This chapter analyzes application service provider (ASP) and IT outsourcing services within the context of operational services. It contrasts their use in higher education with that in commerce and government.

Outsourcing is one of the operational services segments of the IT software and services industry. This segment includes IT outsourcing, business process outsourcing (BPO), and processing services. More precisely, IT outsourcing consists of services that provide operation and management of all or a significant part of a user’s information systems or telecommunications functions under a long-term (more than one year) contract. BPO covers services that provide operation and management of all or a significant part of a user’s business. Processing services use vendor-provided computers and communications to
- run applications (using applications software from the customer, the vendor, or a third party);
- provide infrastructure services such as Internet data centers (IDCs) or data entry; and
- support the development of applications.

Over the past several years, vendors, financial institutions, and the media, as well as many analyst firms, have advanced ASP services as something “new.” All services delivered by these companies can be categorized in the three segments of operational services just defined or in the applications software products category. Services are further allocated to specific subsegments on the basis of what buyers are purchasing.

**Operational Services**

This section discusses the purpose and scope of ASP and IT outsourcing services in general and their application to higher education. The first subsection covers ASP offerings, which are largely processing services; a separate subsection deals with IT outsourcing services.

**Processing and ASP Services**

Processing services vendors provide computer/communications infrastructure or applications services to customers on a usage basis, as contrasted with outsourcing, which entails a long-term commitment. This product/service category includes three subcategories: applications services (usually transaction processing), infrastructure or platform (computers/operating environment/network) services (utility processing), and “other” processing services.
If the service includes application processing, the applications software used may come from one of three sources:

- **Customer**—The vendor provides the platform and the customer provides the software. The software may be either custom made by the customer or purchased. Expenditures are classified as infrastructure services. IDC and Web-hosting services fall into this category.

- **Vendor**—The vendor provides the platform and the proprietary applications software through a bundled service. The software may or may not be available as, for example, an application software product or a turnkey system. Such services are classified as applications services.

- **Third party**—The vendor provides the platform, and a third party, such as an applications software product vendor, provides the applications software.

With the third-party source, there are two alternatives in terms of category of service. In the first category, the processing services vendor bundles the applications software price into the service bill, in which case the customer is buying an applications service, and its expenditures are categorized accordingly. In the second category, the customer receives either two bills or two components in a single bill for service. In the latter case, one component is for the infrastructure service and the other is for the applications software used. This applications software may be from the applications software product company. In this case, the customer is buying an infrastructure service from the processing service vendor and a software product from either the third-party vendor (ASP) or the applications software product company.

**Applications Services**

These are primarily transaction processing services (payroll, accounting records, and so on). Increasingly they include other activities, such as analysis, aggregation, reporting, distribution, and interfacing.

The customer uses a vendor-provided information systems platform—including equipment, systems software, and data networks—at the vendor’s site to process specific applications and update customer databases. The vendor provides the application software (as described earlier). These services usually run on a proprietary software platform that processes transactions for multiple customers through the same core software, that is, shared software. This delivers economies of scale in software usage. Single-image processing (where each customer has its own version of the software) almost never succeeds.

Transaction processing (TP) systems have been a mainstay of businesses for more than 30 years, with vendors such as Automatic Data Processing (ADP) offering transaction processing services. In some areas, such as credit card processing, services vendors execute more transactions than in-house systems.

As business challenges become more complex and the volume of transactions grows, TP systems will play an even larger role in business operations. However, TP services are in for some profound changes. The most dramatic change is one of scale. As organizations collect more information on customers and their buying habits, TP systems balloon in size. A single transaction now captures 10 to 15 times as much information as a transaction 5 years ago.
Another trend is the increasing access to transactional systems by the people who are generating transactions. Organizations are eliminating data entry clerks and connecting staff and even customers directly to TP systems. Applications using the World Wide Web are the latest manifestation of this trend, with consumers and businesses now able to access order-entry systems directly to place orders.

Not only is the number of transactions increasing dramatically, but the quality of transactions is changing too. Advanced TP systems will need to support complex data types and the complex queries that result from them.

With market success contingent on information systems, availability also becomes an increasingly critical issue. More TP system providers will be forced to maintain levels of availability approaching 100 percent. Moreover, with access to TP systems no longer limited to order-entry employees, strong security measures are paramount.

Internet/Web applications services, although similar, often have a different focus. Many of the new ASPs provide these types of service. However, where IT applications services tend to focus on the transaction itself (cost of processing, reliability, and so on), Internet/Web services focus on flexibility, scalability, ease of use, timeliness, overall cost, and so on. This category includes single and multiple applications hosting services. Applications may not be transaction oriented. They may be aligned with any industry-specific or cross-industry function—for example, messaging services that focus on office communications or employee application services that support hiring.

In electronic business applications services, the vendor provides a set of services to enable an electronic business to operate, but this does not constitute an outsourcing contract.

The challenges ahead for TP systems are clearly immense. For firms to prosper, they will need systems that can handle the growth in size, volume, and complexity of transactions, with increasing levels of availability and security. These challenges will drive organizations to increase their use of processing services companies.

**IT Infrastructure Services**

Infrastructure or platform services are sometimes called utility services. The customer uses a vendor-provided information systems platform to develop and/or operate its own applications software. The customer’s software may have been obtained from any of a variety of sources, including third parties such as enterprise resource planning (ERP) vendors. Many ASPs provide such services. The platform is a combination of equipment, communications networks, and systems software (server systems, applications development tools, database management systems, graphics packages, security systems, mathematical models, communications software, and so on).

These services include data center services. This market encompasses the purchase of computer/communications resources for project-based activities, such as running advanced models on a supercomputer, and process-oriented activities, such as weather forecasting. Much of the expenditure is for research.

Internet/Web infrastructure services are very much like what used to be called “timesharing,” an industry that collapsed in the early 1980s with the advent of the PC. The services have four levels:

- The lowest level of service above access services is Web hosting, whereby the vendor operates the customer’s Web site. The vendor provides access services to the site; monitors performance; maintains processing, software, storage, and...
communications facilities; provides security; and so on. In simple Web site hosting, the vendor provides access to the information in the Web page.

- The next level up is applications hosting. The vendor hosts applications related to the Web site, such as transaction handling.
- At the next level, the vendor provides a full electronic business applications service environment. These services are built around called commerce servers, letting a customer transact business.
- At the highest level, the vendor actually operates the electronic business for the customer. This is outside the IT processing service industry category and is considered electronic business process operations (eBPO).

At none of these levels does the vendor provide the applications; the customer or a third party always provides them. If the vendor provided the applications, the service would be categorized as applications services.

**Other Processing Services**

The vendor provides a service—usually at the vendor site—such as scanning and other data entry services, laser printing, computer output microfilm, CD preparation, and other data output services.

Storage services are a small but potentially very important part of this category. The explosion in demand for digital storage is driven by the need for multimedia storage and for storage of the vast quantities of information being generated from online activities. Storage services provide scalability, rapid response, security, and technology refreshment.

**IT Outsourcing Services**

IT outsourcing developed from systems operations in the 1980s and 1990s and facilities management in the 1960s and 1970s.

It entails a long-term (greater than one year) contract between a customer and a vendor whereby the customer contracts for the vendor to perform all, or a major portion, of the IT function.

IT outsourcing vendors provide a variety of services in support of customers’ information systems and electronic business requirements. The vendor plans, controls, provides, operates, maintains, and manages any or all components of the customer’s information systems environment (equipment, networks, applications systems) at the customer’s site or the vendor’s site. Various Internet- and Web-related categories of outsourcing service have emerged to include Internet-managed services (categorized under infrastructure operations). Regardless of where they are located, the equipment and software involved may be owned by either the customer or the vendor. The contract may include non–information-systems outsourcing activities, but information systems outsourcing must be an integral part of the contract.

The IT outsourcing product/service subcategories (tasks) appear in Figure 4-1. Network management, applications management, and desktop services are often included in larger contracts. Separate contracts in such subcategories are often referred to as out-tasking contracts.

**Outsourcing for Tactical Purposes**

Outsourcing IT functions for tactical purposes is often motivated by a desire to save money. Commercial firms as well as institutions of higher education may find they lack capital—financial, human, or both.

Outsourcing reduces the need for future investments by transferring one-time capital expenditures and permanent staffing commitments to variable operational expenses. While total costs may not decline significantly, tax and accounting provisions
generally favor the outsourcing alternative. In essence, an IT outsourcing contract is analogous to a “purchase/lease back” contract in real estate. For this reason, some of IT outsourcing’s potential economic advantages do not accrue to nonprofit sectors like higher education.

Usually, an outsourcing agreement involves transferring a portion of the client’s IT staff to the outsourcer. This restructuring offers the client increased staffing flexibility. It reduces the burden on management, as well as transferring responsibility for solving technical problems, accomplishing software and hardware upgrades, and dealing with other IT suppliers. Many buyers seek to reduce their perceived level of technology risk and streamline their management relationships even if they don’t expect to save money through the contract.

Highly detailed service-level agreements (SLAs) specify client expectations and vendor responsibilities. In a typical agreement, the outsourcing vendor is bound by contractual obligations to perform specific functions within a specified period. SLAs represent a great advance for organizations suffering from diffuse reporting structures that make it difficult to hold any individual or department responsible for delivery (or scheduling). Also, because outsourcing techniques may enhance overall accountability, the contractual outsourcing relationship specifies monetary and legal remedies available to each party should nonperformance become an issue. These benefits may be of particular interest, value, and importance in higher education.

**Outsourcing for Strategic Purposes**

Organizations that embark on strategic outsourcing seek to streamline their operations by shifting noncore activities to service vendors so that they can focus their re-

![Figure 4-1. Outsourcing Services Market Structure](image)
sources on high-value, proprietary functions that advance the organization’s long-term strategic goals. However, distinguishing between core and noncore business functions or competencies is usually difficult and tendentious.

By outsourcing noncore IT functions, clients hope to gain access to world-class IT capabilities and build long-term value into the partnership with the vendor. Strategic outsourcing usually involves a longer term relationship with a vendor and a wider scope of services than tactical outsourcing.

The length of a typical outsourcing contract in the commercial market has fallen—now three to five years instead of seven to ten years—and fixed-term contracts are being treated increasingly as benchmarks to be adjusted at least annually and renewed, as long as both client and vendor perceive mutual benefit and trust in the relationship.

**Trends Promoting Outsourcing**

**Market Development**

Certain primary trends are driving development of the IT outsourcing market in the United States, Canada, and elsewhere:

- **Pace of technology change**—Despite the dramatic IT slowdown, the pace of product innovation has not abated. Furthermore, there are now a plethora of IT approaches to problems and opportunities, whereas historically there were only one or two. Consultants advise on the strategies and the tactics, but buyers still take the risk when deciding to do something themselves.

- **High and growing cost of recruiting and retaining in-house IT professionals**—The number of job categories and specialists has increased sharply in the last five years and shows no signs of abating. Meanwhile, availability of qualified personnel has not kept up with demand. Outsourcing provides a way to share skills with others while devoting the most valuable assets to proprietary, core projects.

- **Transition from traditional business to e-business**—Organizations must operate the old and new systems in parallel for a considerable time but do not have the resources in house to do so. Thus, transition outsourcing has become a common way of fundamentally changing an organization.

**Factors Affecting the Outsourcing Decision**

Whether in the commercial, government, or higher education arena, major decisions to outsource (that is, data center or IT infrastructure decisions, as opposed to individual “task” or software application decisions) are institutional rather than IT based. In the commercial world, major outsourcing decisions are usually board approved. In government, the decision to outsource is determined by policy (although an agency CIO or IT department handles vendor selection). Higher education institutions appear to be somewhere in between. Sometimes the institution makes all the decisions (often leading to added risk and lower satisfaction); other times the institution makes a guiding policy decision and leaves implementation to the CIO/IT department or committee.

However, decisions to outsource tasks (such as distributed services or network services) more often fall within the IT organization’s purview, especially when the number of people involved is small. And almost all decisions to outsource processing services and ASP services are within the IT organization’s purview.

**ASP Services**

Many ASPs evolved from Internet service providers (ISPs) who sought to expand from their provision of communications services to hosting of applications and then into ap-
Applications services themselves. Other entrants have come from among Web-based information providers and portals that have added applications to their one-way provision of information on demand. In both cases, stress in their basic business often forced such companies away from their original business models.

At the same time, a new generation of software vendors is bringing its applications to market as Web-based services, accessed directly over the Internet. They offer to run the software themselves or on a hosting service rather than selling their software to run on in-house–operated systems. Established software product vendors such as Oracle have also been exploring this option.

ASPs usually have the following characteristics:

- A reseller delivers software applications (and/or value-added services) to remote end users for a fee.
- A one-to-many delivery channel and a distribution mechanism for software are both provided.
- Vendors earn revenue by charging a fixed-price subscription fee or a variable usage fee based on transaction count or number of users.
- Users have access to the applications, usually under an SLA, without the responsibilities of management or maintenance.
- Either vendor or user may own the software license.
- Vendor supplies minimal customization for integration with customer’s legacy IT infrastructure.
- Vendor assumes responsibility for the underlying delivery networking infrastructure and host hardware, either by providing them directly or through outsourcers.
- User and vendor may be connected by the Internet or a virtual private network.

- Vendor manages, supervises, or monitors the operation of these delivery mechanisms, usually under the SLA.
- Vendor is responsible for application maintenance and upgrades, end-user billing, provisioning, and overall systems management.
- Full-service vendors may also provide end users with integration services, application customization, training, help-desk and technical support, and even business process analysis.

The services and software purchased from ASPs fall into a variety of market categories, depending on what the buyer perceives. Whether a particular service is a processing service or an IT outsourcing service often depends on the length of the contract and the extent of the service bought.

Generally, new vendors have grossly underestimated the full costs of sales, support, and maintenance. Existing software product vendors have been very careful to protect their margins and unit sales when dealing with third parties, and the value-added reseller market is consequently virtually unsustainable.

**ASPs in the Higher Education Market**

Sixty-five percent of those surveyed responded that they were moderately familiar with ASPs, and 53 percent of all respondents who outsource reported that they had signed a contract with an ASP. Forty-nine percent thought that e-learning and distance-learning applications were the most suitable for sourcing from an ASP.

The next few years will see the need for “resource rationalization”—increasing investments in software and content, as well as in IT infrastructure, to support a variety of nontraditional channels for delivering education. In an environment of rising demand and limited resources, the ASP model
of processing service, IT outsourcing, or applications software delivery services may become more attractive.

However, the ASP market—particularly as it applies to higher education—is poorly defined and full of immature services and providers. Some specialize, while others try to provide services across a broad spectrum. Recent bankruptcies by some ASPs and poor performance by others have given credence to the idea that ASPs are just IT industry hype, like pen computing or artificial intelligence (AI). Executives in higher education are generally more conservative than their peers in the commercial market. They are extremely unlikely to entrust important IT functions to vendors that as a group and individually may not be financially viable.

**ASP E-Learning Services**

ASP services may be particularly useful in e-learning, a relatively new area without established vendors or in-house operations. Many observers view education as no longer bound by time and place. Education providers are moving beyond whole-group instruction within the traditional classroom environs to deliver real-time instruction when and where it is most convenient and needed. Their IT infrastructures also will bend with the new trends in learning. Institutions are increasingly moving from the relatively simple acquisition and adoption of technology to the more complex task of integrating that technology into teaching, learning, and administration, to facilitate innovative learning.

However, it can be difficult to achieve these goals while coping with volatile demographics, which can hinder academic planning, and the ever-rising cost and complexity of the IT infrastructures required to surmount IT challenges. Thus, outsourcing in general—and the ASP model in particular—is attractive because it enables higher education institutions to provide the following options:

- **Personalized learning**—Sophisticated software with rich curriculum and embedded diagnostic assessments enables computer-based education that can be customized to each student’s unique learning style and pace.
- **Instructional management**—Instructors and administrators can use technology to efficiently collect, manage, and analyze data. The result is more informed decision making, improved accountability, and reduced costs.
- **Distributed learning**—The Internet enables real-time, flexible access to instruction and content previously available only from a distance. This instruction can be provided synchronously or asynchronously to allow for students’ learning needs and pace.
- **Enhanced communications**—Integrated communication tools ensure critical interaction among students, educators, and communities, thus moving education into the community.

**IT Outsourcing**

It’s important to understand the similarities and differences that affect IT outsourcing in higher education, the commercial sector, and government markets.

**IT Outsourcing in Higher Education**

The following factors will drive substantial growth in IT requirements in higher education over the next few years:

- A transition to ERP software is under way for electronically linking administrative, financial, and student-related records.
- Internet-enabled interactive distance-learning systems will require new IT ca-
capabilities, including enterprise Web portals for course management and student/faculty electronic interaction. At present, only a few faculty members at a typical institution are involved in distance-learning programs. However, evidence suggests this may change rapidly.

Individuals, corporations, and government exhibit a continued interest in and demand for postsecondary education. A strong higher education system is an absolute requirement for the United States and Canada to be able to adapt and use the technological innovations that are necessary for continued growth in productivity and the economy.

The pace of technology-related change continues, bringing innovations such as speech recognition, video processing, collaborative working (already a factor in research), advanced simulation, electronic books, and Internet-enabled handheld devices.

Higher education institutions can consider one or more forms of operational service such as IT outsourcing to help them deal with these increasingly complex and time-sensitive demands.

Drivers to IT Outsourcing in Higher Education

Following are some of the drivers likely to fuel the trend toward resource rationalization and IT outsourcing:

- Effective use of assets—The selective application of certain commercial management practices encourages colleges and universities to adopt outsourcing for activities that have traditionally been carried out internally.

- Maximization of staff effectiveness—Outsourcing may enable colleges and universities to focus their leadership on activities that produce the greatest benefit to the institution: teaching, research, and services. Secondary or ancillary functions such as publications and facilities management may also benefit. Outsourcing also stimulates new thinking about the centralization/decentralization debate for IT organization on campuses. Effective use of external consultants and expert suppliers for technical developments lets the university maximize faculty and staff effectiveness.

- Competition for funding and demand for financial accountability—Public and private institutions struggle to finance themselves in an environment that is becoming increasingly commercial. Competition for state funding for higher education in the face of rising demands by health care, law enforcement, and security is motivating the search for cost savings, efficiency, and better financial accountability.

- Access to external resources—Outsourcing offers colleges and universities access to new equipment and to highly trained IT and business professionals without investing in hiring, training, and retaining IT workers.

- Changing student demographics—With less than 20 percent of college enrollments fitting the traditional undergraduate residential student profile (age 18–22, full-time), higher education institutions are seeking innovative course delivery and communications systems to meet their students’ needs for flexibility. Necessary twenty-first-century skills include traditional core critical thinking; computational skills and technology literacy; inventive thinking; communication and collaboration; and the ability for self-directed, life-long learning. Outsourcing helps institutions and faculty transition to new methods of distance learning without draining resources or buying expertise directly.

- Effective instruction delivery—Institutions of higher education are seeking
more effective means to deliver instruction to an increasingly diverse student population while also efficiently managing an ever more complex enterprise. Individual courses and entire college degree programs online increasingly may come to be viewed as indispensable, cost-effective alternatives to labor-intensive, traditional residential education.

Potential to reach a wider market—Colleges and universities may be able to collaborate with service providers to have their courses offered online, thereby tapping into a previously untouched market. Some of the larger service providers offer Internet courses that are validated by colleges and universities or professional institutions.

Instructor support—Academic technology professionals on higher education campuses are being challenged to better address the needs of faculty by integrating technology into instruction.

Globalization of the economy—As professionals develop their careers, they seek qualifications that carry international recognition, and brand names become significant to both graduates and employers. Therefore, strategic alliances with global organizations that share a vision of quality education may become necessary to enable colleges and universities to participate fully in a global learning economy.

Barriers to IT Outsourcing in Higher Education

Generally, outsourcing has been slower to catch on in higher education than in other areas of the economy. Colleges and universities have traditionally resolved intellectual problems from within. Many higher education institutions have been and still are reluctant to use outsourcing because they fear losing control over a vital resource. This fear is even more acute when IT is no longer a backroom support activity but an integral part of delivering the product or service that constitutes the organization’s mission.

Many higher education institutions go to great lengths to differentiate themselves from the commercial world by placing special emphasis on job security and workplace quality. Outsourcing solutions that imply layoffs can look like commercial attacks on these principles.

IT Outsourcing in the Commercial Sector

IT outsourcing initiatives often stem from a wrenching experience in an organization, for example,

- a major financial reorganization,
- a large acquisition or divestiture,
- a major board or executive change,
- basic difficulties in the organization’s industry,
- major competitive or market share changes,
- dramatic growth or shrinkage in an organization’s business, or
- major legal or regulatory change.

Experienced vendors look for changes like these when they prospect.

The commercial outsourcing market is moving toward more comprehensive, bundled solutions because customers want to streamline their operations by offloading as many IT-related activities as possible. This has resulted in the dramatic growth of leading vendors such as IBM, Compaq, HP, EDS, AFS, and CSC. They have the size to bid for and to absorb the large contracts that result.

IT outsourcing clients have often felt that after a contract has been signed they received poor value for their money when operational service volumes or the environment changed. They believed, for example, that they were expected to pay additional
charges when volumes increased but did not receive a proportionate decrease in charges when transaction volumes decreased.

Rapid fluctuations in business itself exacerbate this problem. As a result, commercial contracts have changed extensively. For example, contracts are shorter and in many cases do not detail future expectations as much as in the past. Everyone recognizes that commercial contracts must be flexible to allow for rapid economic, technological, and societal changes. An increasing amount of risk related to accurate forecasting is being transferred to the vendor.

Contractors encourage greater vendor creativity, but here the vendor and contractor share the risk. Clients demand greater cost and service flexibility so that they can adjust the volume of services according to their fluctuating business requirements and circumstances. In extreme cases, this could entail turning services on and off at short notice, with the vendor taking the commercial risk of whether the services are used or not.

Overall, the increasing tendency is for clients to insist on value for money throughout the life of outsourcing contracts. Some clients seek to ensure this by developing contracts that let them benchmark vendor pricing throughout the contract. This will place greater margin pressure on vendors by making it harder for them to significantly increase their profitability in the later stages of the contract.

Ideally, clients would like vendors to behave as though they owned the client IT budget and to seek ways to deliver IT services within a set budget and at increased value for money. Clients tend to disapprove of vendors who continually try to increase the clients’ IT expenditure, regardless of the worthiness of the projects and services themselves.

**IT Outsourcing in the Government Market**

The Bush administration has mandated that federal agencies pursue outsourcing to increase their effectiveness and reduce cost. In particular, the administration has committed to opening up 50 percent of the commercial workload (as defined by the Federal Activities Inventory Reporting [FAIR] Act) to competition. Subsequently the Office of Management and Budget (OMB) ordered federal agencies to compete at least 5 percent of their FAIR Act positions by October 2002. This is equivalent to more than 40,000 jobs.

Most agencies compete for less than 1 percent of the positions identified under the FAIR Act. Only the Defense Logistics Agency has currently met the 5-percent OMB goal. In the meantime, the General Accounting Office (GAO) has been closely following the issue and has identified the factors necessary for a successful competitive outsourcing arrangement: executive leadership, partnership alignment, and relationship management.

In the federal government, significant political and regulatory issues, such as legislative initiatives, administration objectives, and federal budget cycles, affect the decision to outsource. Outsourcers wrangle with unions, politicians, and agency civil servants over the issue of equivalent cost comparisons. Vendors must demonstrate that outsourcing produces cost savings, yet there are significant obstacles to an accurate determination of the true cost to the government of performing specific work. Private sector and public sector work environments are subject to very different methods of cost accounting. This dilemma underlies a great deal of the friction among agencies, administrators, and outsourcing vendors.

Some agencies can perform the same work as a vendor and compete for contracts with other government agencies. Critics ar-
gue that agencies with excess capacity should be downsized and shouldn’t compete for such contracts. Vendors believe this practice by government agencies is unfair because the government is not subject to the same rules of competition and may also offer a lower, subsidized price.

The events of September 11, 2001, have created tremendous uncertainty in the federal government about where funding will come from and how much will be available over the next two years. On top of that, federal agencies are in the midst of reprioritizing IT acquisition plans to focus on security and critical infrastructure protection. In general, INPUT expects a net increase for the IT outsourcing market. While many IT programs may have been postponed or eliminated to address security concerns, the crisis has created a sense of urgency among federal agencies for satisfying critical IT requirements. Outsourcing arrangements may prove, in many cases, to be the quickest and most effective solution. The prevalence of relaxed contracting regulations for the purposes of preserving national security further motivates agencies to pursue outsourcing in the near term.

Comparative Use of IT Outsourcing by Industry

Adoption and use of IT outsourcing varies considerably from industry to industry, as shown in Table 4-1. Within commercial industries, for example, financial services organizations have been major users of operational services, including IT outsourcing, manufacturers, until the last few years, have not.

One perceived difference between the higher education and commercial markets is the level of concern for the human factor. Many higher education outsourcing opportunities, particularly in public institutions, are shaped by labor considerations that might give commercial employers little concern. In both the public and private segments of higher education, institutions appear to attach a much higher priority to job security, employee benefits, and wage levels than their commercial counterparts.

This is a false contention. In the commercial sector, there is a very real concern for employees affected by outsourcing. There are two main reasons for this. First, the contracting company wants to make sure that the people who stay with the company don’t start to look elsewhere for employment. If they perceive that former co-workers were badly treated, they will wonder how they will fare if another round of outsourcing takes place. Second, the contractor wants to retain the expertise needed to support legacy systems or operations. The quality of operation will suffer greatly if the transferred people simply leave. Neither the contractor nor the contracting company wishes that.

Business Process Outsourcing

In a BPO relationship, a vendor is responsible for performing an entire business/operations function, including the information systems outsourcing that supports it. The average BPO contract is large, with a value of $200 million to $700 million and a shelf life of about seven years. (Exult, a vendor of HR services in the BPO market, estimates that Global 500 firms spend between $50 million and $100 million per year in a typical BPO contract.) Transition time from internal operations to an outsourced service provider is typically 12 to 18 months, reflecting the time required to assimilate employees, applications, and data. Generally, clients hope to save at least 15 percent of the cost of doing the work internally.

The BPO market comprises such distinct service offerings as accounting services, procurement services, back-office services, front-office customer relationship management services, and human resources (includ-
ing payroll) services. In addition, a number of vendors have developed services for facilities (real estate) management, with and without an IT component. In particular, the federal government has been turning increasingly to commercial outsourcing vendors to take over the nonmilitary management of Department of Defense bases. Several trends make the BPO market attractive: growing customer acceptance of outsourcing in general, growing acceptance of outsourcing covering a wider range of business processes and functions, and increasing stability that is a natural extension of a proven technology outsourcing market.

Data from the survey of EDUCAUSE members indicate that spending for BPO in higher education exceeds that of any type of IT outsourcing. This fact reflects their comfort and experience with specific types of outsourcing: health care, facilities management, bookstore operations, day care centers, food services, logistics, and other noncore functions. As financial and operational aspects of institutions are increasingly interlinked to ERP systems, BPO contracts reflect the natural evolution of IT outsourcing to include the people and non-IT systems associated with them.

However, there is a huge difference between BPO involving IT and the routine, low-technology services just mentioned. More important is the growing presence of companies like Accenture and PricewaterhouseCoopers (PwC) in the BPO market and their developing base of solid contracts in the areas of accounting, logistics, and HR services. Accounting is probably the application area most applicable to higher education.

Table 4-1. Comparison of IT Outsourcing and ASP Services by Industry Sector

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<th>Higher Education</th>
<th>Commercial</th>
<th>U.S. Federal Government</th>
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<tbody>
<tr>
<td><strong>Estimated Market Size, 2001</strong></td>
<td>$782 million, U.S.; $63 million, Canada</td>
<td>$57 billion</td>
<td>$6.4 billion</td>
</tr>
<tr>
<td><strong>Intensity of Outsourcing</strong></td>
<td>42 percent of institutions surveyed report that they are currently outsourcing IT functions.</td>
<td>Media surveys report that 75 percent of companies are outsourcing some activity.</td>
<td>Outsourcing represents 14 percent of total federal spending on IT. Civilian agencies account for 60 percent of outsourcing expenditures.</td>
</tr>
<tr>
<td><strong>Bidding Process</strong></td>
<td>A mix of sole-sourcing and competitive bidding. Private institutions have the greatest flexibility.</td>
<td>A mix of sole-sourcing and competitive bidding. Increasingly involves consultants and mediators.</td>
<td>Regulated competitive bidding with opportunities for sole-sourcing based on special circumstances.</td>
</tr>
<tr>
<td><strong>Vendor Selection Process</strong></td>
<td>Evaluation by formal committee, often using consultants. Also, CIOs or top academic officers have evaluation responsibilities.</td>
<td>Decision by non-IT management. Evaluation by the CFO. Usually involves the CIO. Increasingly, use consultants in vendor selection and evaluation.</td>
<td>Evaluation by program manager and evaluation team. Formal and regulated evaluation process.</td>
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(continued)
Commercial vendors find the market unattractive because of its small size, their lack of familiarity with the specialized needs of higher education, and their lack of seasoned products to offer. Vendors continue to be attracted to the commercial outsourcing market. Services are more profitable than hardware sales, and outsourcing often leads to very profitable consulting engagements.

Specialized vendors are very attracted to the large size of federal contracts. Nongovernment vendors are repelled by the relatively lower profit margins available and by the scrutiny those margins attract.

Vendor Perception of this Market

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<td>It is perceived as smaller and less profitable than the commercial market. It has specialized needs and less standard software is available. Many vendors see their efforts in this market as in the “pioneer” stage. There is no dominant vendor or group of vendors.</td>
<td>Institutions surveyed report they are satisfied with outsourcing vendors. May be less demanding than commercial organizations.</td>
<td>Over the past four to five years, INPUT surveys have recorded a significant decline in customer satisfaction with IT outsourcing vendors. Many cite poor project management as a key problem.</td>
<td>Generally satisfied. Federal program managers are experienced at demanding that their outsourcing vendors perform. Contracts and expectations are generally well defined. Both vendors and program managers face increasing budget oversight requiring demonstrated performance metrics tied to IT spending. Failure to achieve these metrics will result in a freeze on subsequent funding requests.</td>
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Vendor Satisfaction

<table>
<thead>
<tr>
<th>Attractiveness of the Market to Vendors</th>
<th>Higher Education</th>
<th>Commercial</th>
<th>U.S. Federal Government</th>
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</thead>
<tbody>
<tr>
<td>Commercial vendors find the market unattractive because of its small size, their lack of familiarity with the specialized needs of higher education, and their lack of seasoned products to offer.</td>
<td>Institutions surveyed report they are satisfied with outsourcing vendors. May be less demanding than commercial organizations.</td>
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Table 4-1. Comparison of IT Outsourcing and ASP Services by Industry Sector (continued)

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<th>Commercial</th>
<th>U.S. Federal Government</th>
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</thead>
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<tr>
<td><strong>Potential for Market Crossover</strong></td>
<td>Buyers favor vendors with proven success in commercial sectors but require expertise in higher education as well. Skills in the student administration area are critical—and vary between the United States and Canada. Colleges and universities are themselves competing increasingly with commercial vendors.</td>
<td>Buyers prefer vendors with demonstrated experience in their own industry. Vendors with experience in the federal market are respected because federal buyers have a reputation for good program management skills—and high expectations for performance.</td>
<td>Federal government vendors believe their skills are transferable between the federal and commercial sectors. These skills include program management, ability to deal in complex issues, and application of externally documented technical expertise. Commercial vendors consider the government a unique market and usually enter by acquisition.</td>
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<td><strong>Sales Cycle and Marketing Costs</strong></td>
<td>The small size of potential contracts inhibits large investment in sales and marketing directed exclusively at higher education. Sales cycles are long and difficult. This situation perpetuates a higher level of market inefficiency.</td>
<td>The length of the sales cycle and magnitude of marketing costs incurred vary widely. Sales cycles are shorter and vendors’ marketing costs are lower than in the federal market.</td>
<td>Contracts are generally larger, sometimes by an order of magnitude. Sales and marketing activities are very structured and regulated. Bid costs can be very large and the effort time-consuming. Separate financial processes required.</td>
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<tr>
<td><strong>Regulatory Issues</strong></td>
<td>Public institutions in particular are subject to a variety of state and legislative requirements. Vendor bidding processes are often determined in advance by state or other regulatory authorities.</td>
<td>Buyers are subject to few constraints, except for accounting and legal issues. Tax issues can be important: operational expenses are deductible, while capital investments are not, even if depreciable on an accelerated schedule.</td>
<td>Buyers are subject to a wide range of regulations governing the decision to outsource. They are obligated to show cost savings over in-house operations, despite the difficulties of doing so.</td>
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<tr>
<td><strong>Employment Issues</strong></td>
<td>Labor agreements or state law or regulation can restrict public institutions’ freedom to outsource. Higher education in general strives to create a desirable employment environment that may be perceived as incompatible with widespread outsourcing. Labor transfer is more of an issue than in commercial contracts.</td>
<td>Few restrictions apply to IT outsourcing, but outsourcing is often seen as a solution to escalating costs of IT staff recruitment and retention. Transfer of IT labor to vendors is relatively easy. They are governed by similar human resources practices.</td>
<td>Union opposition to outsourcing is a serious problem, one that has become highly politicized. Labor transfer is difficult. Legislation hostile to outsourcing remains a clear possibility despite efforts by administrations to promote outsourcing as a way to supplement a shrinking federal workforce and improve agency effectiveness.</td>
</tr>
<tr>
<td>Decision Making</td>
<td>Higher Education</td>
<td>Commercial</td>
<td>U.S. Federal Government</td>
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<td>Perceived diffuse decision-making processes lead to long sales cycles and diffuse accountability.</td>
<td>As IT outsourcing is funded outside of the traditional IT budgets, the range of potential decision makers grows. CEOs and CFOs often bypass IT directors on outsourcing decisions.</td>
<td>Decision makers must typically adhere to a complex system of procedures and requirements.</td>
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| IT Organizational Structure | May be centralized or decentralized. In large institutions, the “center” doesn’t know entirely what the “periphery” is doing (or outsourcing). | The traditional IT departmental structure is giving way as companies make the transition to e-business, whereby IT is embedded in all business processes. | The government is attempting to adopt commercial practices and structures, including appointment of a top CIO. |

| Rationale for Outsourcing | Access to IT skills, operational efficiencies, and cost savings. | To reduce costs, avoid capital expenditures, “sell” assets, redepoly in-house resources, and increase productivity. | To gain access to modern IT skills, reduce technology risk, streamline operations, save on costs. Need to upgrade technology, gain use of commercial solutions, focus on core missions, save time over cumbersome in-house development and procurement processes. |

| Obstacles to Outsourcing | Fear of loss of control. Concern with regard to privacy of student records and compliance with FERPA, HIPPA, and other laws and regulations designed to safeguard privacy. Concern that vendors may abandon higher education in favor of more attractive alternatives. Desire to make the campus a local, regional, or national employer of choice. | Companies often have difficulty distinguishing between core and noncore functions, or they fear that outsourcing could lead to a loss of control over valuable proprietary assets. New issue of the integration of IT into business processes. | A perception among civil servants that outsourcing equates to the elimination of government jobs. Strong union opposition. Strong anti-outsourcing lobby. Uniqueness of many government systems. Difficulty in making accurate cost comparisons between government-performed and contractor-performed functions. A-76 process designed to facilitate and verify the cost-effectiveness of outsourcing is not working well. |
Table 4-1. Comparison of IT Outsourcing and ASP Services by Industry Sector (continued)

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<td><strong>Appeal of ASP Model</strong></td>
<td>Those who understand the model find it superficially appealing, but there are few proven products or vendors among whom to choose. They see ASP as an attractive, but higher risk outsourcing alternative. Obtaining shared services from another college or university appears to many to be a better alternative.</td>
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<td>Some companies, particularly those in volatile industries like high technology, find the concept of flexible access to highly specific software applications appealing. However, vendor performance has been disappointing, and buyers are loath to risk core applications in untested and risky vendor situations.</td>
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<td>Even more than buyers in higher education, federal buyers are wary of ASPs because of concerns about security and financial viability. Lack of forward visibility is a major concern.</td>
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<td><strong>Familiarity with ASP Model</strong></td>
<td>About half of decision makers are familiar with ASP.</td>
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<td>Most have looked at it in one form or another. Disillusioned with the hype. Find ASPs ill-suited for their needs or risky because of deteriorating financial viability.</td>
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<td>Only beginning to become familiar with the ASP model and have little experience with it. In addition, few ASPs are targeting this market. Very unlikely to succeed.</td>
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