Executive Summary

In April 2001, the EDUCAUSE Board of Directors approved a business plan creating ECAR, the EDUCAUSE Center for Applied Research. ECAR was established as a vehicle to investigate how higher education will meet the financial and programmatic challenges of the information technology boom and how those challenges can become opportunities for the entire market and its constituencies. To begin the process, ECAR observed that:

- IT decisions in higher education are of increasing programmatic and financial importance;
- consequential higher education IT decisions must be made prudently and after considerable research, yet scant rigorous and data-based analysis of higher education’s IT practices exists; and
- EDUCAUSE is in a unique position to foster rigorous and credible research in this domain.

Later, in August 2001, EDUCAUSE selected two proposals for eventual publication as ECAR research studies for the benefit of ECAR subscribers. One of these proposals addresses the timely and often problematic area of IT outsourcing. INPUT, a 25-year-old IT research firm, was selected to conduct this research.

Why IT Outsourcing?

The concept and practice of outsourcing, under a variety of forms and labels, are familiar in higher education.\(^1\)

There is little controversy about outsourcing ground maintenance, food services, bookstore operations, printing and reprographics, and other institutional support or “ancillary” functions on campuses across the United States and Canada. Such outsourcing is typically motivated both by the institution’s desire to focus on core competencies and mission, and to reduce costs. To date, there is slight evidence demonstrating the long-term programmatic or financial effects of these outsourcing activities.\(^2\)

More recently—dramatically so in the commercial sector—the emergence of reliable and secure high-speed networking and of Web-enabled services has fostered the rapid growth of IT outsourcing and, even more recently, the emergence of application service providers (ASPs). INPUT research estimates that IT outsourcing is a $57-billion (and growing) business in the commercial sector, which makes it an important area for research and evaluation by colleges and universities.\(^3\)
Scope and Methodology

Because higher education remains a tentative and skeptical adopter of ASP and IT outsourcing, little data exists to assess and evaluate longitudinal trends or model practices. Nevertheless, the size and growth of IT outsourcing, and its inherent risks, suggest that higher education needs a proactive plan, along with observations about trends, directions, and practices. IT outsourcing needs to be on higher education’s “watch list,” as shown by the recent attention *The Chronicle of Higher Education* has focused on the subject.4

The ECAR study of higher education’s experience with, and outlook for, ASP models and IT outsourcing is based on research conducted between September 2001 and March 2002. The study’s scope was limited to higher education institutions in the United States and Canada.

Methodologically, this study used
- an extensive review of the secondary literature in this domain;
- a comprehensive review of INPUT studies, analyses, and data relating to IT outsourcing trends and practices in the commercial and government sectors;
- a survey of 1,359 EDUCAUSE member institutions, yielding 286 responses;
- telephone interviews of IT practitioners in higher education as well as commercial providers of IT outsourcing solutions for higher education; and
- on-site and in-depth studies of three illustrative examples of IT outsourcing in higher education.

Because higher education as a whole has been slower than other sectors to adopt IT outsourcing, the dominant approach taken in this study is comparative.5 ECAR believes that at an early stage of a new technology or business practice it is most useful for higher education decision makers to understand

- the state, extent, and experience of the practice in other sectors of the economy;
- the state, extent, and experience of early adopters within higher education;
- the lessons learned from experiences both within and outside higher education;
- the technology trends both inside and outside higher education;
- the early insights about effective practice from any sector adopting ASP and IT outsourcing; and
- how the vendor marketplace for these services is evolving in support of higher education.

This framework constitutes the scope and method of this study.

IT Outsourcing Defined

The ASP model and IT outsourcing have been around for decades in various forms and under different names, such as “time-sharing” and “contracting for services.” For the purpose of this study, ASP and IT outsourcing were defined broadly to include a wide range of technology-related services that can be contracted for by a college or university.

ASP and IT outsourcing can also cover a broad range of services that may include the “rental” of contract programming staff, an institution’s purchase of services (e-procurement, for example) hosted by another organization, the management of IT facilities, and the purchase of IT systems integration services. INPUT has developed a specialized rubric and taxonomy to clarify the IT outsourcing activities that this study describes in detail.

Key Study Findings

This study concludes that IT and operational services outsourcing is currently a $782-million business among U.S. institutions and a $63-million market annually
among Canadian institutions of higher learning. While modest compared with the scope of such activities in the commercial or government sector ($57 billion and $6.2 billion per year, respectively), IT and operational services outsourcing in the higher education segment is forecast to grow at a compounded growth rate of 17 percent per year over the next five years.

While the IT and operational services outsourcing market is present and poised for growth in all arenas, not all communities fully support the idea. All sectors express caution and skepticism about the current climate and market for IT outsourcing, with higher education expressing perhaps the greatest caution and skepticism.

Documented IT outsourcing experience by higher education has been thin and often anecdotal. On the basis of years of systematic analysis of both governmental and commercial sectors, INPUT recommends that higher education approach IT outsourcing with caution. While commercial and government sectors have been early and continuing adopters of ASP and IT outsourcing, and investments by these sectors are expected to continue growing at double-digit rates, some worrisome trends are in evidence:

- Over the past four to five years, INPUT surveys have recorded a significant rise in customer dissatisfaction with outsourcing vendors.
- Public and private organizations able to maintain adequate IT infrastructures are reluctant to outsource, but they do so in order to redeploy in-house staff to core-critical projects.
- Companies often have difficulty distinguishing between core and noncore functions, or they fear that outsourcing could lead to a loss of valuable proprietary assets.
- Outsourcing vendors can thrive, but only if they are strong financially at the start.

This analysis describes an outsourcing marketplace that can be complex and risky—particularly the new and emerging ASP market. INPUT research indicates that some commercial firms remain wary of ASPs, finding them sometimes ill suited for their needs or viewing them as high-risk options because of deteriorating financials.

At the same time, ECAR survey data suggest that among those in higher education who understand the ASP model, many see this practice as a potentially less controversial and a lower risk alternative to traditional outsourcing. About half of all institutions reported that their ASP experience met their expectations. The experience of public institutions was a lot more positive than that of private institutions. While 66 percent of public institutions reported that their ASP experience met or exceeded their expectations, only 31 percent of private institutions reported that their experience met their expectations, and none reported that their ASP experience exceeded expectations. Moreover, 17 percent reported that their ASP experience was worse than expected.

The dynamic, complex, and risky nature of the ASP and IT outsourcing market suggests that higher education's posture of caution and skepticism is well founded, particularly in light of higher education's unique legacy of shared governance and public accountability. Indeed, institutions that may have already served constituents for centuries and plan to continue doing so view new and risky techniques designed to lower costs in the short term with particular caution.

Despite this prudent, guarded posture, higher education currently engages in outsourcing, and a certain portion of the sector is likely—of sheer necessity—to increase the level of activity in the future. The study survey of EDUCAUSE membership produced the following findings:
 Forty-two percent of colleges and universities report that they engage in ASP and/or IT outsourcing.

The decision to outsource largely appears to be an institutional one. However, when non-IT management is overly involved in the decision to outsource, lower satisfaction results.

The overwhelming key driver of the IT outsourcing decision is a real or perceived lack of in-house skills. (In the same vein, many institutions that do not engage in outsourcing report that in-house IT staffing is adequate. Higher education institutions that do not engage in IT outsourcing also frequently cite poor cost-benefit ratios as a reason.)

IT outsourcing activity in higher education is distributed among segments such as IT infrastructure, application management, and application services.

While 46 percent of public institutions report that e-learning and distance learning activities are suitable for IT outsourcing, only 31 percent of private institutions share this view.

Despite current outsourcing, about one third of all survey respondent institutions are considering in-sourcing (bringing back in house) functions previously outsourced. This intention to in-source currently outsourced functions is not significantly different between public and private institutions.

**Special Constraints**

Because of its differing nature, higher education’s approach to IT outsourcing is subject to special constraints that don’t affect government and commerce. Their unique sense of purpose and responsibility, for example, causes institutions of higher education to accept (or be expected to accept) a different approach to employee relations than that of either public or private employers. In general, higher education strives to be perceived as a preferred employer compared with commercial firms or government. The field offers attractive incentives such as better nonsalary benefits and working conditions—despite wage levels that have historically lagged these other markets.

The culture of higher education can deter the adoption of ASP and IT outsourcing. Public and private institutions alike report that employee concerns represent the single most important obstacle to outsourcing. These concerns do not appear to arise from collective bargaining, as only 12 percent of survey respondents said that employee concerns were related to organized labor.

**Risk**

Like some in higher education, many decision makers in commercial firms are attracted by the potential benefits of IT outsourcing, including access to more skilled resources, potential cost-savings, greater predictability of IT investments, and better ability to focus on the firm’s core competencies. These firms are keenly aware that the transition from traditional business to e-business requires an enormous commitment to improving (in some cases, rebuilding) IT infrastructures. IT outsourcing is one strategy for coping with the rapidly escalating costs associated with expanding IT departments, including the recruitment and retention of in-house staff.

Other commercial firms, like some colleges and universities, are reluctant to turn over control of sensitive data and business processes to outsiders who may or may not understand a particular industry or a particular firm’s requirements. Firms also are wary of entrusting vital operations to vendors that, for financial or other reasons, may not be able to deliver on their contractual promises. When viewed through the lenses
of many colleges and universities, where longevity of organizations, business, and outsourcers is expected, these types of risks produce even greater wariness.

Commercial firms that outsource their IT activities often experience an evolutionary restructuring that creates new business partnerships, new customer partnerships, and new configurations of competition and efficiency. There is some evidence that outsourcing may lead to “the end of the firm as we know it.” IT outsourcing will likely promote similar, if slower, organizational changes in higher education. The case studies and other examples of outsourcing described in this study show that outsourcing often generates new and unforeseen forms of cooperation among institutions. This phenomenon may have even greater potential when higher education institutions share IT services. Evolution, once begun, cannot be easily reversed.10

Outsourcing neither creates nor eliminates risk; rather, it changes the mix of risks.

**Outlook for IT Outsourcing**

Evidence from many sources suggests that higher education may be slower than either commercial firms or government organizations to adopt IT outsourcing because of traditionally strong ties that bind colleges and universities to their employees and also because of genuine differences in mission and history. Higher education’s implied employment compact suggests a reticence to engage in IT outsourcing as a means of reducing labor costs, which can mean forgoing some of IT outsourcing’s potential benefits. Administrators in higher education generally agree with the members of the Associated Colleges of Central Kansas consortium (one of the three case studies conducted for this report), who said simply, “Saving money isn’t our most important goal.”11

Although higher education enjoys a continuous inflow of talented youth and faculty, like government and the commercial sector it too is having a hard time meeting its particular requirements for skilled IT staff. Students can be mobilized to monitor desktops and networks, but only rarely to implement and operate complex enterprise resource planning (ERP) systems. Neither is faculty available for such tasks. Local, skilled IT labor markets must be developed.12

Although the education sector does benefit from the attention of some highly specialized and education-centric IT vendors, the absence of the largest players has several negative consequences for higher education. There are fewer available vendors, and the market is less competitive and arguably less innovative. As with the pharmaceutical industry, innovation tends to occur in proportion to the size of the market opportunity.13

Accordingly, as long as outsourcing contracts awarded by higher education are valued in the millions of dollars rather than the hundreds of millions—or billions—common in other markets, the supply of outsourcing vendors will grow more slowly.14 To attract more large vendors to the market, higher education will have to increase opportunities, expand contract awards, and streamline the decision-making process.15

The ASP model, while likely to remain attractive to higher education as a whole, will not fulfill its potential until the market matures for both vendors and institutions.

Ultimately, the promise and risk of outsourcing will impel higher education to rethink many of its organizational assumptions and practices. Why? Because outsourcing serves to disaggregate functions that were previously held tightly and forces managers to adopt ever more creative partnering relationships.16
Neither commercial IT managers nor administrators in higher education are succeeding in justifying their outsourcing projects solely on a total-cost-of-ownership (TCO) or return-on-investment (ROI) basis, but they are increasingly convinced that the risk/reward ratio is favorable. When universities miss a payroll because of a malfunctioning ERP installation, or when they confront an IT budget perceived as spiraling upward and out of control, colleges and universities come under intense pressure to explore innovative and cost-effective solutions, including IT outsourcing. There is no evidence yet to determine how outsourcing activities motivated by institutional dissatisfaction perform relative to initiatives pursued for more positive reasons.

Study survey respondents made it very clear that outsourcing is not without pain. Yet, many institutions believe they are incapable of supporting complex and comprehensive IT environments themselves, largely because they lack a highly skilled IT staff. In addition, few believe they can meet the rising needs of their stakeholders efficiently and cost-effectively. Colleges and universities may proceed cautiously and with appropriate skepticism, but a confluence of trends is making IT outsourcing an attractive alternative.

Conclusions

Like counterparts in the commercial sector and in government, some IT leaders in higher education appear knowledgeable about IT outsourcing. Higher education is a conservative adopter of this relatively new practice. Its slow progress toward IT outsourcing in particular seems to emanate from a unique sense of history and mission, including a strong bond between institutions and their employees.

Notwithstanding caution and skepticism, IT outsourcing is occurring at a moderate level in the sector and is expected to increase by 17 percent per year over the next five years. IT outsourcing drivers in higher education are less frequently financial than a recognized need to acquire scarce IT skills. The availability of IT labor in a college or university’s local labor market may significantly influence the institution’s attitudes and practices regarding IT outsourcing.

Of those institutions that outsource, many are tasking a variety of IT activities. Mature areas of IT outsourcing have achieved greater penetration in colleges and universities, while newer disciplines, such as business process outsourcing (BPO), are less widely understood and used (e-learning, or distance learning, is an exception).

There are significant differences of attitude, preference, practice, and behavior between private and public institutions in key outsourcing areas. Likewise, there also are heightened differences among key segments of higher education, such as research universities, baccalaureate institutions, community colleges, and master’s institutions.

Many institutions engage in formal and often public competitive bidding, while others lean toward sole-source selection of “trusted partners” as IT outsourcers. Service-level agreements (SLAs) and the skills to manage them appear to be important components in the IT outsourcing domain. Clear project specification and management and real internal acceptance of the IT outsourcing decision also appear to be important, if not critical, factors for success.

The ASP model and outsourcing remain viable options in the general IT landscape for colleges and universities. These options may allow higher education to remain current, move quickly, and leverage economies of scale in highly competitive markets for scarce IT talent. However, data suggesting that the vendor market is largely an evolving one and, hence, poses a number of risks,
appear to temper the promise of IT outsourcing. Despite these risks, some colleges and universities are increasingly likely to adopt IT outsourcing in coming years.

In addition, the uniqueness of higher education may suggest a similarly unique and evolutionary journey vis-à-vis ASPs and IT outsourcing. In particular, colleges and universities may choose to collaborate to maximize resources, perhaps sharing services and hosting for one another in preference to engaging a commercial vendor. Such a choice would reflect a higher level of trust in like institutions and a willingness to trade some potential cost savings for relationship durability and reduced risk.

Endnotes

1. This report uses a working definition of outsourcing that emphasizes two aspects of the outsourcing relationship: the customer transfers to the vendor (1) a defined set of operational responsibilities on a (2) multiyear contract basis that may or may not include the transfer of hardware and staff.

2. “Significant economies can often result from contracting out various institutional services. Approximately 90 percent of the facilities-management functions are contracted out with very cost-effective solutions.” Richard Wertz and Dennis Gribenas, Privatization of Campus Services at Community Colleges in the United States: An Analysis of the Current Status, monograph published by the National Association of College Auxiliary Services, 1998, p. 4.

3. ASP vendors are specialized, third-party outsourcers that aim at making specific software applications available to clients on a streamlined, multiyear, pay-as-you-go basis. (“Third-party” means that ASPs typically distribute software developed elsewhere rather than their own proprietary products.)


5. “The movement toward privatization or outsourcing of campus services in higher education will have significant impact on colleges and universities. Previously ... it has been pointed out that turning over the administration of too many services to outside contractors may have a negative impact on the spirit of collegiality in higher education. The ‘family’ or ‘college’ or ‘university community’ may not exist in the same fashion with private business operating the nonacademic aspects of the institution. ... Being the first to privatize a service is not a good position to be in, yet the pressure to privatize continues to grow stronger, and institutions may be forced to privatize services that few if any institutions have privatized before. This situation will create enormous pressure on the institution to carefully plan and implement each step in the privatization process.” Richard Wertz, Outsourcing and Privatization of Campus Services: An Overview and Guide for College and University Administrators, monograph published by the National Association of College Auxiliary Services, 1997, p. 59.

6. More than three quarters of all survey respondents (77 percent) reported that they were familiar with the ASP model-public somewhat more so than private institutions. Not surprisingly, research institutions appear to be most familiar with the ASP concept. Surprising was the markedly more negative stance of BA institutions toward the ASP model. Comparatively, the highest proportion of respondents unfamiliar with ASPs were BA institutions, and they reported a significantly greater range of problems. While the reason is unclear, it appears that the bulk of BA institutions with this negative experience were public rather than private institutions (possibly because BA institutions were more likely to select a vendor through sole-sourcing).

7. Wertz and Gribenas, op cit., p. 2: “Recent higher education financial history has seen the federal and state governments squeezed by deficit and public pressure for ‘no new taxes,’ leaving the students with the responsibility of replacing these lost revenues. [Non-IT] contracted service is a way for colleges and universities to make up some of this lost revenue... The dynamics of these systematic problems appear to require more than just short-term fixes and point to a restructuring in higher education finance which includes contracted services” (Kettinger and Wertz, 1993).

“... A good understanding of the management of contractual services is necessary if the function is to meet the college’s goals and mission. Fiscal responsibility does not become a priority until it is understood that poor management can no longer be subsidized. Higher education is a $125-billion industry with more than a million employees, but, in the past, it has failed to employ the good business sense taught in its own classrooms” (Klinger 1992).
8. One manifestation of this difference is a much higher level of employee resistance in higher education to outsourcing, even when euphemisms such as "privatization" or "contracting for services" are used. While government organizations also are subject to similar resistance to outsourcing initiatives, government at both federal and state levels has taken a strong, pro-outsourcing position as a way to save money and streamline operations. The severity of government's IT skills shortage leaves it less choice in the matter.

9. Even though 12 percent of public institutions (versus 8 percent of private institutions) reported that collective bargaining was an important obstacle to outsourcing, all types of institutions agreed that employee concerns were a significant barrier to their outsourcing initiatives.

10. Similarly, every level and branch of government is availing itself of outsourcing solutions either as a means of assuring the survival of the agency's mission, as a way to streamline and standardize for ensured interagency functioning, or as a way to compensate for fiscal shortfalls. In the past, government buyers were either obligated by their unique requirements or conditioned by habit to buy mainly custom IT solutions and meet their IT needs internally, insofar as possible. Over recent years, that attitude has changed dramatically. At present, even the Pentagon and the intelligence agencies strive whenever possible to purchase commercially available, off-the-shelf IT solutions and customize, if necessary, only on a small scale. Outsourcing is one of the best ways to achieve this end because vendors are able to leverage their investments over multiple clients, which not only lowers costs for government buyers (and enhances profits for vendors) but also enables an important cross-fertilization of technical expertise that would not otherwise occur.

11. Commercial firms will be increasingly attracted to IT outsourcing, partly to save money but more importantly as a way of reallocating scarce IT resources to higher value-added, proprietary projects and away from noncore utility functions. Outsourcing offers the collateral benefit to commercial firms and higher education alike of promoting a new range of partnerships and a higher level of collaboration with customers and other stakeholders in its business processes. The majority of survey respondents agreed that a shortage of in-house IT skills and a lack of operating efficiencies were the primary reasons to outsource. Cost-savings wasn't identified as the most important benefit of IT outsourcing and was ranked relatively low as a reason to outsource.

12. For the federal market, which will suffer the loss of an entire generation of skilled IT staff to retirement, IT outsourcing is inevitable. The government market will not be able to afford or attract the top level of IT skills that its increasingly sophisticated systems demand. It's unlikely that any time soon government will represent the top job market for new graduates, who see much more attractive career paths working for outsourcers and commercial firms.

13. On the subject of IT outsourcing vendors, there is an important difference in the types of vendors active in the higher education, commercial, and government markets. Because the estimated current and projected future size of the higher education market opportunity for outsourcing vendors is still relatively small, top-tier vendors such as EDS, Accenture, Siemens, and CSC will remain reluctant to invest in it. IBM Global Services is an exception, but even this firm may retreat if profits are disappointing over the next few years. Also, many second-tier outsourcing vendors, such as Getronics and ACS, that are active in the commercial market don't find the higher education market attractive.

14. Higher education has a general reputation among vendors for having a Byzantine and often diffuse organizational structure that undermines decision making and managerial authority and accountability. Yet, vendors have similar complaints about buyers in other markets. The case studies conducted for this report illustrate perhaps most forcefully the extent to which complex outsourcing projects depend on the ability of leaders, whether in higher education or elsewhere, to build the required trust and cooperation among their colleagues at all levels.

15. Higher education appears to need an outsourcing vendor selection process that tests alternatives objectively, even if it falls short of a full competitive bidding process, or it requires a fully integrated e-marketplace. Using consultants exclusively in the bid preparation and evaluation process can leave institutions with an unfinished learning curve that can handicap them later. Alternatively, many institutions use consultants as a knowledge acquisition and transfer activity.

16. Success in IT outsourcing hinges in large measure on excellent project specification and management, as well as on real acceptance by the university community.