Leadership

The “Developing Country” Model of Information Technology

Afghanistan has transformed, almost overnight, from a society without wires to a wireless society. The rapidly-growing cell phone industry is providing communications across a country that has little land-phone infrastructure, and it is allowing people, especially women, to emerge from the digital darkness imposed by poverty and by the oppressive Taliban regime that ruled the country until 2001. One lesson of this transformation is that the adoption of technology is not confined to incremental growth: sometimes it leaps.

At the other end of the spectrum are technology-laden societies such as the United States, where people fall into the categories of early or late adopters of new wizardry. Wealthy people may acquire the latest craze for the sake of prestige, whereas more constrained individuals may be unwilling to invest in newer technologies when they have already spent considerable resources to acquire current ones. Somewhere in between lies the public, community-based college, which desires to remain cutting-edge without breaking the bank. The bottom line is that these colleges simply cannot afford to replace their core technology continuously, putting them at odds with younger students, who are generally as willing to adopt new technology as is wireless Afghanistan. Older students, however, may lag behind the times.

For those of us at Miami Dade College, this year looms darker than recent years because we are being constrained by massive budget cuts at the state level, our primary source of funding. Including the reductions made last year, the institution is being asked to make do with a projected reduction in state revenues of over $25 million. This amount is close to the entire budget for IT and represents over 8 percent of the operating budget. Needless to say, we have always been restricted by funding, but today we are bound.

Miami Dade College is unique in that it is arguably the largest and most diverse college in the nation, but our concerns are the same as those of smaller, community-based colleges in Florida and elsewhere. We serve students who need financial and academic support in order to attend college, and we do so with a per-student allotment that is several times lower than that of public universities in the state. In terms of institutional funding, Miami Dade is the equivalent of Afghanistan competing against the European Union.

However, leaps in the adoption of technology can help Miami Dade to keep up with the Joneses. More and more, students are pushing the future landscape of education toward online learning. The Miami Dade Virtual College, established in 1997, has exceeded annual growth projections of 25 percent. Seemingly overnight, the student population of the Virtual College has become bigger than that at four of the eight actual campuses, and it is hard to predict how much larger it will grow. Twenty years ago, we could have easily predicted new construction, but who could have predicted a landless, building-less college? Even though online courses require investments in software and course design, the cost savings from the reduction in physical space are obvious and extensive.

The overall Miami Dade website is in transition from a decentralized approach, reflecting the eight distinct campuses, to a more centralized, unified, yet flexible approach. Campuses will maintain semi-independent sites, but the formatting is determined by a centralized content management system. The primary goal across the website is ease of use, which is not easy to accomplish at an institution with more than three hundred programs of study. But convenience is not our primary concern. We have to ask: what will help students the most?

The answer may not be exactly what students want (e.g., a smarter iPod), and it certainly has to fit into what the institution can afford. Public institutions such as Miami Dade College are much more constrained by budgets than are comparable private institutions. But even within those constraints, we can be effective with new technology by being smart. Doing so means that we have to ask many secondary questions related to “when.” When will desktop computers (the base of our current infrastructure) cross over from being simply passé to being a hindrance to education? When should the college go completely wireless? When will we be able to invest in the future again?

Some leaders may resist the lure of new technology as the latest marketing scheme designed to regularly drain institutional coffers, but I am not so quick to dismiss the newest trends. My concern is strategic gains: what can a new technology offer the institution, and at what value? In considering value, we must look at the entire package of costs: the lifespan of the hardware, the need for upgrades or replacements, and energy usage (utilities are becoming a more prominent figure in budget considerations). Against these...
costs we must weigh the gains in productivity and in service. Very seldom is the case clear enough to be decided by one factor alone, even if the price is right.

Currently, the institution’s strategic plan is being amended with a blueprint for technology usage, and this planning remains our top priority in terms of the entire IT department. A second priority is to develop cost models for decision making. To do so effectively, we need to develop technology roadmaps that will delineate priorities for services that can be provided by the IT department, for hardware purchases that are needed for strengthening the infrastructure, for new programs and applications that can increase user efficiency, and for enhanced stability of the system. These roadmaps, as part of the larger strategic plan, will keep us aligned with the institutional priorities even when we may become distracted by all the toys and trends in the IT marketplace.

One trend we are analyzing is the emergence of “smart” phones. With Blackberries and iPhones streamlining the services of various other gadgets, these smart wireless devices seem ready for quick growth. If they do indeed represent the future, we have to figure out how we can move our student body in that direction or, more likely, move alongside with them. Many faculty members have already moved with the iPod generation by developing free podcasts stored on iTunes University.

Another trend is using thin clients, or monitors connected to server-based systems, to replace individual desktops. Cost savings are expected in terms of maintenance, but the initial investment would be considerable. Again, our first consideration will be the advancement of education; secondarily, we will decide if and when we can afford it.

A third trend is the e-book, spurred recently by the Kindle, a wireless reading device from Amazon.com. Imagine students carrying all of their textbooks within one handheld device, and you get the picture of Kindle’s potential. Adopting this device now would involve a leap of faith that we cannot afford, but neither can we dismiss this emerging trend.

Most students at Miami Dade are from low-income households and cannot afford a Kindle or a Blackberry or a laptop. Even if we gave these devices to students for free, a large amount of time would be needed to raise awareness about the technology and to train staff and students alike to use the devices effectively. If one or more of these trends looks promising, it needs to deliver immediately to be cost-effective for our institution. Simply put, we cannot afford to waste time.

In today’s difficult market, we must be careful that our time and our money are well spent. But we also must be careful that our imagination does not go bankrupt. While dealing with educating today’s students within our current infrastructure, we must keep an eye on innovation, and we must look very carefully. Then finally, at times, we need to go ahead and make that leap and adopt the technology—lest we remain in the digital darkness.

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