In 1972, Southwest Airlines made a now-legendary business move. Struggling to remain financially viable, it restructured its business plan. It saw that time spent loading and unloading planes was money lost. Making a profit meant keeping customers moving and planes flying. To put the company back on its feet, Southwest developed the famous “Ten-Minute Turn.” Interestingly, the Southwest solution was not based on acquiring new systems or equipment. Instead, the company focused on maximizing one of its existing assets: the skill of its flight and ground crews. In other words, Southwest “sweat its assets”: it put the expertise of its people to more efficient use.

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Higher education today is facing its own financial challenge. Conditions are grim nationwide. The fiscal climate exacerbates the pressure on colleges and universities to provide the fastest research networks, the latest and greatest “X” (where “X” is equipment, software, service, etc.), and the best-in-class IT environment to attract the best and brightest students and faculty. Colleges and universities are challenged to provide more resources and services—with less funding. For IT professionals, the economic downturn presents an opportunity to stop, reprioritize, and consider new models for delivering services and resources. That is, it’s time to sweat the assets. But how?

“Sweating the assets” is variously defined as cutting costs, virtualizing, or getting “as much use as possible out of what you already possess.” The first definition leads to the reductionist approach: cut services, resources, and/or staff. In today’s market, compensation is often a major portion, if not the largest portion, of an organization’s budget, standing out as a likely target to cut. Some institutions are thus undertaking reductions in force in IT organizations and elsewhere. But Hitachi’s Hu Yoshida sounds a note of warning about cutbacks: “Sweating your assets’ may help you survive the downturn, but it can work against you when the recovery happens and you are caught short.”

Virtualizing is another way to sweat the assets. Data proliferates relentlessly, regardless of the financial crisis. Budgets may not stretch to fund more storage capacity. A college or university CIO may view this as an opportunity to enhance existing IT assets by virtualizing personal computing, storage, and servers. And doing so may help ease IT budget woes. But this solution is limited by its internal focus on the IT organization. Does virtualizing enhance the IT contribution to the institution at large?

The third definition of sweating the assets (and the path chosen by Southwest) is to get as much as possible from what is already present. In higher education, information technology is present—and pervasive. It is a foundational tool in the institutional missions of teaching, learning, research, and administration. Virtually no member of the campus community can work without it. But information technology is more than the hardware, software, and networks that underlie those missions. These tools contribute little if the IT organization does not also richly support them. Users count on IT support for the resources and services that transform technology into tools that empower them in their work.

Providing effective IT support grows more challenging every day. The number of devices increases and changes on a daily basis. The parameters of the workday, workweek, and even work space are limitless. The pervasiveness of information technology makes support a bigger job than ever. Users expect applications to load easily, and they expect operations to be self-explanatory. There is no time for a learning curve. Yet while the institution’s dependence on information technology is at an all-time high, the technology itself remains imperfect. Networks fail, hard drives crash, operating systems bluescreen, memory faults, viruses strike, and most software systems are still not transparent. The greatest supercomputers, the most far-reaching software agreements, the best ERP systems in the world offer little advantage if customers can’t use them to fuel their own productivity.

Support thus plays a strategic role in the work of higher education. And defining a key value can be an initial step in sweating the assets. Kieran O’Driscoll notes: “Technology now offers more ways than ever to ‘sweat the assets,’ and when considering IT’s contribution to the transformational agenda, the starting point must always be an understanding of where the value lies within the existing IT infrastructure. Only then can a strategy be created that adequately balances risk mitigation with cost, and ultimately with the needs of the business.”

Maximizing the effectiveness of the IT support organization is an ideal way to sweat the assets of the higher education institution.

People at the Center
Support is the connective tissue between people and technology. In a culture of pervasive information technology, the role for support becomes virtually limitless: any user of the technology is a potential client. So if people (not technology) are at the center of the IT universe, then support must stand at the heart of the IT organization.

Leaders of IT organizations should ask themselves several questions related to support: How people-centric is the IT unit? Is support an organizational priority? Is the IT user community represented at the same level as the data center, the network, research computing, and software development? Is the leader of the support organization part of the senior IT leadership team and one of the technology decision-makers? The organizational chart and the makeup of the CIO cabinet can provide answers.

Establishing high-level leadership and dedicating adequate resources for support are essential for people-centric IT organizations. Today’s support leader must be a visionary and a strategist (not the warm and fuzzy feel-good evangelist of yesterday) and must be skilled in using technology to leverage human resources so as to serve growing
Online knowledge management systems allow for expansive growth and support expansive demand—at very little incremental cost.

constituencies. A strong support leader taking a rightful seat at the cabinet table is in a position to advocate for and design strategies for leveraging those assets that balance risk mitigation with cost and for serving the primary needs of the user community.

In short, IT support has two alternatives. As David Kay and Tim Hines contend: “The choice for support executives is simple. Do you want to be managed down as a cost center or squeezed as a direct profit center? Or do [you] want to take your proper place in the boardroom as the chief customer advocate and the driver of customer loyalty, revenue, and profit?” Yet even with IT support leadership at the table, the conundrum of how to fund people-centric support remains.

Finding the Value
At most institutions, the pervasiveness of information technology is reflected in across-the-board increases: in number of users, in time spent using technology, and in the proliferation of types and brands of devices and systems. But financial and human resources often fall short of the ability to fund and staff 1:1 interaction. As a result, forward-thinking institutions leverage their existing support resources, enhancing self-service systems and enterprise agreements to serve more people and using more devices 24x7x365, regardless of their location.

Deciding how and what to leverage is a matter of numbers. The IT organization at Indiana University (IU), for example, tracks many metrics via various systems, including activity-based costing. The latter calculates the fully loaded cost of providing any given service. For example, metrics show that the comparative cost of delivering support via various media, in fiscal year 2007–8, was $26 for our self-service online knowledge management system (KMS), $9.39 for an e-mail, $11.41 for a phone call to the support center, $16.70 for a walk-in, and $26.24 for online chat. Metrics attribute the high cost for chat to the initial investments in the technology (demand rose 121% over the previous year). These figures clearly show that by leveraging our internal online KMS, we can keep support costs far below industry standards. Even if a user takes ten searches to find an answer, the cost stays far below that of a personal consult. Few people will attempt ten unsuccessful searches, so our online system needs to be efficient, accurate, and easy to use.

One of the most useful portions of a KMS is the ability to create and maintain documents in a single repository and use them in multiple places. Through web services technology, these documents can be used in class materials, online application help systems, online tutorials, step-by-step support tools, newsletters, IT notices, RSS feeds, and more. The beauty is that the information—the most expensive part of any KMS—is maintained in one place. Additions or changes are made once, and the content automatically populates as many places as designated, leveraging the information to serve innumerable audiences and purposes.

A well-designed KMS can stretch support resources exponentially, broadening the reach of staff expertise, extending the hours people can access support, and making support available wherever people connect. The savings that accrue from handling more support incidents more cost-effectively can help offset the higher cost of personal support, which plays a valuable role in any support program. Online knowledge management systems allow for expansive growth and support expansive demand—at very little incremental cost. That’s sweating the assets.

Other online systems based on the principle of leverage—for example, online software distribution, IT systems status notifications, and hardware configurations—also contribute to sweating the IT support assets. They leverage existing information, skills, and resources. Their potential for growth, whatever the fiscal climate, is virtually without boundaries. They are almost infinitely extensible. By proactively designing other such electronic resources that leverage core assets, the IT support unit is guaranteed reach, efficiency, and cost savings while it conserves its costlier and more scarce human resources for situations that require a human presence.

Edge, Leverage, and Trust
What will the support model of the future look like? Almost two decades ago, when personal computing took off, the central IT organization, especially in larger research universities, realized the impossibility of supporting the decentralized needs of the entire campus community. In response, many institutions implemented a distributed support model. Schools and departments hired consultants to offer IT support for their faculty and staff, while the IT organization continued to supply the institution with common services. This model made sense while personal and decentralized computing endured. The distributed support staff were close to the client and handled workstation configuration, local server administration, local security and patching, and applications specific to the school or department. The central IT organization
pushed major common services out to the campuses, taking care of ERP systems, networks, telecommunications, e-mail, and other such services. In this model, both central and distributed providers supported resources, managed staff and labs, and made purchases.

Today the landscape is evolving. As virtualization and cloud computing gain ground, the distributed support model is being scrutinized. If servers in the data center are virtualized, does it make sense to also maintain server administration skills in individual schools and departments, on the “edge”? Should every school continue to hire its own IT staff to push out security patches or install machines? Where is the efficiency in the distributed model? Is it sustainable?

Let’s consider a single model—edge/leverage/trust—that allows IT organizations to meet common and specialized IT needs more efficiently and effectively. The concept of edge/leverage/trust has implications that go beyond centralized and decentralized computing. According to Brad Wheeler, the concept describes a philosophy of, and strategy for, delivering IT services for maximum efficiency and effectiveness. Support professionals from the IT organization and from departments form a trusted partnership to which they contribute their resources and expertise, which are then leveraged, as appropriate, in serving the overall support mission efficiently and effectively. IT staff in departments—at the edge—bring to the support effort the particular knowledge and expertise that serves their specific schools and departments. The result is a holistic support system that encompasses the unique contribution and perspective of all participants. Wheeler explains this concept as it is carried out at IU: “Our schools, units and regional campuses work on the leading edge, providing value and innovation to their users. UITS is at the center, providing scale and leverage in support of that work, allowing the IT professionals at the edge to push common services down to the infrastructure. Finding the balance of what is best done at the edge and what is best done at the center requires effective collaboration and at all levels. Underpinning the value provided at the edge is the power of the personal relationships.”

Is there a limit to edge/leverage/trust? What are some of the considerations? All IT staff share the mission of maximizing technology to advance teaching, learning, research, and administration. Even so, applying the edge/leverage/trust concept may pose challenges: issues of practicality and efficiency but also of personnel. A staff member administering hundreds of servers in a data center—servers that virtually never go down and that have disaster recovery plans—is leveraging resources appropriately. But with virtualization, distributed system administrators accustomed to the physical act of powering servers on and

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off lose the hands-on connection. At the same time, “boots on the ground” local-domain knowledge provides an advantage in keeping assets running.

Organizational structure may undergo change in the edge and leveraged units. IT staff may initially feel threatened or insecure, fearing that their longtime skills are being marginalized. Working through such issues and building the partnership requires communication between the leveraged and the edge units. Those at the edge will soon discover that their skills are even more valuable to their units. Edge/leverage requires trust, and the route to trust is communication—sharing information.

**Sweating the Support Assets**
Recommendations for surviving today’s economic downturn represent a mix of sometimes opposing financial principles. Cut day-to-day expenses. Pare personnel. Close or merge departments. Virtualize. Outsource. In the higher education IT industry, economizing on human service assets may look good on the current balance sheet, but the practice will likely cause harm in the long term. On the other hand, enhancing assets by maximizing people-centric systems and services will better position the IT organization to capitalize on the upturn.

It is time to take a fresh look at how IT organizations leverage support for the greater good in higher education—not only within individual colleges and universities but also among them. Leverage extends budgets and resources, allowing institutions to sweat the assets of the entire market. The growth of open source and community source, and the development of Sakai and Kuali, show the market-based principle in action. Why not apply this principle to IT support and services? The knowledge base of yesterday was formed by searching for and retrieving information compiled by experts. The knowledge management system of tomorrow is about two-way communicating, collaborating, leveraging the expertise of many, and sharing content generation.

Such a vision for the future requires a software platform for collaborating, sharing relevant knowledge, and delivering just-in-time content that supports the entire academy 24x7x365. Now is the time to start developing a community-source, cloud computing environment dedicated to higher education—one that will modernize and extend existing knowledge management systems using new paradigms such as wikis, crowdsourcing, community-source software, and service-oriented architecture. This could well be the first higher education community-source software project to share content as well as code. Participating institutions would collaborate and leverage the resources required to create and maintain information-in-common.

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Just as Southwest Airlines took action in the 1970s to keep customers in the air, higher education must enhance its people-centric assets by leveraging its enormous IT investment and ensuring ample and ready support. This requires engaging every part of the IT organization. It requires seating the IT support unit at the CIO table. With properly positioned leadership and a focus on enhancing key assets, IT support units will be better able to weather current conditions by leveraging resources to meet unbounded need. For those of us in higher education IT organizations, much can change if we approach these issues not as individuals but as an industry, sweating one of our most valuable assets: IT support.

Notes
1. Though turn times have grown beyond the original ten minutes, the airline’s quick turnarounds are still a key to its productivity. See “We Weren’t Just Airborne Yesterday” <http://www.southwest.com/about_swa/airborne.html>.