The Technologies Ahead

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Latest Trends in Student Information Systems: Driven by Competition

The rapid changes in consumer technologies across the spectrum of users—old, young, experienced, novice—and the penetration and adoption of technology ever deeper into our daily lives are creating a sea change in many industries and endeavors, and education is not escaping. Acting as a catalyst, technology is changing the way we view students and their educational experience, worldwide.

The Student as Customer

One of the paradigm shifts occurring in higher education is the realization of the student as a true customer, one with a number of choices and instant access to information regarding those potential choices. This—along with the increased emphasis on the value of education (from parents to governments) and the effects of the international financial atmosphere—is driving higher education systems changes to achieve efficiency, effectiveness, competitiveness, flexibility, and agility. Additional functionality is being developed or customized for higher education; such systems as customer relationship management (CRM), business intelligence (BI)/predictive analytics (PA), and mobile device management (MDM) systems are being implemented to better recruit, analyze, and engage students.

The Best-of-Breed Resurgence

From the late 1980s and early 1990s when higher education enterprise resource planning (ERP) systems were developed, acquiring the full and integrated (for better or worse) suite of software necessary to manage an institution was the most prevalent approach. Some of the larger, wealthier institutions developed their own software during that time, but the majority of institutions purchased the integrated solutions. Not all institutions did so and not concurrently, but most moved in that direction from the late 1980s through the 1990s. Today the top-three U.S vendors of these systems have as their customers approximately 3,000 of the 4,400 institutions of postsecondary education in the United States.

However, beginning in the mid-to-late 2000s, institutions began to seek best-of-breed (BoB) point solutions to either replace or enhance the systems they had installed. In some cases, the additional components were for relatively new concepts in education, like the aforementioned CRM systems or BI/PA systems. From the end of this period to the current time, some of the very large research universities that had built and operated their own solutions over the past several decades started to move to a BoB approach. They began to go to the market seeking the best components they could find to match their requirements in various areas, fully intending to integrate those components themselves. Acquiring and integrating components such as the student information system (SIS) from one vendor, a financial and/or human resources and payroll system from another, a research administration system from yet another, and so forth is becoming much more prevalent among the larger and IT-experienced higher education institutions. Although this approach tends to cost more, the benefits that accrue to the institution can also be increased. These institutions are tailoring their administrative infrastructure systems to maximize the utility to them and to their operational philosophy. In addition, some institutions that have been operating ERPs for many years are selectively moving to this model by turning off components they may have installed decades ago and substituting the BoB solutions that best match how they want to operate. These institutions understand the concepts of total cost of ownership (TCO) and return on investment (ROI), and they are maximizing the positive impact of their institutional IT spending.

One of the drivers of this trend, as noted above, is the recognition of the student as a customer. In addition, these institutions understand that flexibility and agility not only will suit them well now but also will allow them to more readily adapt to the next wave of consumer devices, trends, and desires in the future.

Though moving to a self-integration model does introduce more complexity, vendors have either purposefully or inadvertently aided and abetted this trend by acquiring and adding BoB modules to their own offerings via agreements or outright acquisitions. It turns out that what is possible for the vendors is also very practical for the customers.
**Increased Postsecondary Competitiveness**

As we know, postsecondary education in the United States has been marked by competitiveness for some time—for students, research dollars, and the best faculty and Heisman Trophy contenders! Unlike many foreign educational systems, U.S. higher education gets little direct funding from the federal government, with the the funding going to students via grants or loans. This means that students can vote with their feet, and a significant percentage of students who graduate and receive a degree do not receive it from the first institution they attended. Additionally, due to the Common Application and other factors (e.g., the essay portion of the SATs), prospective students now apply to many more institutions than they did a decade ago. (Anyone who doubts this should speak to an enrollment director!) Although U.S. higher education has been around for many decades, technology is now one of the larger differentiators. The first questions from a potential student when visiting a campus used to be about the food, leisure activities, and sports; now the first questions asked of many campus guides concern the wireless coverage, Internet bandwidth in the residence halls, and technology in the classroom.

Beginning in this century, technology for the student experience and not just for the management of the institution has become a major differentiator. It involves more than the pedagogical uses of technology and includes what services students can partake of using their own technologies. Mobile devices and mobility applications are allowing students to check their grades, update their local address or phone number, confirm that the tuition check is reflected in their account, and see if the professor adjusted the due date of the next assignment. Any institution not keeping up, or at least not keeping close, may lose its competitive edge.

Though these trends are most relevant in the United States, as foreign governments cut educational budgets and begin to increase the students’ portion of fees, they also are seeing students vote with their feet. I spoke with representatives from one European institution that had a 40 percent drop in applications after a significant fee increase; the unspoken statement was: “If I have to pay that much, I’ll look for an alternative!” That alternative may be another domestic institution, a multinational for-profit institution, an open or online institution, or an overseas institution.

**More Agile Systems**

These trends are causing foreign institutions to consider adopting systems that have been developed in the competitive North American market. Many of the systems developed around the world in various countries have been sponsored by the government or by a government-supported consortium, are very specific and based on the centrally managed educational policy, and are not very flexible or adaptable. All of these factors make it difficult to adapt to social software, collaborative software, student-owned mobile devices, and such ancillary systems as CRM and PA.

Why should U.S. CIOs care about the international adoption and growth of some of the major SISs? Because untapped sales opportunities and increased offshore institutional competition will continue to foster innovation in the development of the major systems, and most of those innovations will not be confined to the international versions. The benefits will accrue to domestic customers as well.

**The Internationalization of Education**

The philosophy of and approaches to education are being shared internationally, with institutions becoming “multinationals” in effect if not in name. We are all familiar with the University of (fill in the U.S. state) in (fill in South American country). A pedagogical system can be developed in Australia by a professor and in a few short years become a leading learning management system around the world. The Bologna Process in Europe is seeking to establish standards that cross national boundaries. Additionally, remote and hybrid courses, distance learning initiatives, and the sharing of digital objects and full classes are all leading to the blurring of national lines regarding education.

What does this have to do with U.S.-based institutions and U.S.-based SISs and their ecosystem of BoB point solutions? The internationalization of education, the “death of distance,” the consumerization of information technology, and the increased international competitiveness of educational institutions—along with the drive of those institutions to stay relevant and agile—are driving the systems vendors to develop or acquire, and offer increased functionality in, areas heretofore mostly ignored in higher education.

**Implications for IT Leaders**

So, where does that leave IT leaders in U.S. higher education?

First, it leaves them with a series of options and choices to serve their institutions. As vendors “mash up” their solutions and as leading institutions show that this is a distinct and practical strategy, it behooves IT leaders to continue to watch the market for opportunities and products that will benefit their institutions.

Second, it leaves IT leaders with the potential to increase their institution’s and their IT organization’s relevance, agility, and productivity. By periodically evaluating options and closely watching the developing markets, agile institutions can take and hold the lead.

Finally, by carefully picking and choosing the components most relevant to the institution’s goals and philosophy and using traditional business analytical methods of ROI and TCO, IT leaders will be better able to show value and contribute to the institution’s success, even in a time of financial retrenchment.

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