Research and education, the core missions of colleges and universities, are increasingly dependent on information technology. Every day, faculty, staff, and students rely on IT to advance the frontiers of scholarship and to perform the essential work of higher education institutions. Although there is little debate that IT will play an increasingly larger role in higher education, there is considerable disagreement about how institutions should manage IT, especially at the senior executive level near the president. An informal review of the responsibilities and roles of college/university chief information officers (CIOs) makes clear that higher education continues to experiment with varied models for executive IT leadership. In contrast to the more widely accepted and evolved practices for the executive role of chief financial officer or provost, no “best practice” is yet pervasive for executive IT leadership.

Higher education is not alone in confronting this IT leadership challenge. For decades, senior executives in for-profit industries have struggled with managing the expanding and evolving role of IT. Should it be viewed as an operational cost to be controlled or as a strategic capability worthy of executive time and investment? Organizations have tried many approaches to CIO reporting lines, levels of authority, degrees of centralization, and funding models, and the business and IT media offer countless prescriptions for effective executive IT leadership. However, these prescriptions rarely account for the very real and ever-changing complexities related to the use of IT in support of the college and university core missions of education and research.

In this leadership column, we draw on personal experiences to offer three IT leadership insights for the present before looking ahead to the future.

IT Leadership Insights

**IT Leadership Insight #1:** Presidents must create the right executive role, staff it with an effective executive, and support deliberate, bold actions that align IT to the missions of the institution.

One important lesson regarding effective executive IT leadership can be drawn from the late Myles Brand. The sixteenth president (1994–2002) of Indiana University (IU), Brand was a philosopher by academic training whose first degree was in engineering. In 1997, he established IU’s first university-wide Office of the Vice President for Information Technology (OVPIT) and CIO as a direct report to the president and a member of his cabinet. This decision created a new executive for IT leadership, with line and budgetary authority for IT and telephone systems across the university. This executive served as an interface between the president and campus IT leaders, all of whom had historically reported to campus chancellors, who then reported to the president. For the first time, the president of IU was receiving firsthand information about the opportunities and challenges for IT from a senior-level executive directly responsible for that technology. President Brand conducted an international search to fill this new position of vice president for IT and CIO and chose Michael McRobbie, from Australia.

This bold presidential action, with support of the trustees, would dramatically reshape IU’s relationship with IT for the next twenty years. The consolidation of IT authority was not without reasonable controversy considering IU’s otherwise decentralized Responsibility Centered Management (RCM) culture, yet the results of that decision are compelling. Within a few months of the establishment of OVPIT, a financial analysis documented that $2.5 million of base, recurring funding could immediately be saved and reallocated via broad IT consolidation across the campuses. In the first year, that consolidation included the merger of two separate IT and telephone organizations on the two research campuses into University Information Technologies Services (UITS), which would also provide leveraged services to the university’s six regional campuses. The cumulative value of those changes alone has provided over $32 million for investment in IT to support research and education.

**IT Leadership Insight #2:** A strategic plan focused on an institution’s core missions, developed in collaboration with the whole campus community, backed by real resources, and under the leadership of the CIO with support from the CEO is by far the most effective way to leverage the full potential of all of the institution’s IT resources.

A second leadership lesson can be drawn from President Brand’s commissioning of an IT strategic plan in 1997. He expressed IU’s goal clearly: “to become a leader, in absolute terms, in the use of information technology.” Working closely with faculty leadership—especially Professor Mike Dunn, who chaired the effort—OVPIT led an intense, university-wide effort to develop an aspirational IT plan that could advance all areas of the university. The resulting plan established ten major recommendations and sixty-eight specific action items that spanned needed development of networks, administrative systems, faculty workstations, classroom IT, high-performance computing, a digital library, cybersecurity, funding models, and many other areas. The plan was endorsed by the IU trustees, and its rigorous implementation over six years continued to further align IT spending to institutional mission. For example, it helped establish a research technologies group that advanced the development of shared, campus cyberinfrastructure in supercomputing, massive data storage systems, visualization, and staff expertise. It established a life-cycle funding program for all faculty and student technology center PCs and advanced the broad deployment of technology classrooms and labs for students. OVPIT brought the scale of IU’s eight campuses to bear in negotiating the first enterprise license

**IT Leadership Insight #3:** Presidents must create a university information technology office that is a strategic capability worthy of executive time and investment.

Higher education continues to experiment with varied models for the executive IT leadership role. OVPIT led an intense, university-wide effort to develop an IT strategic plan for IU that established ten major recommendations and sixty-eight specific action items that spanned needed developmental areas. The plan was endorsed by the IU trustees, and its rigorous implementation continued to further align IT spending to institutional mission. For example, it helped establish a research technology office that advanced the development of shared, campus cyberinfrastructure in supercomputing, massive data storage systems, visualization, and staff expertise. It established a life-cycle funding program for all faculty and student technology center PCs and advanced the broad deployment of technology classrooms and labs for students. OVPIT brought the scale of IU’s eight campuses to bear in negotiating the first enterprise license...
agreement with Microsoft, which made essential software available to all faculty, staff, and students without additional fees.

**IT Leadership Insight #3:** CEOs and CIOs can be most effective when they share a common vision and have developed mutual trust and support to achieve it.

A third leadership lesson relates to the necessity for mutual executive trust and continuity in challenging times. In the economic downturn of 2001, for example, funding for implementing IU’s strategic plan for IT was challenged by reduced resources from the state. Again with the strong support of President Brand, IU’s student technology fee was increased to partially offset the shortfall and sustain the progress. This was possible without great controversy because the effectiveness of the IT investments as guided by the strategic plan were evident to students, faculty, and staff. The president and the vice president were committed to the goals of the plan even when the timeline had to be extended due to resource reductions.

President Brand created OVPIT more than a decade ago, and subsequent university leadership has maintained President Brand’s executive commitment to IT and has enabled IU to provide far more IT services to all faculty, staff, and students at far lower cost than would otherwise have been possible. The 1997 alignment of responsibility, authority, and organizational structure with the fundamental economics of leverage and scale in IT was timely. Savings were reinvested in IT uses that furthered research and education across all disciplines, vastly grew IT contracts and grants, and matured a highly skilled IT staff to serve the university.

**IT and the University: Looking Ahead**

Ten years later, in July 2007, Michael McRobbie became IU’s eighteenth president. He then named Brad Wheeler as vice president for IT and CIO. Wheeler had previously managed various OVPIT responsibilities for teaching and learning IT, research computing, and community-source software and had served as dean of IT for the Bloomington campus and interim CIO over a five-year period.

It was clear that IU’s need for IT tools and services would continue to grow and that the challenges for the second decade for OVPIT leadership would be no less daunting. Thus, in March 2008, President McRobbie commissioned IU’s second IT strategic plan, with a charge “to develop the pervasive use of IT to help build excellence in education and research in all disciplines, in administration, in IU’s engagement in the life of the state, across all campuses, and in collaboration with IU’s key partners such as Clarian Health and institutions of higher education in the state.” The 1998 plan had established a strong IT infrastructure and made many timely advances; the second plan would need to sustain that progress by enhancing educational and administrative systems and engaging multi-institutional “grand challenge” problems of concern to IU and the state.

In December 2008, the IU trustees endorsed “Empowering People: Indiana University’s Strategic Plan for Information Technology” (http://ep.iu.edu). The plan has fifteen major recommendations and seventy-two action items, which are currently being implemented. One of the first achievements was again to leverage IU’s scale by establishing the first enterprise license agreement for nearly all of the Adobe software that is widely used for visual communication. Likewise, IU has expanded its leading role in community-source software projects like Sakai and Kuali, leveraging the investments of many institutions for shared software needs. It has continued to increase its role in advanced network management capabilities for national and international research networks and its engagement with academic scholars in IT research.

Even with these achievements, however, executive leadership and mutual trust continue to be essential for success. For example, in 2009, OVPIT made a case that greater efficiencies and effectiveness for students could be achieved if the IT service responsibilities and related budgets for student technology labs on IU’s Indianapolis campus were shifted from school deans to UITS. This change had taken place much earlier on the IU-Bloomington campus, with positive results. As with earlier consolidation efforts, this was not without controversy. But again, mutual trust and presidential support delivered rapid results that were valued by students and faculty and that ultimately validated the wisdom of the decision.

Research and education are enabled by IT, but it is a recursive relationship as IT also reshapes the very conduct of research and education. Given the substantial investment that colleges and universities must make in technology and the constrained resources for higher education, it is time to give serious attention to what constitutes best practices in effective executive IT leadership in higher education. The experiences at Indiana University over the past fourteen years provide important insights and ideas for that ongoing leadership discussion.

**Notes**


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