almost half (45 percent) of future opportunities in professional computer services will come from small and medium businesses. This market, for instance, was growing faster than either large enterprise or consumer markets. In the United States alone, there were 22 million small businesses. They typically have simpler business and IT processes. While they are highly diverse and costly to reach, many, but not all, understand that the Web can enable them to compete with much larger firms on an equal footing because everyone is just a click away on the Web.

The keys to success in attracting and retaining medium and small corporations and businesses is the ability to provide standardized solutions at a competitive price. In addition, because of the challenge of effectively marketing to and supporting this type of customer, a strong direct marketing capability is also crucial.

Government Institutions. These organizations are as large as, if not larger than, large enterprise corporations and require high maintenance. Many government operations, such as NASA and NATO, are technology oriented and therefore present an opportunity for professional computer services providers. For example, the largest user of system integration services is the U.S. government. However, ongoing pressure to reduce government spending in general and to cut defense budgets in particular has produced uncertainties in this segment. This trend is truly global. But it may also have a reverse effect for some government institutions that seek to reduce their cost through efficiencies brought about by computer innovations. This could lead to an increased demand for professional computer services. The keys to success with government institutions is to have knowledge of and the ability to leverage the bureaucracy found in such organizations.

Nonprofit Organizations. These organizations may be large or small. They include education providers, community organizations, and religious organizations, to name a few. They offer an opportunity because they require computer service solutions just like any other customer; however, they are typically very price sensitive. The key to success for nonprofit organizations is the ability to provide standardized solutions at the lowest cost possible, as it is for medium and small corporations. Overall keys to success in attracting and retaining customers is knowing how to service customers through knowledge of their specific industry or business, and by targeting the customer segments with the greatest growth potential.

Sales/Distribution The sales and distribution strategies within the professional computer services industry utilize professional sales forces, direct marketing, and/or working through business partners.

Professional Sales Force. Typically professional computer service providers employ trained professionals to sell their services. These resources are usually trained to support a specific industry sector (for example, the manufacturing, financial, or entertainment sector). Industry knowledge is crucial in this services segment. Customers want and expect that their providers know their industry-specific requirements and can translate these requirements into meaningful solutions. They may also have skills for a specific technology or offering. These highly skilled and expensive resources are usually applied to the firm's largest customers. These customers require personalized, face-to-face support, and their contract values can support the cost of the sales force. The key to success for a professional sales force is their ability to market the company's services in the context of the client's industry or business. This requires in-depth industry and technology knowledge.

Direct Marketing. The underlying logic of direct marketing is making direct contact with customers through alternate media (for example, telephone, telemarketing, mail, or the Internet). Many professional computer services companies employ telemarketing and the Internet to sell to customers, especially small to medium-sized customers.

The key to success with direct marketing as a channel is to ensure that customers have ready access to these sales resources. The ability to reach a person, with limited delay, is a must. Many telemarketing functions offer 24/7 coverage, and many firms are incorporating a "call me" facility from their web sites, which allows a customer to receive a call back within a specified period of time.

Business Partners. Business partners are independent distributors who enter into agreements with professional computer services providers to market and distribute all or part of the provider's

solutions. Business partners develop, market, influence, sell, deliver, and/or support solutions with components (hardware, software, and services) from the service company with whom they have partnered. The key to success with business partners is to develop strong relationships with this alternate channel by providing quality services for them to market and offering incentives to ensure your services are reaching the customers. An overall key to success in the area of sales and distribution is to control cost by applying appropriate sales channels to the customer segment.

Domestic and International Markets Global demand for professional computer services was growing tremendously. The United States accounted for about 46 percent of the worldwide market for professional computer services in 1999. Significant growth was expected for the United States and for Europe and Asia, especially in the areas of system integration and outsourcing. Many leading professional computer services firms generate up to one-third of their revenue abroad, so their performance can be affected by growth trends in the real gross domestic product (GDP) of foreign economies. IT spending as a percentage of GDP was growing in every country, and was led by English-speaking countries. France and Germany were projected to join these leaders as well. Asia, including China, represented another growth area, even though it was behind the worldwide average for IT spending (Standard & Poor's, 2001j).

The size and growth opportunities available in international markets continue to attract professional computer services companies. With a significant percentage of revenues tied to foreign markets, many firms are subject to foreign currency risk. For U.S.-based firms, overseas sales are translated from local currencies into dollars. A strong dollar hurts reported earnings, while a weak dollar helps. The European and Asian markets represented significant opportunity for professional computer services providers. This was especially true for outsourcing opportunities across all technology platforms, but especially true for ebusiness.

The key to success in this area is to maintain and grow market share by servicing a diverse set of markets (geographic and industry specific). This is accomplished from a geographic perspective by having a presence in each of the major markets. A service provider should have data centers strategically located in the geographic areas to provide outsourcing services.

Management System The sustained growth of computer services, and in particular, professional computer services, triggered a serious shortage of skilled IT professionals, and this has ignited a war for talent among IT service providers. By 2001, an estimated 800,000 IT positions in the United States and Europe were unfilled for lack of qualified candidates, and fewer college graduates were choosing computer sciences. Professional computer service providers faced the challenge of attracting and retaining these required resources. In an industry where skilled resources are the most important, professional computer services providers must have a management system that attracts and retains their employees by enabling them to realize their business and professional growth potential.

Competition Each of the various computer services market segments is dominated by several large vendors that use their size, reputation, expertise, and marketing prowess to secure the largest contracts awarded by the largest organizations. These companies are likely to bid successfully on the largest contracts in this industry.

Computer services firms are entrusted to install, manage, or otherwise refine an organization's computer networks or perform crucial processing tasks. Therefore, it's rare for a small, unknown computer services firm with limited operating experience to win business with a Fortune 1000 company or other large organization. Opportunities do exist, however, for smaller vendors to service the computing needs of small office, home office, and personal computing markets, where the jobs are less complex.

Customer demand is attracting increasing competition from traditional services competitors and spawning new competition as services providers seek leadership positions across the full spectrum or in elements of the services value chain. The four prevalent types of competitors are:

- Consultants/systems integrators (like Accenture, formerly Andersen Consulting)
- Full-service providers (such as EDS and CSC)
- Local/niche providers (for example, NTT or ADP)
- Traditional IT providers (like HP or Oracle, Sybase)

In its most recent quarterly report, 4Q 2000, Computer Sciences (CSC) continued showing revenue growth in the 12 percent range. It signed $4.4 billion worth of new contracts in the quarter, with new deals up 45 percent in the first half of its fiscal year. Electronic Data Systems had been harder hit by the Y2K slump, but reported 8 percent growth in its most recent quarter. EDS is starting work on a $6.9 billion deal with the U.S. Navy, signed in the previous quarter. The other services industry news was no news at all: the planned takeover of PricewaterhouseCoopers's consulting business by HP was called off, mostly because of HP's inability to pay for the expensive deal with its slumping stock (Hoovers Online Network, 2001).

The following competitive analysis is based on the leader within each of the four types of competitors listed above.

Consultants/Systems Integrators (Accenture). Accenture (formerly Andersen Consulting, a unit of Andersen Worldwide) is a global management and technology consulting organization generating $8.9 billion in fiscal year 1999, ending December 31, 1999. This represents an 8 percent increase over 1998 results and a 10 percent increase after removing the impact of international exchange rates (Accenture, 2001). The company's mission was to help its clients create the client's future. Accenture was repositioning itself by moving beyond consulting to become a network of businesses that will be a market maker of the new ebusiness economy. To execute this mission, Accenture integrated its various industry specializations with its competencies in strategic services, change management, processes, and technologies to provide a total solution for its customers. To serve its strategic deliverables, the company offers its customers various services addressing supply chain management, electronic commerce, customer relationship management, enterprise business solutions, and knowledge management. The partnership also provides outsourcing of business operations through its business process management operation, along with custom programming and system integration services. Accenture lacked the broad services offerings provided by a full services provider such as IBM Global Services.

After a prolonged two-and-a-half-year struggle, on August 7, 2000, an international arbitrator ruled that the links between accounting firm Arthur Andersen and Andersen Consulting be severed immediately. Under the ruling, the consulting arm lost the right to the Andersen name at the end of the 2000 calendar year, an outcome seen as a victory for the consulting group. Arthur Andersen had claimed that Andersen Consulting should pay a termination fee of $14.5 billion to leave the umbrella organization, a claim that was denied. However, Arthur Andersen retained the right to jointly developed software and gained $1 billion in undistributed funds. The split freed Andersen Consulting from an SEC ruling on conflict of interest between audit and consulting that now limits the kinds of consulting work permitted to Big Five accounting firms. Beginning January 1, 2001, Andersen Consulting operated under its new brand name, Accenture, a combination of "accent" and "future" that means to accelerate, to amplify, and to exceed expectations. This name change triggered a massive advertising campaign to achieve brand identification as a worldwide professional computer services provider.

Accenture announced record global revenue for the fiscal year ending August 31, 2000, a 15.4 percent increase over the previous year. The firm had achieved double-digit growth for the past seven consecutive years and eleven of the past twelve years (Accenture, 2001).

The company was known for the following strengths:

- *Global Presence.* Accenture had grown significantly from its formation in 1989, with $1.6 billion in revenue and 21,400 employees, to become a leading management and technology consulting firm, generating $8.9 billion in revenue in 1999, and employing approximately 65,000 people in forty-eight countries. The company claimed 85 percent of the Fortune 100 global companies as customers, which they market to via dedicated sales/consulting resources known for their skills and industry knowledge, and an Internet presence limited to presenting information only (no transactions), and good relationships with business partners. They had effectively marketed and serviced large, small, and medium businesses by providing all-in-one solutions and, to a limited extent, competitively priced standardized solutions. In the e-commerce area, Accenture claimed their clients include more than half of both the Fortune Global 500 and the Industry Standard 100, representing the most

important companies of the Internet economy (Accenture, 2001).

- *Broad Industry Coverage.* Accenture targeted sixteen industry segments, grouped into five global market units: financial services, products, communications and high tech, resources, and government. The firm's government and communications industries led all its industry sectors with 35 percent and 29 percent growth, respectively. The firm estimated its electronic commerce revenue to $1.5 billion in 1999, triple the firm's $500 million e-commerce revenue in 1998. Its consumer and pharmaceutical products, electronics/high-tech, and insurance industries also showed double-digit growth again in 1999. Financial services, which represented the fastest growing global market in 1998 at 33 percent, exhibited 0 percent growth in 1999 resulting from an 18 percent decline in health services that offset an 11 percent gain in insurance. While the communications and high-tech global market also showed significant growth in 1999 at 29 percent, overall it slowed from a 25 percent increase in 1998, reflecting a drop in media and entertainment revenue growth from 31 percent to 4 percent. Professionals in the company's industry form teams with representatives from the firm's competencies in technology, strategy, change management, and process (Accenture, 2001).

- *Strong Research and Development (R&D) Effort.* Through R&D activities, Accenture assesses the business impact of new technologies and applies emerging technologies to create innovative business solutions. The company operated the Center for Strategic Technology Research (CSTaR) and conducted leading-edge research on technologies. Specifically, CSTaR continually investigates how the convergence of computing, communication, and content technologies changes how we work and live in the next three to five years.

Despite these strengths, Accenture exhibited some weaknesses and faced some risks:

- *Change in Top Management.* In September 1999, Andersen Consulting managing partner and CEO George Shaheen resigned his position to join an Internet grocer, Webvan Group, with a compensation package estimated at more than $100 million. Shaheen had served as chief executive since the firm's formation in 1989, overseeing the firm's increase in revenue from $1.3 billion in 1989 to $8.3 billion in 1998. Several industry analysts questioned Accenture's continued success with the departure of Shaheen. In November 1999, the partners appointed a longtime Andersen Consulting partner, Joe W. Forehand, as the new CEO and managing partner. Forehand, who had held leadership positions in eleven of the sixteen industries served by Andersen Consulting, planned to focus on taking Andersen Consulting to its "next level of marketplace leadership." Forehand faced the challenges of the transformation of Accenture into a profitable ebusiness consulting firm, the branding challenge of a name change, and industrywide alteration of the long-standing billing per-hour formula to a fixed-fee market.

- *Competitive Market.* Accenture faced an increasingly competitive market as management consultants, systems integrators, and systems vendors continued to expand their operations into related technology consulting and outsourcing operations. In addition, the Big Five accounting firms now also relied on the profitable consulting within the professional computer services area. Smaller niche firms had also started to provide more-focused competition in localized markets. The company faced increased competition in the ebusiness area because many consulting firms established ebusiness strategies. In addition, the company competed with smaller firms, which were perceived as providing leading-edge knowledge while being flexible, and were increasingly attracting large corporate clients as well as experienced consultants. However, Accenture had strong market intelligence due to is worldwide network of consultants and the relationships it had developed as part of the Andersen Worldwide team.

- *Employee Turnover.* Due to industry growth, Accenture faced a tight market for recruiting and retaining employees. While the company had improved its employee turnover rate somewhat, it still saw top employees in the IT field leaving to join Internet start-ups that offered large compensation packages, typically with significant stock options. IPO slowdowns were expected to temper this trend in 2001 but burnout from long hours and travel did remain issues. This was a sign that Accenture did not have an effective management system to attract and retain skilled resources.

- *Limited Service Offerings.* Accenture had a distinct weakness because it was limited in the services it provided, focusing solely on consulting and systems integration. They did not provide outsourcing services, an area that presented significant opportunity, especially because businesses were implementing ebusiness solutions, and because of the emergence of network computing, both leading to the growth of outsourcing services.

Full Services Providers (EDS). EDS, which takes credit for pioneering the concept of outsourcing nearly four decades ago, was among a handful of large outsourcers offering an end-to-end services portfolio, including management consulting, ebusiness solutions, business process management, and information solutions. Since entering the arena, EDS claimed to have become a global leader in providing ebusiness and information technology services to 9,000 business (large and small, providing all-in-one and standardized solutions) and government clients in approximately fifty-five countries around the world. EDS markets through a worldwide network with a direct sales force with an industry orientation, maintains a limited Internet presence (no transaction capability), and offers good business partner relationships. The company posted revenues of $18.53 billion in 1999 and signed new contracts in 1999 valued at more than $24.9 billion (EDS, 2001).

The company was known for the following strengths:

- *Global Presence and Broad Industry Coverage.* The company has more than 121,000 employees worldwide and brings deep industry knowledge to solve challenges in a wide variety of industries, including communications, energy, finances, government, health care, manufacturing and retailing, and transportation. Business alliances with industry-leading organizations, including relationships with companies such as WebMethods, SeeBeyond, and SAP America, have been key to EDS's efforts to extend its clients' reach in the marketplace with new services.
- *Operational Efficiency.* The company has recently set in motion changes designed to streamline its operations, including reducing its work force and rearranging its offerings, to make it a leaner, more efficient competitor and to update its image as a lumbering, stodgy behemoth. EDS increased its investment in research and development to enable a continuous flow of new services supporting current and future technologies.

The company was known for the following weakness:

- *Aggressive Buying of Market Share.* Several industry analysts were questioning EDS's strategy for competing against outsourcing leader IBM Global Services. EDS was sacrificing profit margin by aggressively buying market share. The concern was that EDS was paying too much to win outsourcing contracts. EDS was paying several times what would have normally been a competitive rate, an example of which was the 2001 contract to assume management of the Sabre's air-travel infrastructure.

Local/Niche Providers (ADP). With nearly 500,000 clients across multiple industries, ADP was one of the largest companies in the world dedicated to providing computerized transaction processing, data communications, and information services for specific niche markets. However, ADP's services were very narrowly focused, allowing them to focus on the customer segments with the greatest growth potential for ADP's service offerings. The company's services included employer services, such as payroll, payroll tax, and human resource management; brokerage services, such as securities transaction processing and investor communication services; industry specific computing and consulting services for auto and truck dealers; and dealer services, such as computerized auto repair estimating and auto parts availability services. All of ADP's computing services enabled clients to process and/or distribute data (their own, ADP's, or that of third parties) and/or to access and utilize ADP and third-party databases and information through the use of ADP's batch, interactive, and client site systems. These services are marketed through a network of highly skilled direct sales force resources. ADP focused on providing custom and standardized solutions at a competitive price. The core services were supported by consulting services, custom programming, and systems integration. ADP's consultancy was very strong due to its narrow focus, which allowed for strong industry and technical expertise in the areas they serviced.

Employer services, brokerage services, dealer services, and claims services were the company's four

largest businesses. Together, they represent over 95 percent of ADP's revenue and are the key strategic elements of the company's future growth. The company was very strong financially, with approximately $6.3 billion in annual revenues, over $4.5 billion in shareholders' equity, over 12 percent growth in revenue and earnings, about 20 percent return on equity, 156 consecutive quarters of record revenues and earnings per share, and 39 consecutive years of double-digit increases in EPS (ADP, 2001).

For fiscal 2000, which ended June 30, 2000, revenues grew 13 percent, to about U.S. $6.3 billion. Prior to nonrecurring charges in 1999, pretax earnings increased 21 percent, and diluted earnings per share increased 16 percent, to $1.31. During fiscal year 1999, the company sold several businesses and decided to leave several other businesses and contracts. It also recorded transaction costs and other adjustments related to Employer Services's acquisition of Vincam. The combination of these transactions resulted in nonrecurring charges of $0.03 in fiscal year 1999. Fiscal year 2000 was ADP's thirty-ninth consecutive year of double-digit earnings per share growth since becoming a public company in 1961 (ADP, 2001).

Strengths. ADP continued to operate from a position of solid financial results and liquidity. Standard & Poor's includes ADP among only ten companies to which it gives its highest AAA rating. The company remained very strong financially, with more than $6.3 billion in annual revenues, over $4.5 billion in shareholders' equity, over 12 percent growth in revenue and earnings, about 20 percent return on equity, 156 consecutive quarters of record revenues and earnings per share, and 39 consecutive years of double-digit increases in EPS. The market potential for the company was still excellent. Employer Services (ES) was its oldest business and was the leading provider of outsourced payroll and human resources management services. However, very good potential remained in every ES market segment as the outsourcing trend continued to gain momentum. For instance, ADP's business that provided payroll and other services to small and medium businesses in North America had over 370,000 clients, yet this represented only a fraction of the 11 million companies plus 24 million home-based businesses in the U.S. market that could potentially use the company's services. About 60 percent of middle-market companies still had not yet chosen to outsource payroll and human resources management. Also, although the company's National Accounts business in North America had grown to over $800 million annually, the market potential among ADP's existing large employer clients was over $11 billion. ADP did not fully leverage these relationships as a distribution channel.

Weaknesses. ADP had grown essentially through an ongoing strategic program of acquisitions rather than through internal growth. Some industry analysts believed that continued growth through acquisition for the company will become increasingly difficult over time and may ultimately lead to the need for costly restructuring. With the continued growth of other competitive organizations, and the advances made in the various technologies required to support customers in the markets in which ADP served, there was an expected increase in competition for the company to deal with in the future. These factors may, at some point, cause the company to be unable to report the same high levels of continuing growth as it had in the past. For example, increased competitive pressures may ultimately prevent ADP from maintaining its string of 156 consecutive quarters of double-digit earnings per share (EPS) growth. In addition, due to its narrow focus and the targeting of local and niche customers, it was weak in addressing the needs of large corporate customers and did not have or need a large Internet presence.

Traditional IT Providers (Hewlett Packard) Much of chairman, president, and CEO Carly Fiorina's tenure at Hewlett Packard (HP) had been focused on the reorganization of a company plagued by high overhead costs and the inability to respond to market conditions. Through a combination of layoffs, product line reorganizations, and a refocusing on the computer services sector, Fiorina transformed HP into a focused competitor. The company's financial results indicated that Hewlett Packard had some success in this area. After posting weak quarter-over-quarter results during much of 1998 and into 1999, results for the quarter ending June 2000 showed a 16 percent revenue increase (HP, 2001a).

However, during the first quarter of fiscal year 2001, revenue grew only 2 percent to $11.9 billion, from $11.6 billion the previous year. Consequently, HP missed the forecast of $12.4 billion on its top line

by 4 percent. HP's earnings per share (EPS) for the first quarter of 2001 were $0.16, compared with $0.40 the previous year. HP's officials blamed a slowdown in the U.S. economy, execution issues, pricing pressure on the PC and printing businesses, and adverse currency effects when explaining why the company missed its forecast. The disparity between the contributions of earnings for each business unit was increasingly steady. Its image and printing segment was of increasing importance to HP. The computing system segment's top line increased 2 percent, representing 40 percent of the total revenue. The third major business division, computer services, posted the highest year-over-year growth rate of 13 percent, and represents 15.5 percent of revenue. However, computer services' operational results declined 19 percent, from $125 million to $101 million, when comparing the first quarter of 2000 to the first quarter of 2001 (HP, 2001b). HP should have been concerned with the fact that they were growing faster in this area with diminishing profitability.

HP credited part of its revenue growth to its eservices strategy, designed to highlight the way HP technology supports the growth of electronic services over the Internet. In general, the company's product strategy essentially utilizes all of the company's products, ranging from inkjet printers and consumer appliances to PCs, workstations, and high-end UNIX servers. This strategy had given Hewlett Packard a focused message that appeared to be winning over some customers. Previously, Hewlett Packard seemed to be outmaneuvered by rivals such as Sun Microsystems and IBM. HP had also implemented an industry orientation to its market strategy, but they were still fundamentally a hardware company. As a hardware company, they had a good ability to build new solutions based on current and future technologies due to their research and development capabilities.

As with all of the competitors within the traditional IT provider category, HP was limited in the range of services it provided. Typically these companies focused on their original core product and wrapped services around that competency. In the case of HP, it was equipment; for Oracle and Sybase, it was software, specifically database management software and services. All were seeking to provide ebusiness support and services but did not have the full range of services as did some of the other categories of competitors. They were weak in the areas of consulting, custom programming, systems integration, and outsourcing.

The Company

Since December 1996, when IBM established IBM Global Services (IGS), IGS had achieved outstanding business results. IBM Global Services had grown its business faster than the industry, and IGS was widely recognized as the largest services company in the world, surpassing EDS, as shown in Figure 9. Previously, ISSC, an IBM subsidiary, had similar results. It was accepted that the success of IBM's services business was a major contributor to IBM's overall business recovery.

IBM Global Services's results in 2000 were not what the company's executives wanted. IGS didn't meet its objectives for the full year or last quarter in

FIGURE 9

Top Five Service Providers in 1999

Company	Type of Services	Revenue (U.S.$ in billions)	Market Share (%)
IBM Global Services	Multisegment*	34.6	8.2
EDS	Multisegment	18.6	4.4
Accenture	Consultancy	10.3	2.5
Computer Sciences Corp.	Multisegment	8.9	2.1
Hewlett Packard	Multisegment	7.9	1.9

*Multisegment = full-service provider (consulting, custom programming, system integration, outsourcing).

Source: IBM (2001c), "Services," **http://www.ibm.com/services/fullservice.html#its**. Accessed: February 19, 2001.

either revenue or pretax income (PTI), and its direct expense grew faster than its revenue. IGS's investment in web hosting was showing promise, with revenue growth of more than 200 percent last year. Web hosting, part of ebusiness services, was a new business and had required significant investment, and it has not yet contributed to gross profit.

In the fourth quarter of 2000, IGS grew 5 percent (12 percent at a constant currency rate), to $9.2 billion, reflecting revenue growth across all services categories. Ebusiness services revenues grew more than 70 percent year over year. Revenue comparisons for IBM Global Services were adversely affected by a year-over-year decline in the Y2K services business and the sale of the IBM Global Network to AT&T in 1999, ending IGS's direct involvement in the network services segment. After adjusting for these factors, IBM Global Services revenues (excluding maintenance) increased 10 percent (17 percent at a constant currency rate) (IBM, 2001d).

IGS had been very successful in increasing its revenue, broadening its range of service offerings, and building its pool of resources through acquisitions and alliances. In the first quarter of 2001, they had acquired Mainspring Corporation, an ebusiness consulting firm, for $80 million; and Informix, a database application and consulting company, for $1 billion. They also entered into strategic alliances with Ariba, a provider of business-to-business (B2B) applications and services, and i2, a supply chain management and ebusiness consulting firm.

In light of the significant opportunities presented by the computer services industry and IBM's desire to transform itself into a service company (both IT and business services) through its IGS business unit, IGS will need to consider changing the way they conduct business. This services orientation will require them to answer the following questions: How can they convert the ebusiness mind share that they have developed to true market share? How will IGS expand its outsourcing service to include the other geographic areas, such as Europe and Asia? How can IGS take advantage of the services opportunities in the small and medium business market segment, and be profitable while doing so? And what management systems investments are necessary to support this business transformation? These and other strategic decisions will have to be made if IBM Global Services is to succeed and win against the competition.

Services

IBM Global Services offers consulting services, custom programming, systems integration, and outsourcing services through three lines of businesses (LOBs). Each line of business is segmented along industry lines, so they have an in-depth understanding of the customer's specific challenges and requirements.

Consulting and Custom Programming Consulting and custom programming services are offered through IGS's Business Innovation Services (BIS) line of business. Business Innovation Services provides business and industry consulting and custom programming. By combining industry expertise with leading-edge technologies, BIS develops innovative solutions to help its customers solve complex challenges associated with business, such as growing revenue and profit, attracting and retaining customers, reducing costs and time to market in inventory, and enabling new business designs and processes.

Business Innovation Services had a network of worldwide consulting practices staffed with highly trained consultants. These practices had an industry orientation and focused on five main industry sectors: communications, distribution, financial services, industrial, and public. The revenue from the consulting practices was steadily increasing, while the revenue from the custom programming services offered by BIS remained flat year to year.

System Integration This service is provided through IGS's Integrated Technology Services (ITS) LOB. ITS understands that improving the effectiveness and efficiency of computer systems is vital to business growth. It helps companies gain greater productivity and optimizes return on the companies' computer investments. ITS builds the technical infrastructure that enables new business initiatives and helps customers keep pace with rapidly changing technology. ITS can help assure the continued performance and value of a customer's systems and networks. They assess the customer's systems environment, define and prioritize initiatives for improvement, and provide support and training to the customer's IT department and end users.

IBM Global Services's integrated technology services had a proven track record of helping customers pull all their information technology systems together. ITS ensures the reliability of systems and

networks, maximizes IT efficiency and flexibility, secures Internet transactions, provides support and training, and maintains server hardware, software, and networks. ITS experts helped companies worldwide to address the total IT picture, from architecture and proof of concept to network consulting and integration. ITS is very strong in providing true end-to-end solutions.

Outsourcing This service is provided through IGS's Strategic Outsourcing (SO) LOB. SO understands that gaining a competitive advantage through outsourcing involves evaluating the customer's business strategy and differentiating core from noncore operations. SO provided its customers with a flexible management strategy, immediate technological improvements through world-class skills, infrastructure, and management processes, as well as ongoing, reliable, and secure management of business operations. SO takes over all aspects of running a customer's data center or companywide computer infrastructure.

IGS's strategic outsourcing was the world's largest and most-experienced outsourcing provider, with over 73,000 servers and mainframes under its management in 133 global data centers. Fifteen of these centers were focused exclusively on ebusiness (hosting a customer's Internet and/or intranet sites). Although IGS SO has this extensive global reach, they do not have a significant outsourcing market share in Europe and parts of Asia. When putting together an outsourcing deal, IGS believes it is imperative that they protect the interests of both IGS and the customer. They seek to maintain an acceptable level of profitability while guarding the customer's investment by ensuring IGS's ability to deliver a full range of quality services throughout the life of the contract.

Supported Technology Platforms

IGS, as well as IBM overall, offers solutions across all technology platforms: mainframe, client/server, and ebusiness. IGS had been the industry leaders and innovators in all three areas. IBM demonstrated this commitment to technology leadership and the rapid delivery of customer solutions incorporating this technology innovation through its extensive investment in research and development.

IBM had led all companies in the number of patents issued by the U.S. government patent office during the eight years leading up to 2000. IBM led all companies again in 2000 U.S. patents with 2,886 issued patents. As of 2000, IBM held nearly 34,000 patents worldwide, including about 19,000 in the United Sates. In addition, the company is one of the largest non-European patent holders in Europe and one of the largest non-Japanese patent holders in Japan. IBM's expenses in research and development were $5,151 million in 2000, $5,273 million in 1999, and $5,046 million in 1998. Although all of its major competitors had good R&D capabilities, no one matched IBM's investment or success, as illustrated by the number of patents held worldwide.

IBM was the leading manufacturer of mainframes and has successfully repositioned this technology, once thought to be a dinosaur and a dead-end technology, as an enterprise server and a mass-storage access device. Ebusiness spans many of IGS's offerings and contributed significantly to its performance in 2000. The company's total discrete ebusiness revenue grew more than 70 percent, to approximately $5 billion in 2000. This increase was driven by ebusiness consulting, ebusiness systems integration, and ebusiness hosting services (a form of outsourcing).

IBM had been focusing on the Internet, ebusiness, and the network economy enabling technology for several years. The network economy was defined as the expected shift of computing to the network, which represented the next major opportunity for IGS: the emerging model of delivering technology and services on an as-needed, pay-as-you-go basis. This was the basis for what was being called the future "network economy" or "e-utility." It was expected to drive a new emerging world economy, calling attention to the distinct economic behaviors that result from global interconnection of information systems.

IGS had sold IBM Global Network Services to AT&T, but just the network infrastructure, circuits, and switching equipment. That business was very competitive and required constant capital improvements and investment. IGS retained the centralized computing capability that would be the true driver of this next generation of computing.

Customers

IBM Global Services understands that customers are looking to professional computer services providers to guide them in transforming their businesses through the integration of business and information

technology strategies. The customers expect to receive value for the dollars spent on information technology. IGS provides that value by helping customers enhance their global reach, strategy execution, competitive advantage, supplier relationship, and customer loyalty. IGS was achieving this once again through its industry orientation, segmenting its customers not only by size but also by the customer's industry (i.e., retail, manufacturing, transportation, and financial).

IGS's broad range of service offerings, industry orientation, extensive research and development capabilities, and strong market intelligence enables them to provide both customizable, all-in-one solutions for large customers and competitively priced standardized solutions for small and medium business customers. IGS services both large companies and small and medium businesses. However, IGS's services, known for their quality and innovation, were more in line with the needs of large companies because of cost and complexity. Therefore, they were not targeting a customer segment with significant revenue potential. However, there was a renewed emphasis on attracting small and medium businesses by including a small and medium sector to IGS's industry alignment.

Sales/Distribution

IBM, including IGS, was world renowned for its superior sales force. For many years, IBM was symbolized by its highly trained and aggressive sales force, known for their skills and trademark blue suits, white shirts, and wingtip shoes. By the mid 1990s, the company's image had softened and there was a more casual approach to sales to match the changing corporate environment, but IBM was still praised for its superior sales force.

IGS had the ability to call upon a wide network of industry specific sales force experts. These resources were also highly trained to market services across industry sectors. This dedicated sales force was skilled and knowledgeable in specific technologies and offerings. IGS ensured the effectiveness of its sales force by requiring them to be certified in specific technology and industry knowledge. The certification was a combination of internal and external education requirements and the successful certification from outside boards (i.e., Microsoft, CISCO, and the Project Management Institute's certifications).

IBM had a worldwide network of telemarketing centers. These centers were established to market specifically to medium-sized customers offering a limited product line (mid-range and personal systems). This strategy had proven successful in North America, so it was being expanded to all the major geographic areas (Latin America, Europe, and Asia).

IBM, including IGS, was also in the process of reinventing itself as an ebusiness. It was using the Internet to market, sell, and deliver certain products. IBM had successfully launched a business-to-consumer site, a business-to-business web site, and an online technical support site. However, these channels were focusing on particular products (mid-range and personal systems, and software that could be delivered electronically). Services were not being aggressively marketed or delivered through the Internet.

IBM had established a strong Business Partner Program. As of 2001, there were approximately 45,000 business partners comprising 90,000 program and contractual relationships across IBM technologies, products, services, and solutions. IGS understood that these relationships were invaluable in the ongoing creation and delivery of solutions that efficiently address customer requirements and market opportunities such as ebusiness. In 2000, revenue growth through business partners was up 11 percent year to year. Business partners generated nearly 35 percent of IBM's revenue in 2000, compared with 20 percent four years previously. A significant portion of this was in the services area. In 1998, business partners were responsible for more than 60 percent of the revenue derived from the medium and small business market, which, many agreed, was a rich services opportunity.

A major strength of IGS was the skills and expertise of its personnel. This is of paramount importance in a services business where a company's skills and expertise are its products. These skills include specific technology knowledge, but even more important, specific industry knowledge.

Markets

IGS's strength was its global reach, providing a customer with services locally and internationally. IGS could provide services consistently across many countries and could be available in multiple locations under a single contract. IGS is the industry's number 1

worldwide provider of professional computer services, with more than 136,000 employees in 160 countries. IGS markets all its services across these global markets. However, it had not fully leveraged its outsourcing capabilities to foreign markets. This was especially true in Europe and Asia.

A major weakness of IGS, which can also be a strength, was its size. It was often slow to bring new services to market due to the size and complexity of the company and its management system. An example of this slow responsiveness was its introduction of ebusiness colocation facilities. Colocation facilities offered Internet start-ups a low-cost hosting facility where they could manage their own application, providing them with the required flexibility, but they did not have to be concerned with the management of the network, infrastructure, and security. IGS introduced this offering at the end of the dot-com boom, thereby losing out on the explosive growth in this area and then being stuck with expensive data-center floor space.

Management System

For many years, perspective employees saw employment at IBM as a great opportunity. Several surveys had identified IBM as one of the best companies in the area of employee benefits. This distinction had eroded since the 1980s, due in part to the company's financial difficulties in the mid 1980s through the early 1990s. Part of the company's recovery plans included mass layoffs and reduction in benefits. Although these were harsh measures, they were effective. By the mid to late 1990s, IBM (in particular, IGS) was once again an industry leader. Other changes in the corporate culture, due to the hard times of the early 1990s, were a flattening of the management structure and the elimination of corporate bureaucracy, which had previously made the company slow to make decisions. The new, more casual management style was more attractive to the personnel the company was then trying to attract.

However, IGS still had not embraced many of the strategies other consulting and services firms were utilizing for some time. These strategies included aggressive stock option programs covering more than just the company's executive ranks, and attractive signing bonuses. A stock option program is an opportunity for employees to share in the company's success over the long term by establishing a financial link to the shareholder value they work to produce. Stock option and signing bonus programs can deliver a competitive edge in employee recruitment, retention, and motivation. In an industry where knowledge represents a key asset, IGS had to continue to recruit and retain top employees. This was a weakness across the industry due to the shortage of IT professionals.

Looking Toward the Future

IBM Global Services is well positioned in the professional computer services industry; however, the company was worried that this position would erode if it did not take advantage of the existing industry trends when making key strategic decisions. The recent financial performance was disappointing, although the company continued to show growth in this important segment for IBM Corporation.

Gerstner, IBM's CEO, stated that the future of IBM would depend on the performance and growth of services, especially in the area of ebusiness, and the emerging "network economy" or "e-utility" model. This would be accomplished by focusing its resources on expanding services across the entire spectrum of ebusiness solutions, and targeting nontraditional customer segments, markets, and geographic locations.

Key IGS executives were proposing one alternative, which was to concentrate solely on ebusiness service offerings. This would limit its expansion in traditional offerings such as client server and enterprise systems (mainframe). IGS's priorities would be to capture a wide set of service opportunities and to secure ebusiness leadership in the marketplace. They would achieve these goals by aggressively increasing ebusiness service offerings, including ebusiness consulting, ebusiness integration services, and ebusiness outsourcing services, while maintaining traditional services.

This strategy was feasible because the Internet and ebusiness services were viewed as the growth engine for this segment, and IBM already had significant brand recognition in this area. They had coined the term *ebusiness.* IGS could turn this ebusiness mind share into true market share by offering all the necessary services a company needs to be successful in the web-based economy. This targeted focus would not dilute IGS resources across multiple service lines,

especially custom application development, which this alternative would abandon. This was supported by the fact that ebusiness revenue grew more than 70 percent, to approximately $5 billion in 2000, with expected strong growth in subsequent years.

This alternative could win against the competition because of IGS's existing reputation as a world leader in professional computer services. In addition, the shift of resources to focus on ebusiness service offerings would assist in addressing the shortage of skilled resources and would offer another advantage over its competition (consultants/system integrators, full service providers, local/niche providers, and traditional IT providers). IGS would be positioned as the leader of ebusiness services, the most rapidly growing segment of services. IGS was better than the competition in several areas. Although all the competition had embraced ebusiness (Accenture in the area of consulting services, EDS in the area of outsourcing, and HP in the area of hardware), none had the capability to provide IGS's broad range of ebusiness services. Plus, by focusing its vast resources solely on ebusiness, IGS could bring solutions to market more rapidly. This strategy also has the potential of laying the foundation for exploiting the emerging network economy or e-utility model. This is the reshaping of the IT infrastructure from one that is largely internally built and managed by a company to one that is built and managed by external service providers for on-demand use by a company. This could truly differentiate IGS from its competition. IGS's ability to market using all three challenges of a dedicated professional sales force, direct marketing, and business partners was another advantage.

A major drawback with this shift away from being a full professional services provider to one focusing solely on ebusiness offerings was that IGS would be losing potential future revenue from traditional professional computer services sources. In addition, customers contracted for other services often contract with their existing service provider as they migrate to ebusiness. A way around these drawbacks would be to ensure that IGS is truly positioned as the world leader in ebusiness, which would be accomplished through a worldwide promotion strategy.

Other IGS executives were proposing another alternative, which was to expand the service offerings to provide a full range of professional services, but with an emphasis on ebusiness, network computing, and the future network economy. IGS would offer consulting, systems integration, and outsourcing to accommodate a client's needs and once again abandon a significant focus on custom application development. This strategy was feasible because the Internet and ebusiness services were viewed as the growth engine for this segment, and IBM already had significant brand recognition in these areas. However, this strategy would not limit the targeted services. IGS would provide a full range of services from the traditional client/server and enterprise systems (mainframes) to the emerging ebusiness and the future network computing. This strategy is feasible because it would continue to attract clients with a broad range of requirements, many of whom have not embraced ebusiness or are at various stages of their migration to ebusiness and still require other services. It is also feasible because of IBM's extensive investment in research and development, which ensures a continuous flow of services needed to support this type of strategy.

This alternative could win against the competition because of IGS's existing reputation as a world leader in professional computer services. IGS's brand recognition and global reach provided them advantages in pursuing these opportunities. IGS's competition (consultants/system integrators, full service providers, local/niche providers, and traditional IT providers) did not have the same name recognition with ebusiness as IGS enjoyed. They all faced the increased demands of their large customers to provide all-in-one solutions and at the same time provide standardized solutions at a competitive price, an area in which IGS held an advantage. IGS was better than the competition in several areas, but especially in the ability to provide a continuous flow of new products and services through their extensive investment in research and development (over $5 billion per year) as compared to the research and development of competitors such as EDS and HP.

A drawback to this strategy is the overextension of the company's resources to attempt to be all things to all clients. The size of the company has been a weakness before; offering too broad a range of services can negatively affect IGS's speed in bringing new services to market. Another drawback of offering such a broad range of services is the cost required to build and maintain the required skills, central delivery centers, facilities, and equipment. Ways around these drawbacks are IBM's continued investment in research and development and a continued evolution

of the company's management structure, allowing the large company to have the speed of a smaller firm.

Based on these arguments, it was difficult to decide which alternative to choose, or whether to consider a third alternative. In general, Gerstner and the IGS executive team needed to decide which strategic decisions to implement in many different areas. There were many significant decisions to be made relative to which customers, services, and geographic markets to focus on, to name just a few. IBM Global Services can provide a broad range of service choices for companies of all sizes in many different geographic areas. The challenge is to decide which combination of alternatives will take advantage of industry trends, differentiate them from the competition, and secure the continued growth and success of IBM Global Services.

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