IT Investment Drivers and ROI

One of the more enjoyable experiences for every CIO is helping the executive leadership of any organization understand the value of its investment in information technology. I worked for one CEO who had never touched a computer his life—and who had no intention of changing that fact. Indeed, he never did touch one. Please don’t get me wrong: he was an extraordinary CEO, and I have met few others like him. But once, when we were talking about the need to increase the salaries of IT employees in the organization, he asked: “You want to pay someone over $100K to play with a computer?” Boy, did I feel like I was standing on a tree limb that I was sawing off. We were clearly of different minds regarding the IT return on investment (ROI) to the organization.

I have since thought long and hard about our differing views. I am reminded of a favorite cartoon. A technologist is speaking to a businessperson. The balloon over the technologist’s head shows him saying: “SOA, EJB, RSA, DBA, ESA, RPC.” The businessperson responds with “great” and then asks: “What about ROI?” The technologist answers: “Don’t bother me with buzzwords.” I laugh every time I see the cartoon, probably because it hurts too much: I can’t count how many times that technologist was me early in my career.

ROI is the key issue. Too often, we in technology bristle at the question of what is the IT ROI, or we look like deer caught in the headlights, when this should actually be one of the easiest questions for us to answer. We all know that the IT ROI is measured in the impact of the IT investment, not in the technology itself. So, why do college and university leaders continue to express frustration over the cost of the IT investment and not recognize its value?

To begin answering this question, I propose that there are at least five drivers of IT investments:

- **We want to improve the organization’s value proposition for those we serve, principally for students and faculty.** For higher education, these would be investments in learning—both in the “lab” and in the “classroom,” whatever form either takes or the area of study. The ROI is measured by improvements in learning—again, both in the lab and in the classroom, whatever shapes these take.
- **We want to improve how work gets done.** These investment drivers typically focus on improving the speed, quality, or cost of an institution’s processes. These processes can range from paying bills, to hiring faculty, to admitting students, to registering students for classes, to advising students, and so on.
- **We want to improve how decisions are made.** These investment drivers have traditionally involved providing reports to decision makers in an effort to improve the speed, quality, or cost of decision making for the institution. Recent developments in business intelligence technology have resurrected interest in these investment drivers due to the capacity of technology to aid in providing decision makers with decision-compelling information, not just in summarizing operational data.

- **We want to improve collaboration/communication across the organization.** These investment drivers focus on improving the speed, quality, or cost of communicating and collaborating with others. Ongoing developments in what is commonly referred to as unified communication/collaboration are an effort to achieve these objectives.
- **We want to improve how risk (e.g., legal, regulatory, financial, operational) is managed.** These investment drivers focus on helping an institution identify, monitor, and mitigate the wide and growing variety of risks. Many risk-management challenges are embedded in or shaped by the prior four investment drivers.

These examples of investment drivers can be the source for answering the question about IT ROI. For higher education, we can ask ourselves: Do our IT investments improve how students learn, how work gets done, how decisions are made, how we communicate/collaborate, and how we manage risk? For example, does an IT investment improve the quality, cost, or speed of admitting a student, registering a student for class, paying bills, or purchasing goods and services? These are results that can be identified when an IT investment is proposed and that can be measured after the fact to determine the ROI.

Let me focus some attention on one of these investment drivers: **We want to improve how work gets done.** Years ago, a friend shared with me the results of some research. The CEO of a consultancy that worked with a large ERP vendor wanted to know why some projects succeeded while others failed. In an effort to answer the question, the consulting company studied 200 projects.

The consulting company plotted the results on a graph, with the number of firms on the y-axis and the success of the project on a scale of one-to-ten on the x-axis. What it found was a bimodal distribution of failures and successes. This was not the expected normal distribution showing failures as an outlier. There appeared to be some real differences between successes and failures. After extensive analysis of the 200 cases, the consultancy concluded the following:

- When organizations focused first on technology within a functional organization boundary, the likelihood of success was significantly lower.
However, when organizations focused first on processes (not bound by organization boundaries), and then on the technology, the likelihood of success was significantly higher.

These conclusions have proven true throughout my career of nearly thirty years: the better the organization gets at process analysis and design—whether about admitting students, paying bills, administering financial aid, or purchasing goods and services—the higher is the likelihood of success in achieving a return on the technology investment to improve how the organization does its work.

Why is this important for CIOs and IT organizations? First, we don’t need more IT project failures. Given our industry’s success rate with IT projects, it is amazing that customers keep coming back for more. Second, one of the challenges facing today’s higher education institutions is process analysis and design. Too often, the IT project is housed organizationally inside a functional area such as finance or human resources or academic affairs. As a result, there are boundaries to what can be considered in analyzing and reengineering processes. Process analysis and design needs an institution-wide perspective. The CIO is naturally positioned to sponsor such an effort.

While I was CIO at the University of Utah, I was able to help cosponsor a series of process analysis and design efforts that focused on issues such as admitting a student, awarding financial aid and scholarships, and onboarding an employee. In every one of these efforts, the process involved several functional areas. Had we looked simply within one or two of these areas, we would never have identified the significant opportunities to improve the process. Surprisingly, we found that many of the improvements required no change in or use of technology. We found that too often, technology was being used to try to solve problems with basic workflow, policies, measurement, and motivation across organization boundaries.

We need executive-level sponsorship and partnerships that can facilitate process analysis and design across the institution. This is a huge opportunity for the CIO and one that can significantly increase the likelihood of success for a college or university investing in technology.

I am not making a new argument here. Years ago when I was CIO at Brigham Young University, I was introduced to Daniel Seymour’s book Once Upon a Campus: Lessons for Improving Quality and Productivity in Higher Education, published nearly twenty years ago. It remains one of my favorite books. Seymour essentially argues for an intense and deliberate focus on cross-functional process design in higher education—something that, I maintain, has gone largely unheeded. In a very pragmatic way, he offers illustrations of how processes can be improved in higher education. His examples and arguments are as applicable now as ever and remain central to improving the IT ROI in higher education.

When we develop a process discipline in the higher education institution, we provide a natural and effective way to significantly increase the IT return on investment in improving how work gets done. Such investments should help improve the speed, quality, or cost—or ideally, all three—of our institutional processes.

This is just one example of how we can improve the IT ROI in higher education. The same principle applies for the four other drivers of IT investments. Therefore, if we want to see greater recognition of the value of information technology in academe, we need to spend more time on the drivers of IT investment and less on the technology itself.

Note
1. In our work at the University of Utah, we estimated that there are some 200 major business processes in the university. Information on this work is available at “Process Landscape of the University” http://cio.utah.edu/plu. I am hoping that someday this work can contribute toward building a way to share information about best practices in higher education business processes, so that we stop trying to reinvent the wheel.