education, we need to refactor our thinking. Of paramount importance is developing an understanding of the campus networking capacity, student geography, and traffic patterns. It is tempting to believe that the future rests solely in the cloud and that we will get out of the commodity business of hosting technologies. But we are not there yet. Take, for instance, the day of President Barack Obama's inauguration. The “net” was congested while the world watched the live video. A significant portion of network traffic slowed or failed to arrive. Deciding what to run locally versus what to buy as service depends greatly on the speed and fault tolerance of the campus connection to the Internet. Making a wise decision is based also on the location of students. Imagine being the CIO who had outsourced video hosting, only to learn that most of the streaming demand was coming from the residential areas of campus. Understanding where the consumers of a service reside and the IT department's ability to drive traffic through existing Internet connections will enable balanced and thoughtful hosting decisions.

The hosting-versus-local question is not just one of bandwidth. Technology leaders need to consider the role of the campus directory, user credentials, and user experience. On many campuses, the students, faculty, and staff have long been accustomed to having a single set of user credentials and a centralized directory with which to find colleagues. These core services have been leveraged by many organizations and administrations to provide robust identity and access management practices that respect and comply with FERPA regulations. As we begin to view the enterprise as a collection of self-hosted, cloud-hosted, and SAS solutions, we need to be aware of the impact on user credentials, directories, and compliance.

To achieve the dual goals of robust identity management and low-cost flexibility, we need to see the world as a federated, heterogeneous environment. As leaders in technology, we need to embrace standards and vendors that support a robust notion of federation (the passing of known identities and roles across systems to provide seamless and secure access). We need to drive user-profile information into centralized, shared campus repositories that we can easily extend to a modular ecosystem of applications. We need to identify the information that is sacred to the institution and ensure its stewardship and access for analytical decision-making.

Pulling It All Together for Higher Ed IT Value

So how can IT leaders succeed? We need to focus on a new pyramid. This pyramid is built on a foundation of adaptable, skilled people who are actively coached and supported in the institutional vision. It fosters a culture of listening, commitment, and negotiation. It wraps these values in flexible, open processes and transparent, shared governance. And of
course, it provides a rock-solid yet flexible technology ecosystem serving the mission of the institution.

Another way of conceiving this pyramid for our future technology world is through the metaphors of LEGOs and tiers. As I watch my eight-year-old son become a true LEGO master, it never ceases to amaze me that my LEGO bricks—now some forty years old—work seamlessly with his new LEGOs. LEGO has been religious about maintaining a standard “brick” interface so that no matter the year of manufacture or the shape of the brick, any two LEGO bricks are guaranteed to interoperate. If we are going to truly enable higher education, we need a similar commitment to interfaces on our own campuses and across the industry. We must design the enterprise and ecosystem in modules, or building blocks, of functionality integrated against standard interfaces.

In building this enterprise, we must also think in terms of tiers. In this case, tiers refers to the tried-and-true model of separating data, processes, and user experience. It is true that we, as technology leaders, are responsible for stewarding the data/information of the institution. And yes, today many of us also supply the technology that implements our business processes. But all too often, we live in a world in which our data, business processes, and resulting user experiences are tangled together in monolithic solutions. To truly enable the needs of the campus, we need to break our offering into tiers. We need to be willing to rapidly evolve user experiences and, to some degree, business processes. We need to steward institutional data to ensure ongoing operations and the ability to mine the institutional experience.

In today’s climate, leading the higher education IT organization has never been more challenging. Yet it has also never held more opportunities and more promise. We are positioned to enable the disruption that is transforming higher education. We can rise to the challenges by keeping the needs of our campuses foremost in our minds, by nurturing and growing our IT teams, and by envisioning and enabling an ecosystem of technologies as elegant and integrated as my son’s LEGOs.

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