



SIIA Postsecondary Market Report Executive Overview

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A Publication of the SIIA Education Division

May 2009

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Introduction

Revolution or evolution? Although it is common to hear that American postsecondary education is experiencing a “crisis” or a “revolution,” the facts argue that it is only evolving slowly to meet new demands.. Certainly there are changes taking place, but many industries today are experiencing changes. Escalating costs, funding sources and increasing competition are ongoing concerns for any business enterprise. And American postsecondary education is definitely a big business. It is estimated that more than 16.5 million students were enrolled in U.S. colleges and universities in the 2004-05 school year and it has been projected that more than 17.7 million students will be enrolled by 2012. Total revenues of all postsecondary education institutions have been estimated at \$322 billion (in 2003-04) and are expected to rise to \$428 billion in 2008. Within an industry of this size, change is to be expected. This report will provide data and perspectives on the breadth and depth of the changes taking place in U.S. postsecondary education today.

Technology on campus. Computer technology has been a major force for change on college campuses, just as it has been in businesses around the globe. Hardware and software have transformed the way that colleges and universities conduct their entire enterprise, from recruiting students to record-keeping and financial transactions of all kinds. In the 2004-05 school year, it is expected that postsecondary institutions will spend more than \$5 billion on technology-related products and services. However, the much-heralded transformation of classroom education that was supposed to accompany the “wiring” of college campuses has not yet occurred. Even though nearly all colleges have computer networks, nearly all dorm rooms have computer connections, and nearly all college students own or have ready access to a computer, professors are still struggling with the issue of how to integrate technology into their teaching. And of the \$5 billion projected to be spent in the current academic year, less than 5% is allocated for training in how to use campus technologies. In this report, readers will learn how technology is being utilized in all types of postsecondary institutions.

Online learning. The promise of “online learning” is becoming a reality, as nearly 90% of American colleges report offering courses delivered via computers. But many of these courses do not make full use of new technologies, like streaming video or conferencing of enrolled students. And few colleges offer degree programs entirely online. Although most college courses—in all subject areas—have their own websites, provided by host colleges, nearly all of the sites are designed and maintained by professors with very little expertise in online instructional design. As might be expected, course websites range widely in quality and utility. Realizing the potential of computers to contribute directly to college instruction remains one of the most significant challenges in postsecondary education today.

Is there a crisis in postsecondary education? The newspaper and magazine articles that regularly announce that colleges are “in crisis” generally focus on three issues: costs, access and competition.

Colleges of all types have been challenged to control their costs, The average cost of a college education is increasing more rapidly than the average cost of living and state legislatures have been reluctant to grant outright the funds requested by state-supported colleges, from community colleges to research universities.

Also, although there are more postsecondary institutions than ever before, access to these schools still poses a problem for a large portion of the population. Despite efforts from universities to attract more minorities and low-income students, these groups are still significantly less likely to attend college than students who are white or come from middle- to upper-class families. Additionally, low-income students who do attend college are generally less prepared.

Additionally, postsecondary institutions are struggling with the task of recruiting enough students into the science, technology, engineering and technology, or STEM, programs. Dr. K. Elaine Hoagland, national executive officer of the Council on Undergraduate Research, wrote in a testimony to the House Committee on Science Subcommittee on Research, “Many students drop out of science courses because education at the

undergraduate level too often treats science only as something to be memorized rather than something alive, personal, and full of creative potential. Too many students never see science education as relevant to them, and they leave school without the tools to understand much of the modern world.”^{vi} The National Center for Education Statistics (NCES) reported in its 2009 Digest of Education Statistics that of the 1,524,000 bachelor’s degrees granted in 2006-07, the four most popular degrees were in business (328,000), social science (164,000) and education (106,000). and biology and health sciences (102,000). Compare that with the figures of five years earlier: a base of 1,292,000 graduates and business (281,000), social science (133,000), education (106,000) and Biological and life sciences with 60,256.ⁱⁱ You can see quite a shift into health sciences.

For-profit institutions. Much has been made in the media about the rapid growth of for-profit institutions of higher education. During the 1990s, while approximately 200 traditional non-profit colleges closed their doors, the number of for-profit colleges increased by more than 100%. Still, their total number amounted to fewer than 800—out of a total of more than 4,000 postsecondary, degree-granting institutions. There is a well-founded expectation that growth in the number of for-profit colleges will outpace growth in the number of non-profit colleges in the next few years. From the point of view of professional economists, the reason is straightforward: entrepreneurs are finding niches in the education market that are otherwise not being met. The fear expressed by some educators and educational pundits is that they may exploit their students in the process. However, the fact is that for-profit colleges are more tightly regulated than their non-profit competitors. And they are highly conscious of their image—past, present, and future. Although there are periodic scare stories of malfeasance at individual institutions, for-profit postsecondary schools are meeting needs in the marketplace and are being rewarded with increasing enrollments.

Some commentators worry that the profit motive is anathema to higher education’s most cherished goals. They worry that competition in general, and the rise of for-profit providers in particular, threatens the existence of liberal arts programs and other areas of study that are vital to academic scholarship but are not in high demand or are not career-focused. While this argument should not be

dismissed without consideration, competition—some of it from for-profit schools—is forcing traditional colleges and universities to focus more intently on the needs of their students. In the words of James Duderstadt, former president of the University of Michigan, "To survive in a competitive global marketplace, universities must shift their focus from faculty members and their specialties to the needs of all kinds of students at various points in their lives."

While for-profit institutions have their critics, they are gaining credibility among consumers and legislators because their graduation and employment rates have surpassed those of private non-profit and public institutions. In other words, a case can be made that for-profit providers are both more effective and more efficient in educating students. And in the present climate, that makes them look more successful.

Rising costs. "Better, cheaper, and faster" is the slogan that has become the *modus operandi* of the business world over the past few decades. In keeping with this philosophy, organizations of all types have sought to reduce costs, increase productivity, focus more intently on consumers, and reallocate resources from low-producing or marginal activities to more profitable ones.

Until recently, though, colleges and universities were untouched by the changes that have redefined business practices worldwide. If an educational institution wanted to implement a new program—frequently for reasons that had nothing to do with demand—it did so by raising tuition, seeking additional state appropriations, turning to philanthropic support, or dipping into its endowment. As the former president of Princeton University, William Bowen, has commented, colleges and universities have raised all the money they can, spent all they got, and spent it in ways that relate closely to the way they spent the money the previous year. Ronald G. Ehrenberg, a professor of economics at Cornell University writes:

Over 30 year ago William Bowen (1967) studied data from a set of selective private institutions and concluded that their tuition levels had been rising, on average, by 2 to 3 percent more annually than the rate of inflation ever since the turn of the 20th century. He attributed this partially to the increased specialization of knowledge and the growth of new fields of study. But first and foremost, this occurred because the

nature of the educational process did not permit academia to share in the productivity gains that were leading to the growth of earnings in the rest of society.ⁱⁱⁱ

Many new programs have been added, but few have been dropped. Costs have climbed accordingly, and so have tuition and fees charged to students.

Special attention has been paid lately to the perceived costs of bundling software and supplemental materials with college textbooks. According to the College Board, the average costs of books and supplies for students at a four-year college is \$817 each year, or \$2.23 a day.^{iv}

And, the Washington State PIRG's Higher Education Project, which estimated that students at public universities will spend what amounts to 20% of the national average yearly tuition and fees for public institutions, is calling for textbook producers to cut back on unnecessary new editions or extras.

Publishers, on the other hand, say they are responding to the demand for current information. As stated by the Director of Communications for the Association of American Publishers (AAP), "If the faculty said 'We don't want it,' the publisher wouldn't do it."^v

The Government Accountability Office (GAO) recently released a report titled "College Textbooks: Enhanced Offerings Appear to Drive Recent Price Increases." As the title suggests, the report found that the increase in the price of textbooks was the result of an increase in the services textbook publishers are offering. The report states, "While price increases have resulted in increasing costs for students and their families, they reflect a change in the characteristics of postsecondary education. Just as teaching and learning have changed with increasing reliance on technology, the college textbook has evolved from a stand-alone text to include a variety of ancillary products designed to enhance the educational experience for instructors and students. By increasingly becoming involved in the development of instructional aids, publishers are assuming roles that have traditionally belonged to postsecondary institutions."^{vi}

And, current information is costly. The production of just one textbook can take many years and exceed \$1 million in production costs. The books need to be updated frequently and, especially for upper-level courses, there is often a very small market.

If traditional colleges and universities have been inclined not to focus on productivity, efficiency, and accountability, legislatures and consumers are now forcing them to do so. Difficult economic conditions over the past several years have forced college administrators and other overseers to take a hard look at the rapid rise in postsecondary education costs. What they find, in many cases, is that while tuition, fees, and legislative appropriations have kept going up, outcomes have not been improving. Graduation rates are a case in point. Although there is much discussion about ways to retain students, the facts are stark. Large numbers of students leave postsecondary education before graduating. In fact, only about half of those who entered college in the mid-1990s had earned a degree five years later. Despite the rapidly increasing costs of postsecondary education, graduation rates have not been improving and this has caused funding agents of all kinds—from parents to legislators—to ask why.

Accountability pressures. Frustrated by a lack of “accountability” — including the increasing costs of attending (and administering) colleges along with a lack of progress on increasing graduation rates or employability of graduates — legislators and accreditation entities are demanding that postsecondary institutions pay more attention to student outcomes. They want hard evidence to justify cost increases. And they are increasingly unwilling to protect postsecondary institutions from competition, believing that market pressures may be an effective lever for reform.

This interest in accountability in postsecondary education is expected to come to a head in Washington as the federal government approaches the reauthorization of the Higher Education Act. Administered by the U. S. Department of Education (ED), this legislation authorizes the federal government's student financial aid programs (such as Pell Grants and various loans), services to help students complete high school and enter into and succeed in postsecondary education, aid to institutions, and aid to improve K-12 teacher training at postsecondary institutions.

During the reauthorization process, Congress is considering a wide variety of issues, including the effectiveness of HEA programs in increasing access to postsecondary education; the costs of a college education; and the role the federal government should assume, if any, in addressing price increases. Measures to hold all types of postsecondary institutions accountable for educational outcomes are also being debated. And existing limits for federal student loans may be raised. Analysts anticipate, for example, that online programs and for-profit providers may see more favorable treatment under the revised legislation

Due to the scrutiny that higher education is undergoing, moves toward greater accountability are now changing the way that postsecondary institutions must operate. If they do not find ways to control their costs voluntarily, those that rely on public funds may be forced to do so. Former House member Steve Gunderson characterized the prevailing view in this way:

There is a growing feeling in the Congress that higher education is becoming more expensive, more out of reach for normal and low-income students, and increasingly disconnected from the real world. For Higher Education to prevent the same "reform agenda" that has faced K-12 education, the nation's colleges and universities must [show that they are] relevant to the roles and responsibilities of higher education in today's world; that they are accessible to all students (full-time traditional, communities of color, adults, part-time, etc.); that they share the educational outcomes provided for and achieved by their students; and that they are taking real steps to hold down college costs in these difficult economic times.^{vii}

How colleges respond to the threats and challenges posed by accountability will influence the entire marketplace for postsecondary education in the years ahead.

The role of technology in a new era. Clearly, postsecondary education is entering a new era, one in which escalating costs, growing competition, and demands for greater accountability are significant drivers of change. Colleges and universities are seeking to improve outcomes while serving a more diverse body of students. They are trying to prepare their students for the workplace without sacrificing what they view as academic integrity. They are striving to operate more efficiently, but are struggling to find new ways of conducting their business.

The question is, what role does technology play in these efforts? Can technological solutions help institutions to attain their goals of educating more students more efficiently? Is technology part of the problem or part of the solution? Have expenditures on new technologies actually contributed to greater efficiencies or have they contributed disproportionately to increased costs?

Investments in technology have undoubtedly made administrative functions in postsecondary education less reliant on human labor. Computerization has helped streamline admissions, registration, financial aid, and other administrative and business functions. It has also enabled institutions to allow broader access to their programs via online course offerings. But technology has had far less impact on the primary goal of postsecondary education institutions: teaching and learning. Despite the widespread use of computers on campuses, students are not better educated or graduating at higher rates because of the availability of computers. From the point of view of those who are demanding increased “accountability,” it is hard to see positive, tangible results in student achievement based on wider use of computers across all types of postsecondary education institutions.

When Eduventures asked senior administrators at a cross-section of colleges and universities in the United States to identify which goals were most important to achieving their institution’s strategic objectives, the top five priorities identified were:

- Enhance teaching and learning
- Improve student learning outcomes
- Attract/retain faculty
- Improve retention rates
- Improve fundraising

When these higher education leaders were asked to what extent technology was helping them to reach these goals, however, most did not believe that technology is “driving value” in four of their top five strategic objectives: improving student learning outcomes, attracting and retaining faculty, improving student retention rates, or improving fundraising.^{viii} In the future, there is likely to be growing demand for applications that can have a demonstrable impact in every one of these areas. And although they believed

that technology was enhancing teaching and learning, there are many others involved in postsecondary education who argue that applying technology to coursework has not substantially changed the learning experience for students.

Technology growth. While the postsecondary education technology market is likely to continue to grow, thanks to the continuing upward trend in enrollments, analysts believe that technology planning and purchasing will be more strategic in the years ahead—more closely tied to institutional goals and more closely scrutinized for impact.

This shift will pose a significant challenge for postsecondary education institutions, according to analyst Trace Urdan, of Robert W. Baird & Co., because their administrators are not accustomed to thinking in business terms about the potential return on their technology investments. “Colleges and universities typically have no idea how much it really costs them to do certain things, like process student applications,” Urdan says, “so they are unable to measure the potential return on investment of using technology.”

As administrators become more cost conscious, however, software and digital content providers will need to focus on developing and marketing products that help institutions meet their goals. They will need to make the case for return on investment (ROI). “As long as you can make the ROI case,” observes Urdan, “there’s no limit to the amount of buying.” However, neither public nor private non-profit institutions are used to making such a case—to boards of trustees or to state legislators. If technology vendors want to continue their robust sales to colleges and universities, they will have to assist these institutions in creating rationales for their purchases. In this regard, for-profit institutions have a competitive head start: they are already keenly aware of the “bottom line.” Successful for-profits rarely lose sight of “the ROI case.”

Technology expenditures. In the 2004-05 school year, technology expenditures (the total of hardware, software, outside services, and training) by *public* colleges and universities are expected to decline by an estimated 13%, while expenditures by *private* colleges and universities are expected to increase by 28%. While this increase looks dramatic, it is largely due to private institutions “playing catch-up” and bringing their per-pupil technology spending closer to that of public institutions. On the whole, however,

total educational technology spending nationwide is predicted to decrease by 4%. This marks the third year in a row that total spending has declined from the previous year. This report will examine, in its second half, some of the reasons for this decline and will look at the possible scenarios for future uses of technology in postsecondary education.

- ⁱ K. Elaine Hoagland, written testimony to the House Committee on Science Subcommittee on Research's hearing, "Meeting the Demands of the Knowledge Based Economy: Strengthening Undergraduate Science, Mathematics and Engineering Education." 7 March 2002.
- ⁱⁱ United States Department of Education, National Center for Education Statistics, "Digest of Education Statistics, 2003", Washington, DC, 2003.
- ⁱⁱⁱ Ronald G. Ehrenberg, *Why Can't Colleges Control Their Costs?* 26 October 1999.
<http://web.cornell.edu/UniversityFaculty/forums/CorsonSymposium/Ehrenberg.pdf>
- ^{iv} *College Learning Materials: More Than a Textbook*, Association of American Publishers, pg. 3.
- ^v Mary Beth Marklein, "Group wants textbook costs kept in line," *USA Today*, 2 February 2004.
http://www.usatoday.com/news/education/2004-02-02-textbooks-usat_x.htm
- ^{vi} "College Textbooks: Enhanced Offerings Appear to Drive Recent Price Increases," *United States Government Accountability Office*, July 2005.
- ^{vii} Chronicle of Higher Education, "Colloquy Live: The White House and the Higher Education Act," Friday, July 11.
- ^{viii} Eric Bassett et al., *Higher Education Survey on Leadership, Innovation, and Technology, 2004*. Boston: Eduventures. p. 15.