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## ROSS SCHOOL OF BUSINESS

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**PROFESSOR**    : **Alan Afuah**

**STUDENT**       : **Sanjay Khurana**

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University
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Business
School

# Analysis of Computer Services Industry

By

**Sanjay Khurana**

A research paper submitted in fulfillment of the requirements for 3 credits, Graduate Independent Research Project - CS750, Section, Winter Term 2000. Professor Allan Afuah, Faculty Supervisor

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## EXECUTIVE SUMMARY

The goal of this study was to analyze the changing competitive landscape in computer services industry and formulate recommendations on how firms in this industry can improve their competitive position. Furthermore, the report addresses the question: Can services firms that have performed well in the past thrive in the face of the Internet? To answer these questions, this report analysis characteristic of computer services industry, strategy of the seven firms and evaluates trends in various market segments. Research was conducted under the guidance of Prof. Allan Afuah using electronic databases in the Kresge Library and the Internet.

## *Industry Characteristics*

- The most important characteristic of the computer services industry is the scarcity of skilled labor. IT professionals usually have high bargaining power and their salaries rise at a much faster rate than salaries of professionals in other industries. Increasing sophistication of rapid application development tools & fourth generation languages, maturity & decreasing cost of packaged software implementation can reduce the size of programming teams and diminish the effect of this dominant industry characteristic

- Companies that can rapidly develop capabilities in a particular technology, devise methodologies and brand them in the market can create barriers to entry for their competitors. As the speed with which new technologies and products being introduced in the market continues to increase, the first mover advantage will become the dominant characteristic of the IT services industry

- The key differentiating factor in the service industry is the brand of the provider. Companies brand their services by trade marking their processes and methodologies, getting certification from a software vendor, and obtaining quality certification from' organizations such as ISO and SEI (Software Engineering Institute). Companies that have high brand recognition can seek a premium for their services.

## *Threats*

A major threat of computer services industry is the maturing of offshore companies. Overseas services providers especially in India and Philippines are becoming increasingly competitive in providing services that are equivalent to the level provided by US firms. Of the approximately 10 software companies certified for SEFs CMM Level 5, four are in India (Infosys, IBM Global Services India, NUT and Wipro Infotech). As high-speed communication channels get cheaper, companies in India and Philippines will be able to provide high-quality software development at lower costs than domestic firms.

## *Findings*

Seven companies were analyzed for this study. These were AnswerThink, Complete Business Solutions, Infosys, Keane, Sapient, Scient, and USWeb/CKS. The financial performance of these firms was compared over a three-month period. During this period, market capitalization of three firms increased the most: Scient (349%), Sapient (267%) and Infosys (206%). A look at the strategies of these three companies reveals some similarities.

*Focus:* All three companies were focussed in their service offerings. Of the three Scient was the most focussed, providing only eBusiness and web marketing strategy. Sapient focuses only on financial services, government, telecommunications, manufacturing, energy and ebusiness. Infosys, the least focussed of the three is gradually targeting eCommerce development.

*Differentiated:* Infosys has differentiated itself by developing very high quality processes and getting certification from Software Engineering Institute as well as International Standards Organization. Infosys is only among ten other software companies in the world that have achieved Capability Maturity Model (CMM) Level 5 rating. Sapient is differentiated in its fixed-time, fixed-price offering, and is amongst less than 5% of computer services firms that offers such guarantees.

*Internal capability development:* The three firms have not developed capabilities through acquisition or alliances. Instead, they have relied on training or selective industry recruiting to develop new skills. Scient hires the best in the industry and sells "Dream Team" to its customers. Infosys hires PhD's for developing education material for its employees and trains its employees continually. Of the three, only Sapient has made any acquisitions and these have been very selective, a web design and marketing companies called Studio Archetype and Adjacency, respectively.

Descriptions of strategies of various firms are listed in later sections and are summarized in Summary of Strategies .

## Conclusion and Recommendations

As Internet is drastically changing the competitive environment, computer services firms have to quickly develop capabilities in providing eBusiness solutions. In addition, they have to differentiate themselves from the numerous startup-consulting firms that are focussed on offering Internet applications. Computer services firms should leverage their experience in legacy systems and develop skills in either web enabling legacy applications or integrating these applications with eCommerce software.

- *Focus on verticals:* Computer Services firms should focus on industries such as insurance, automotive or retail where they have considerable experience in application maintenance and implementation. By developing a "practice", these company can provide value-added services to customers and seek a premium for its services
- *Brand methodologies:* Firms should trademark their methodologies to differentiate themselves from their competitors
- *Build capabilities:* In order to raise barriers to entry in their market segments, services firms should develop capabilities in emerging technologies. This can be done by:
  - Employee education
  - Alliances formation with software vendors
  - Acquisition of other IT services companies

## SUMMARY OF STRATEGIES

The following chart gives the positioning of various competitors in the value chain.
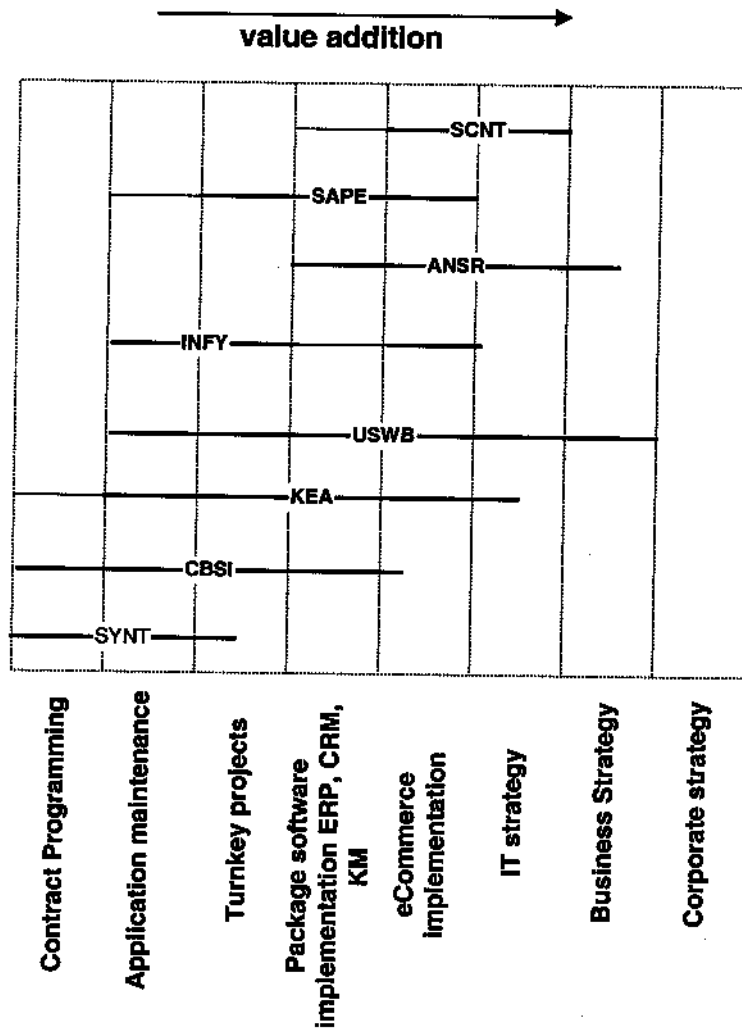


ANSR - AnswerThink Consulting Group
CBSI - Complete Business Solutions
INFY - Infosys Ltd
KEA - Keane Inc
SAPE - Sapient
SCNT - Scient Corp.
SYNT - Syntel Inc.
USWB - USWeb/CKS

**Figure 1:** Comparative positioning in the industry

- Expanding global reach. The company has 36 branch offices including facilities in Japan, Singapore, the United Kingdom, Germany, Belgium, and Philippines. The company currently employs about 4,800 people of which 3,500 are in US
- Developing capabilities through acquisitions. CBSI has made six acquisitions so far:
  - ➤ Computer training, installation and maintenance: Synergy Software, Costello & Associates
  - ➤ ERP: Sudbury River Consulting Group, BPR Management, Claremont Technology Group
  - ➤ SCM and eCommerce: Impact Innovations
- Finding a niche in vertical segments. The company has developed capabilities internally as well. It has taken advantage of the knowledge its worker acquired while working at clients sites and recently started practices targeted on verticals such as Public Retirement System Services

Currently the company has very broad positioning. With its services spanning the entire spectrum, from E-commerce to contract programming and training, CBSI appears to be focussing on too many things. However, if past performance is a good measure of its future, the company will be able to transition itself in the emerging technologies and survive the next round of tumult in the IT services industry.

## Infosys Technologies Limited (INFY)

Most famous for being the first Indian company to be listed on the NASDAQ, this highly profiled software company is significantly different from its competitors.

- Infosys achieved Level 4 rating on the CMM Model, awarded by the Software Engineering Institute (SEI) at Carnegie Mellon University in 1997. SEI has given this award to less than 30 software companies worldwide
- The company has perfected the Global Delivery Model (GDM). It produces software where it is most cost-effective and sells where it is most profitable. While 99% of its sales originate outside India, 80% of its workforce is in India. The differential in wages between India and US/Europe and the favorable tax (13.1% in 1999) structure makes its operations very profitable (operating margin was 29.6% in 1999)
- Off-site development allows the company to reuse code, develop domain expertise and continuously upgrade its project management skills
- By offering excellent working conditions, housing, loans and employee stock options, INFY has kept its attrition rate to around 10%, compared to the industry standard of over 25%
- The company's ability to attract and retain talent is one of its strongest attributes. It is very selective in its recruiting. In 1999, it hired only 1,600 of the 74,000 applications it received.

- Plan consists of the management consulting part of Keane and comprises its acquisition of Bricker & Associates and Amherst Consulting. 9% of the 1Q 1999 revenues were derived from this segment

- "Build" comprises application development and package implementation services focussed on CRM, data warehousing, and e-solutions. This segment contributed 28% of the company's revenues in the 1Q 1999

- "Manage" consists of application outsourcing and made up 32% of 1Q 1999 revenues.

The company has partnered with Sterling Commerce, Cerebellum Software that will enable it to develop expertise in eCommerce and web-enablement products. It is improving its internal efficiency by installing a tool called Account4 Professional Services. This tool will provide its 8,500 employees real-time access to their work content, time and expenses. Keane is widely recognized as a fast growing company but is currently facing a challenge of replacing its Y2K revenues (which accounted for 35% in 1998) with new projects. The company has forecasted zero growth in 1999.

## Sapient Corporation (SAPE)

Sapient's core competence lies in proposal writing, costing, people and knowledge management. It is now focussing exclusively on eBusiness implementations and has developed creative, marketing and technical expertise in this area. Sapient's has a unique growth strategy that can be summarized as follows.

- Fixed price and fixed time delivery. It is among the 5% of IT services firms that guarantee fixed price and a firm due date for every project

- Leverage vertical industry experience and reuse code. The company focuses on six industry segments, financial services, government, telecommunications, manufacturing, energy and ebusiness. This enables it to develop its worker's business expertise that can be converted to best practices and marketed to new clients. It also allows the company to reuse code and save development time. Sapient's industry focus and fixed-time/fixed-price offering attract mission critical projects where it can command high margins

- Focus on rapidly growing IT sectors. Sapient implemented its Intranet in late 1994 and is perfectly positioned to take advantage of this internal expertise in the current eCommerce trend. Sapient conducted workshops on doing business on the Internet as early as 1996.

- Develop methodologies for service. Sapient has branded its QUADD (Quality Design and Delivery) methodology, which it uses on every project. QUADD involves extensive interaction between the client and the entire team during project startup Clients have commented that these initial brainstorming sessions enhanced their learning and significantly increased the success of the project

Scient defines itself as "*the first e-business systems innovator*" and has turned down assignments on non-eBusiness IT related work. This has focused the company and built its reputation in the market as a expert in eBusiness. Scient wants to do everything required to take its client's business to the Internet. This includes formulating its business strategy, IT strategy, e-commerce knowledge, infrastructure implementation and maintenance. The company is not focussing on technology as much as it is on strategy and in this regard compares itself to high-end strategy consulting companies. It promises project delivery in 'web-time' i.e. within six months.

So far, Scient strategy seems to be working. It has acquired some very high profile clients such as Realtor.com, Chase Manhattan, eBay, PlanetRx and innoVisions.

## USWeb/CKS (USWB)

USWeb's strategy has been to develop capabilities through acquisition but it has lacked focussed in doing so. The company started as a franchise of web hosting companies in December 1995 but soon started acquiring its affiliates together with other Internet services companies. It then moved on to acquire database integration, data warehousing, network infrastructure and Internet advertising companies. USWB recently acquired a top-of-the-line strategy consulting company Mitchell Madison Group (MMG) and now wants to be a one-stop-shop that can transform any business into the digital economy. So far, USWB has made over 40 acquisitions. The company's eight practices offer everything from custom application development to business strategy consulting.

The company faces the challenge of integrating these acquisitions. Although analysts covering the stock are very optimistic, the stock price did not improve (around $20) after MMG acquisition announcement. USWeb has too many service offerings and this might be forcing it to spread its resources generating significant capabilities in a single area. The company needs to focus attention on selling its high-margin services and showing some profitability.

## Custom programming

These firms provide clients with programmers on a 'time and material' or per hour basis and are called "body shops". Customers demand custom programming services when their personnel lack the necessary IT expertise to implement projects or when the projects require additional staffing but the cost of hiring staff permanently cannot be justified. In the past year, growth in this segment is slowing. There are two major reasons for this trend:

- Easy availability of prepackaged software, 4GLs (fourth generation languages), and application development tools (such as object oriented techniques) which decrease the demand for custom programming

- Changing attitude of customers from in-house integration of software and hardware to dependence on system integrators for this kind of work

## Systems Integration

These companies design applications and systems that satisfy the unique requirements of a customer. Integrators are usually involved in all the stages of the project: planning, design, development, implementation and maintenance. The two major markets of system integrators are the US government and commercial. Combined worldwide revenues for systems integrators in 1997 were $39.4 billion. This is expected to increase to $60 billion by 2001 at a compound annual rate of 11.4%.

## IS Consulting

In US, consulting service industry is projected to grow at 14.8% to $55 billion by 2003. Most of this revenue will be earned by companies providing consulting services in IT strategy and IT design. The focus of consulting firms will be E-Commerce, Customer Relationship Management, Supply Chain Management and Process Improvement.

## Outsourcing

Outsourcing is a contractual relationship with an outside vendor, which performs some IT functions for the company. It usually involves transfer of assets – facilities, staff and hardware. As part of contract the outsourcing vendor typically agrees to purchase the client's computer center facilities and hires its data processing employees. There are three types of outsourcing contracts:

- Outsourcing involving data centers (mainframe, midrange and client-server hardware), wide-area networks, application development and maintenance, end-user computing and IT-enabled business processes

- Selective outsourcing – companies or business units or specific locations outsource select IT activities, for example help desk functions

- Business process outsourcing – outsourcer manages an entire business process or function, including staffing and technology

# INDUSTRY ANALYSIS

The basic source of profit is the creation of value for the customer. The value of a product or service is measured by the price a customer is willing to pay for it. This surplus of value over cost is distributed between the customer, producer and the suppliers to the producer. The stronger the competition, higher the share of surplus retained by the customer. In addition, higher the bargaining power of suppliers, lower the share of surplus retained by the producer. Therefore, the profits of the firms in an industry are determined by three factors:

- the value of the product or service to customers
- the intensity of competition in the industry
- the relative bargaining power at different levels of production

The basic premise of industry analysis is that the level of industry profitability is neither random nor determined completely by industry-specific conditions, but is partly determined by the industry structure and partly by the firm's strategy and positioning. To analyze the industry environment it is important to determine the characteristics or the driving factors in the industry.

## Characteristics of the Computer Services industry

The most important drivers in this industry are:
- Shortage of skilled professions
- High salaries and novel recruiting strategies
- Significant first mover advantages
- Differentiation through branding
- Rapid obsolescence of technology and software
- Knowledge intensive nature of the industry
- Exposure to new technology, an important incentive for rewarding professionals
- Importance of size in getting outsourcing contracts

### Shortage of skilled professionals

The most important characteristic of the computer services industry is the chronic lack of skilled manpower. Information Technology Association of America (ITAA) estimates the shortfall in 1999 to be 346,000. Other surveys have estimated shortage of 400,000 and 600,000 personnel. US Department of Commerce projects the shortage of IT workers to reach 1.6 million by 2006. This problem does not affect US alone but the entire world. By 2002, Western Europe will need an additional 1.4 million skilled IT workers.

This lack of skilled professionals results in unique industry dynamics.
- High turnover rates– industry average is 19% (over 25% in some companies)

The industry life cycle curve for technology (see figure 3) is highly compressed on the x-axis, i.e. the time it takes for a technology to go from emerging phase to stagnant phase is just a few years. ERP is currently in its slowing growth phase and CRM is turning from emerging to growth phase. ERP was considered emerging technology in mid-90s, therefore its life cycle will be approximately 7 years. Client-server systems were in high demand in early to mid 90's and its life cycle was approximately 8 years. Companies that can develop capabilities in new technologies quickly and market themselves can reap substantial profits before the technology enters the stagnant phase.

Early starters develop brand recognition in a particular field that helps them in getting contracts. Good brand recognition is also required to attract talent. By moving fast and developing technical capabilities, project managers gain experience in implementation that can reduce cost and increase efficiency. This can raise the barriers to entry even higher.
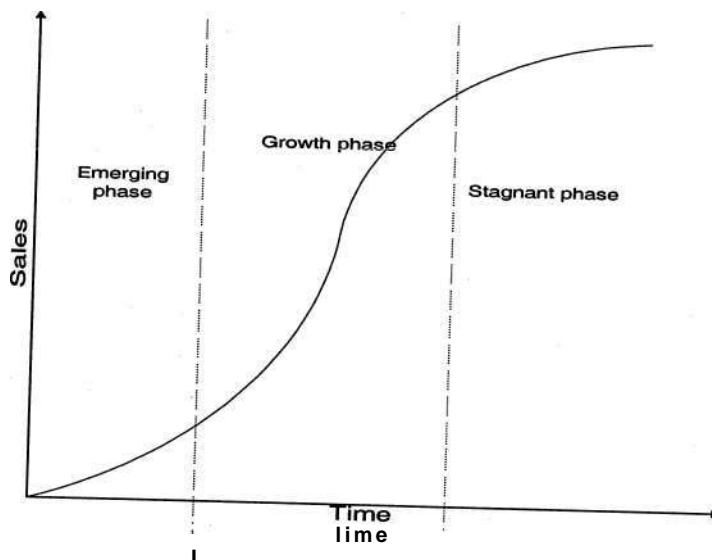


**Figure 3:** Industry Life Cycle

**Differentiation through branding**
Established companies have an advantage over new entrants by virtue of brand recognition and customer loyalty in an industry where products are undifferentiated.

As the end product in services is not differentiated, an application developed by Keane would function similar to the one developed by IBM, the process of development and the perception of quality are differentiating factors. This perception is embedded in the 'brand'. High brand recognition enables a company to seek premium for its services. Brand recognition promotes customer loyalty and is crucial in attracting talent.

Computer services firms differentiate themselves by:
• Branding their software development processes and methodologies
• Partnering with product vendors and getting themselves "certified"

## Is the shortage going to continue forever?

Although there is a shortage of skilled IT professionals currently, there is some evidence[1] that it may not last forever. IMS programmers were in short supply during the early 80's. When IBM introduced DB2, the market was suddenly flooded with IMS programmers. The scenario repeated itself during the Y2K remediation period when COBOL skills were in short supply initially, but were available abundantly after Y2K projects came to an end.

## IT Professional Services Industry Survey

Following are the highlights for the survey conducted by Updata Capital Inc. (www.updata.com) on IT Professional Services. [Cost of the survey is $695]. The results of this survey is the standard performance measurement statistics and operating productivity comparison for firms providing technical staff to commercial (non-government) clients. These firms represent $6 billion out of the estimated $40 billion industry.

- Revenues in 1998 increased 34.3%, 41.3%, if the cost of acquisitions was not factored. In 1997, the growth rate was 45.5%. Forecast for 1999 says that revenue will increase at 34.1%.

- Average operating margin generated by the industry was 11.4% in 1998. In 1997 this was 10.2%. Growth in operating margin is expected to be 44% in 1999.

- Mainframes continue to dominate the platform for work done and accounted for 33.3% of the revenue

- Revenues from Y2K remediation were 12.3% compared to the forecasted 18.4% for 1998. The forecast for 1999 is 9.5% for the total industry revenue

- Web development and e-commerce made up a combined 11.9% of the industry revenue. Network services accounted for 5.4%

- Oracle accounted for 75.5% of database management work while DB2 was 18.9%

- 45.3% of the survey participants used C++ and 45.2% used COBOL. 49.1% used Visual Basic and 9.4% Power Builder

- Mainframe was the platform of choice at 45.2% followed by Windows NT at 30.2% and UNIX at 23.2%

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[1] History of IT professionals in US
One can look at the past 4 decades at try to explain the shortage that exists now in this industry. The conclusion appears to be the mixed fortunes of IT industry since 1950s that has led to an inconsistent growth in the supply of IT talent. In 1950s, US government's obsession with space race led it to subsidize students, support technology labs, schools and colleges. This resulted in huge growth in talent pool in 1960s as universities pumped out large numbers of technically qualified people. The end of 1960s saw the end of space war and late 60s and early 70s saw a recession. Government was no longer creating jobs for IT professionals. The 1980s saw an increase in demand IT jobs as defense industry boomed again. The number of computer science graduates peaked at 40,000 in 1986. This increase was followed by an economic downturn in late 80s. Cold war ended, and defense industry starting job cuts. Early 90s saw massive IT layoffs with DEC and IBM leading the way. Mergers and restructuring saw a reduction in jobs everywhere. IT was treated as a cost center and not as an asset. In mid 90s, only 25,000 computer science students were graduating every year.

# PORTER'S FIVE FORCE ANALYSIS OF COMPUTER SERVICES INDUSTRY

**Barriers to entry**

Low

Capital Requirement - Low
Economies of Scale - Not major
First mover advantage - Yes
Product differentiation - Questionable

**Buyer bargaining power**

High

Buyer's price sensitivity - high
Bargaining power - high

**Supplier's bargaining power**

High

Low for immigrant workers, otherwise high

**Five Forces**

**Rivalry between established competitors**

High

Concentration - Low; CR4 - 25%
Diversity of competitors -- Highly diverse
Product differentiation - High
Excess capacity - Low - negative
Exit barriers - Small
Ratio of fixed to variable costs – low

**Threat of substitutes**

High

Buyer propensity to substitute - High
Relative price performance of substitutes - Same

**Figure 4:** Porters Five Force Analysis

*A note of concentration:* Seller concentration refers to the number of competitors in the industry and their relative sizes. It is usually measured as four-firm concentration ratio, CR4, i.e. the market share of four largest producers. In 1997, total spending on IT services was $132.4 billion. The share of top for companies (EDS, Andersen Consulting, CSC and GE Capital ITS) was 25.7%. As a technology matures with time, seller concentration also increases. Concentration in computer services is high for older technologies.

# ENTERPRISE RESOURCE PLANNING

ERP growth is slowing. In 1998, revenue growth of PeopleSoft decreased from 63% to 30% and SAP slowed from 49% to 30%. However, Gartner Group does not expect any major long-term downturn in this market, i.e. ERP will not stagnate in the short term. Gartner attributes the slowing growth to Y2K freeze, and previously booming sales that were unsustainable. ERP will make inroads into vertical markets where it has not made a significant impact so far. According to AMR Research, total ERP market will increase to $50 billion by 2002.
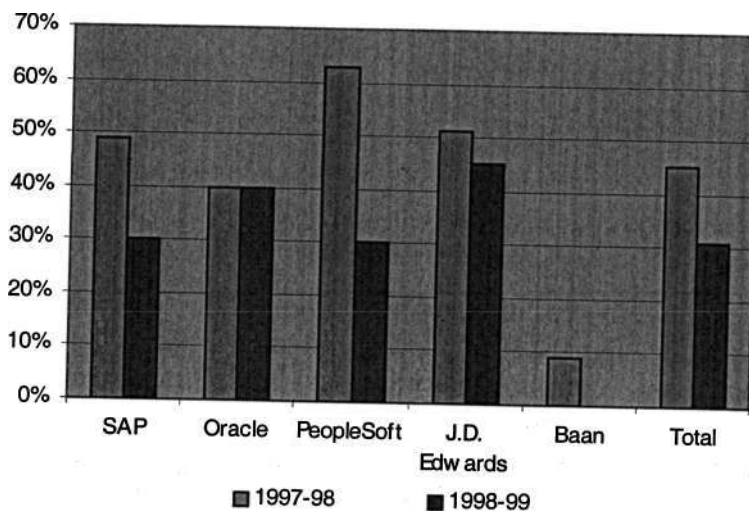


**Figure 6:** Slowing Growth of ERP vendors.
Total revenues: 1997 - $14.2 billion; 1998 – $20.2 billion; 1999 – $26.8 billion
*Source: AMR Research*

All ERP vendors are extending their application suites beyond the traditional manufacturing, financials and human resources modules. New functionality includes Customer Relationship Management, Sales Force Automation, Supply Chain Management, and E-Commerce applications. Hosting ERP applications on the Internet is also becoming popular.

With most of the big installation already in place ERP vendors are now focussing on small and mid-size companies. As ERP packages for these companies tend to be too expensive, software firms are coming up with new strategies to make these applications attractive. Popular strategies are reducing prices, introducing advanced planning and optimization modules as integrated components of the package, providing supply change management at a fraction of the cost of third-party software, outsourcing and application renting services.

- Oracle is bundling a light version of Supply Chain software from i2 Technologies. The company has also collaborated with Manugistics Inc, another Supply Chain vendor. In addition to these partnerships, Oracle is also developing advance planning and scheduling engine that will target mid-sized companies.

## ERP Outsourcing

Rising costs of IT personnel and their decreasing availability is causing many companies to look for outsourcers that can install and maintain their ERP applications. A popular mode of outsourcing is Application Renting where service providers host the software for a monthly fee. More on this in section titled "Application Renting".

## Other ERP vendor trends

- PeopleSoft recently moved into online procurement market by making an $8 million equity investment in Commerce One Inc. PeopleSoft plans to integrate the e-procurement services into its PeopleSoft Business Network and will be responsible for selling Commerce One software into its existing customer base

- Baan, which lost more than $150 million last year, has collaborated with IBM to resell DB2 to its customers. IBM will bundle Baan software into its DB2 Universal Database, link Baan Front Office with Lotus Notes, and implement Baan's e-commerce applications

## ERP in vertical markets

ERP vendors have gained significant experience in some industry segments and they are beginning to incorporate this learning into their applications. This is value-addition for the customer and reduces time and resources required for implementation. It also raises barriers to entry for competitors in that industry segment. Applications focussing on the following verticals are beginning to emerge:

- Utilities customer care and billing

- Telecommunications billing

- Insurance claims processing

- Service industry work management and billing

- Retail merchandising

- Governmental tax and other revenue systems

The entry into vertical markets is gradual and usually goes through several stages. Gartner Group describes these stages as follows:

- *Stage 1:* Marketing departments starts calling a particular industry, strategic. No resources are allocated for industry specific development

- *Stage 2:* Vendors start customizing for specific industries, example average balance for customers in the banking industry

## SUPPLY CHAIN MANAGEMENT

With convergence of essential business pressures - global competition, decreased product life cycle, and improved communication networks, industry structure is changing rapidly. These pressures are motivating companies to form Strategic Supply Chain Alliances (SSCAs) that can substantially reduce time-to-market for their products, share risks and resources, realize manufacturing efficiencies, and decrease cost. Central to SSCA is Supply Chain Management that is becoming a focus of enterprises to realize greater efficiencies.

Companies that have implemented ERP are realizing that they require additional SCM software worth $100,000-$200,000 to realize real business optimization. ERP users want their systems to schedule production, reduce lead-time and optimize order management. With market getting saturated in their conventional segment, ERP vendors are broadening their offerings with advanced planning, optimization and integrated SCM that is cheaper than stand-alone SCM software. ERP vendors are either partnering with SCM suppliers and/or developing SCM modules internally. Consequently, the SCM is likely to become highly competitive in the near future.

Currently Manugistics, Numetrix, Chesapeake, i2 and Logility are the major software producers of SCM. The total revenue in this segment totaled $2.6 billion in 1998 and is expected to increase to $3.9 billion in 1999. According to AMR Research the revenue in 1999 could be as high as $4.5 billion with Supply Chain Planning (SCP) component accounting for 58% and Supply Chain Execution (SCE) 42%.

SCP handles long-term decisions (weeks to years in advance). These include supply chain network design; supply, demand, manufacturing, and distribution planning; forecasting and scheduling.

SCE handles decisions that are made hours to weeks in advance of a job. It includes order, inventory, warehouse, transportation management, and international trade logistics.
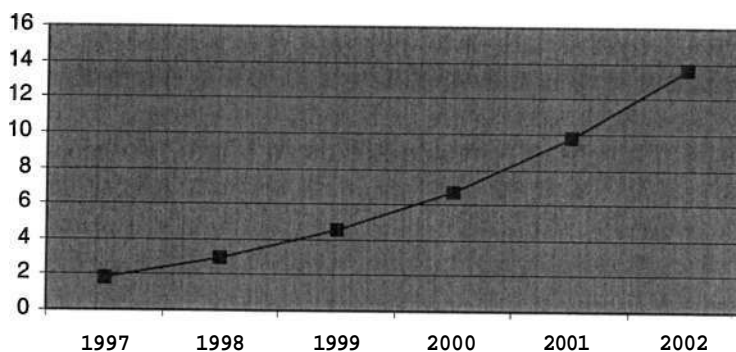


**Figure 9:** Supply Chain Revenues ($ billions)
*Source: AMR Research*

## APPLICATION RENTING OR APPS HOSTING

An emerging trend in the computer services industry is application renting. As more and more companies realize that they do not have the required IT skills they are turning the management of their applications to outsourcers. The target segment for this market is small and mid-size companies. Competition is expected to be fierce with traditional outsourcers, system integrators, application developers and web-based application outsourcing service providers (ASP). Already, several companies are in this business. Forrester Research estimates this market size to be $6 billion by 2002 and some other analysts think it could as big as $20 billion by 2001. The applications that are hosted are usually ERP, sales-force automation, and E-Commerce.

USInternetworking is one of the most prominent ASPs. The company was founded in 1998 and has a market capitalization of $1 billion. It manages ERP applications from its four data centers. X-Collaboration, Resource Partner Inc., Synnex Information Technologies, and Merisel Inc are following USInternetworking's model closely.

Another company following USInternetworking's footsteps is Corio Inc, based in California. Corio implements PeopleSoft's ERP and business applications and rents them over the Internet on a per-month user fee. Corio maintains all aspects of the implementation including help desk, administrative services, servers, and client software. All these services are provided remotely and the company's clients see only routers and desktop computers.

EDS has tied with SAP to host it applications and enable customers to access the modules over a frame relay network. SAP and EDS already have an agreement with Sebastiani Vineyards Inc to provide such a service. Pricing is done on a per-user, per-month basis and ranges from $ 425 to $ 600, depending on the number of licenses or seats. The minimum contract duration is 36 months. EDS and SAP have integrated their help desk functions to offer customer support. While EDS hosts the applications provided by SAP, customers can select any certified SAP partner or consulting group for implementation and rollout.

Another startup AristaSoft Corp. has collaborated with JD Edwards to offer ERP applications on a subscription basis to small and midsize high-tech companies. AristaSoft launched its application portfolio called Application Utility Service in July 1999. It charges between $500 and $900 per user every month and implement systems tailored to company's needs, host them and provide maintenance and customization. Other companies following the same model are iXL Inc. and IBM Global Services. Oracle Corp. together with Cisco Systems Inc. is planning to provide a similar service.

outsourcing in 1997 was $44 billion. With an expected growth rate of 11.6% this will increase to $68 billion by 2001.

## Contracts

Companies in the outsourcing industry usually sign contracts that mention time and financial value. In addition, companies have a high rate of contract renewal rate; the industry standard is 90%. Vendors recognize revenues based on the amount of services provided or time expired. As firms have good knowledge of contracts and renewal rate, they can accurately predict their earnings and manage their expenses. Financial results of companies in this industry are therefore highly predictable.

## Megacontracts

Some of the major outsourcing deals in 1999 were:

- In June 1999, Ford awarded HP $200 million, five-year contract to maintain 1000 servers and provide network-management services. The goal according to Ford's director of technical infrastructure is to have an IT infrastructure that eliminates the need for business units "to chase after technology"
- National Association of Securities Dealers Inc. (NASD) awarded EDS a $2 billion outsourcing contract for 10-year. About half of this money will be spent on Internet related development. Access to Internet technologies and increasing complexity were the major factors in the outsourcing decision.
- In December 1998, CSC received a contract from US Internal Revenue Service to modernize tax applications. The contract is supposedly valued between $5 billion and $10 billion. Exact amount was not disclosed
- In April 1999, 12 services companies were selected for a 10 year, $25 billion General Services Administration (GSA) Millennia contract, to provide a broad scope of IT services
- In April 1999, EDS received a contract from MCI WorldCom Inc. to provide IT services over a period of 10 years. The contract is worth between $5 billion and $7 billion
- In June 1999, MessageQuest launched e-Net, a business-to-business application-integration service. The service replaces private and value-added networks that connect a company with its trading partners. A large oil company is using this service to replace its existing system of faxing their distributors the latest oil prices to have distributors access the latest oil prices from their web site.

## US Government Outsourcing

According to Federal Sources of VA US government's information technology US spending will increase from $32.3 billion in 1998 to $36.6 billion in 2000. This corresponds to a growth rate of 6.5% annually. The breakdown of these spending is: new technology implementations such as electronic government ($1.3 billion), outsourcing ($3.5 billion), knowledge management ($825 million), information assurance ($1.5 billion), and ERP ($1.8 billion). Remediation for year 2000 will continue after Jan 1, 2000 for non-mission critical systems and will be worth at least $640 million
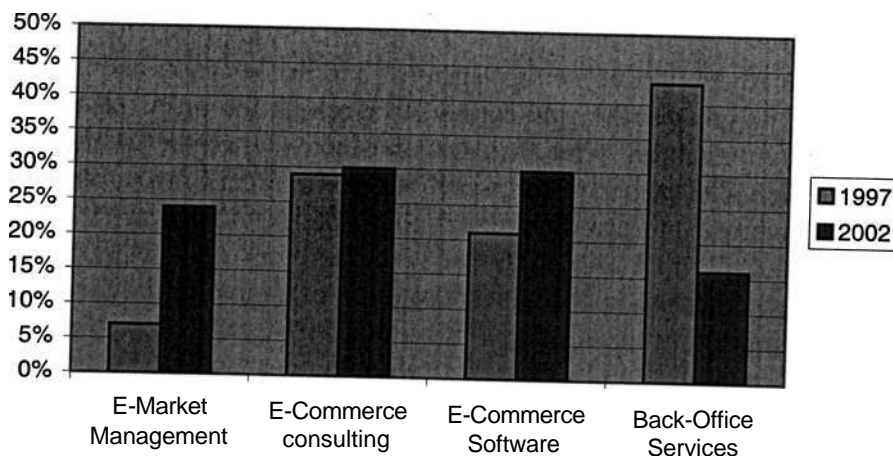
*Source Gartner Group*

**Figure 11:** E-commerce software and services.
1997 revenues - between $2 billion and $3 billion
2002 revenues - between $7 billion and $11 billion
*Source: Gartner Group*

## Breakdown of software market

E-commerce software can be further broken down into four segments. The predicted market sizes are given in figure 12. These segments are:

- Buy-side: Software used for procurment on the net. The most popular 'buy-side' software is Ariba which automates all enterprise operating resources such as travel expenses, services and MRO (maintenance repair and operations) using its propnetary CIF (Catalog Interchange Format). Other popular software applications in this category are Commerce One, Microsoft's Site Server Commerce Edition and Netscape's BuyerExpert

- Sell-side: Software used for marketing and selling products on the Internet. It usually consists of web authorization and control for delivering price, contract and other sensitive information to the partner. In addition, this software supports catalog views order entry  multiple payment methods and interface for back-end enterprise systems' Popular software are IBM's Net.Commerce, Microsoft's Site Server Commerce           ' Edition, Netscape's SellerExpert, OMI and Interworld

- Security: Software related to 'access' and 'verification'.

- Others

| ($ millions) | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|
| Buy-side | 8 | 16 | 48 | 115 | 228 | 490 |
| Sell-side | 57 | 113 | 299 | 566 | 950 | 1,403 |
| Security | 7 | 13 | 33 | 74 | 140 | 244 |
| Other | 49 | 93 | 239 | 499 | 914 | 1,623 |
| Total | 121 | 235 | 619 | 1,254 | 2,232 | 3,760 |

**Figure 12:** E-commerce software market
*Source: Forrester Research, 1997*

new web applications. These companies have extensive experience in developing online business models and Internet applications. These companies are best suited for online retailing and do not have much expertise in back-end integration

- New Media Firms: Traditional advertising, consumer online marketing and brand-building firms make up this category. Examples are Modern media, Organic Online and THINK New Ideas. These companies have expertise in creating brand-awareness and customer loyalty, developing advertisement strategy and affiliate plan rollout, and establishing portal links. They do not have application development or integration skills

- Classic EDI Consultants: These are companies such as GE Information Services, Harbinger and Sterling Commerce companies who have developed software packages for catalog selling and automated procurement and partner enablement programs. These firms are best suited for installing their own packages and do not have much experience in large application integration projects.

For a successful e-commerce implementation, four broad skills have to come together to design and develop the system.

- Strategy planning skills: understanding of business models, developing business cases for projects and conveying its importance to the CEO
- Technology design skills: understanding of integration issues and having expertise in tools required for developing the business model
- Implementation skills: ability to install the various components of the system and involve trading partners
- Program management skills: ability to manage and deliver projects

A mapping of the skills required for a successful e-commerce implementation and companies best suited for each job is as follows:

| | Traditional system integrators | E-commerce or Internet consultants | New Media firms | Classic EDI consultants |
|---|---|---|---|---|
| **Strategy Planning** | | | | |
| Site promotion or online channel strategy | | | J | |
| New business venture | | J | | |
| Channel Master extranet or SCM | J | | | |
| **Technical Design** | | | | |
| User Interface and site layout | | | J | |
| ERP and legacy integration | J | | | |
| Application document exchange | | | | |
| E-commerce or application server assembly | | J | | J |
| **Implementation** | | | | |
| Site launch (Search engine registration) and affiliate rollout | | | J | |
| E-commerce application programming | | J | | |
| Message broker gateway | J | | | |
| Dealer Net rollout | | | | |
| **Program management** | J | | | J |

**Figure 13:** Skills for e-commerce applications
*Source: Gartner Group*

# ENTERPRISE APPLICATION INTEGRATION (EAI OR MIDDLEWARE)

As complexity of business software increases and IT departments are looking to unite web, client-server and legacy systems, middleware is rapidly becoming increasingly important in tying these disparate systems together. Comprising a huge array of technologies and products, this segment is rapidly becoming very important in the industry. According to Forrester Research, EAI made up 30% of IT budgets in 1998. With estimated worldwide expenditures of $270 billion, this adds up to $82.5 billion.

By definition, Middleware connects one system to another at the network, database or object level. Gateways Transaction-processing monitors (TPM) function as communication gateways. Open Database Connectivity (ODBC) and Java Database Connectivity (JDBC) link disparate databases and Common Object Request Broker Architecture (CORBA), Enterprise JavaBeans, and (Component Object Model) COM link objects. In order to integrate web, client-server, and legacy applications, IT departments need expertise in Java, transaction monitors, message queuing, object brokering and multi-tiered application architecture. As these skills are not easily available, companies depend on middleware vendors to deliver tools that simplify the process. Consequently, vendors are bundling multiple middleware technologies in one package. IBM's WebSphere application server includes Java development environment, CORBA object servicing, transaction-monitoring, and message queuing software. Active Software's Integration System bundles applications at business-process level. BEA system's Tuxedo includes a transaction-processing monitor, ORB and messaging components.

## Market Size

| Type of Middleware | 1997 | 1998 | 1999 | 2000 | 2001 | Growth Rate |
|---|---|---|---|---|---|---|
| OLTP monitors | $1.4b | $1.5b | $1.7b | $1.9b | $2.2b | 12% |
| Enterprise messaging | $221m | $297m | $421m | $639m | $1.0b | 49% |
| Object request brokers | $120m | $286m | $494m | $707m | $597m | 65% |
| Total | $1.7b | $2.1b | $2.6b | $3.2b | $4.2b | 25% |

**Figure 14:** Size of middleware market
*Source: The Standish Group*

ORB is the fastest growing market but is not easy to use. It requires that applications be CORBA, Java, or COM enabled and legacy applications are rarely object oriented. In such cases, companies use shared-object middleware such as Insession that lets new applications connect to host systems using a small set of published interfaces.

On of the latest development in middleware is the next generation of language for the Internet called XML. XML or Extensible Markup Language is a subset of SGML (Standard Generalized Markup Language). HTML, which is currently the defacto way of distributing documents on the web is a subset of SGML as well but is highly restricted as it is not extensible. XML remedies all these features and is supposedly the next standard for exchanging data on the Internet.

# WEB ENABLEMENT OR LEGACY EXTENSION

As the Internet becomes an important media of communication between business partners, companies are planning to extend their legacy applications on the web. In a survey conducted by SoundView Financial Group, 70% of the IT department respondents said that they were planning to decrease the response time for new business requirements by integrating their existing applications with the web. The reasons why companies want to 'web-enable' their legacy applications are:

- Legacy extension can deliver immediate benefits without disrupting current applications
- After sinking lots of money in Y2K remediation without actually delivering value, legacy extension could be a way to gain confidence of upper management
- It is a quick way to create a web-presence and outsource functions such as order taking and customer service functions
- Companies can extend functionality of existing applications such as self-service front-office or supply-chain without expensive new development
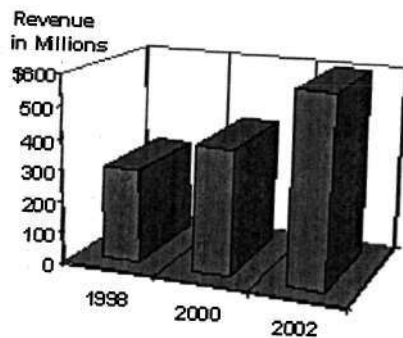


**Figure 15:** Web enablement revenues
*Source: Gartner Group*

Legacy extension can be accomplished in many ways:
1) Extending the GUI – This is the "quick and dirty" way of getting on the web. Also known as screen scraping, it is based on the concept of surrounding legacy systems and services with Web technologies. There are two ways of achieving this:
   a) The simplest is to interpret 3270, 5250, and VT100 data streams and convert them dynamically into HTML.
   b) Another way is by adding value by windowing or converting to sub-screens or customizing around specific events and clients
2) Reusing transactions – Transactions that produce data streams, messages and return data can be reused through a messaging middleware Mainframe transactions can be accessed through a gateway component such as IBM's Java CICS, DB2 gateway or IBI's EDA-SQL or by creating processes on a new application server that service a web server
3) Reusing legacy code – Language parsers can be used to create components from legacy systems and these components could be ported to new architectures and languages

**Figure 16:** Mapping of legacy extension technology
Source: Gartner Group

- *Field Service Dispatch/Service Management* — Clarify, Metrix, Vantive, Serviceware, Siebel, Foresight, RTS, Astea
- *Problem Resolution* — Advantage KBS (a division of Carnegie Group), Inference, Molloy Group, Primus, ServiceSoft, ServiceWare
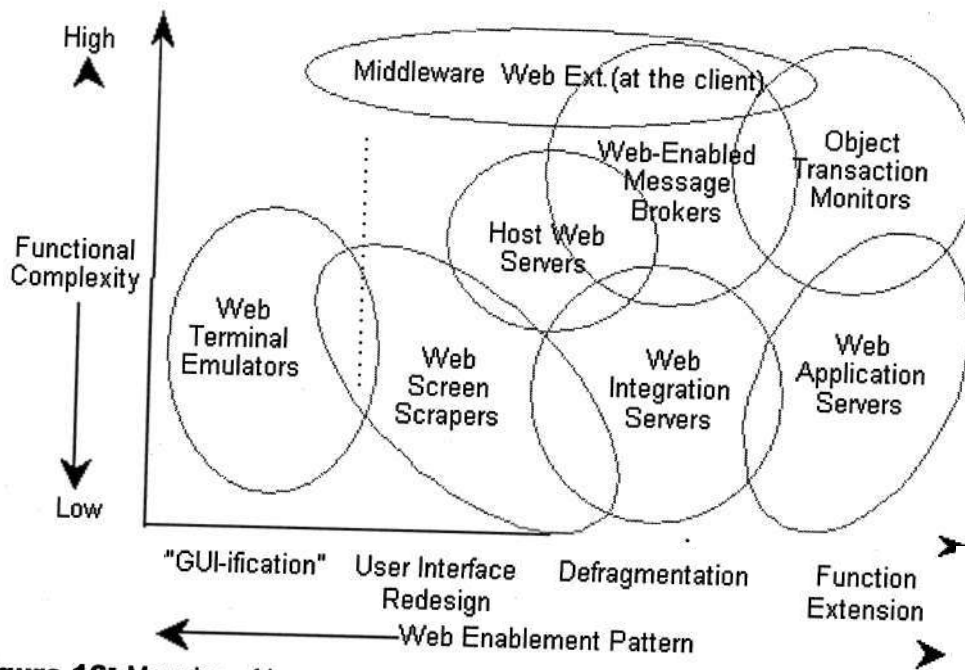- *E-Mail Response Management* — Genesys Labs, Aditi, Aptex, Brightware, eGain, eQueue, ErgoTech, General Interactive, Kana Communications, Mustang Software
- *E-Mail Response Management Hosting Vendors* — eGain, General Interactive, Island Data, Kana
- *Opportunity (leads or objectives), Territory and Account Management Systems* — Siebel, Baan, Vantive and Clarify. IMS Strategic Health, Dendrite and Siebel for healthcare products companies. Siebel, CAS GmbH, Dendrite and MEI for consumer packaged goods (CPG) companies. Pivotal, Saratoga, MEI, SalesLogix, Moss Systems and SalesVision for midsize field sales organizations. Update Marketing, Amyyon, Point and TPS Labs for European-based field sales organizations. Relavis, IntellAgent and Synergistics for Lotus Notes-based users. SalesLogix, Upshot, Goldmine and Multiactive Software for small workgroups
- *Marketing Encyclopedia Systems* — Conjoin, Backweb, MarketTouch, Calico, Proscape, SoftAd and most opportunity management system vendors provide a marketing encyclopedia as well

*Interactive Selling Systems (using technology in the face-to-face, human-assisted sales meeting)* — Firepond, Proscape, SoftAd, Calico, BT Squared, Interactive Edge (for CPG industry)

*Customer-direct, Web selling applications (i.e., technology-enabled buying)* — Trilogy, Firepond, Calico, Selectica, Brightware

*Selling Channel Partner (e.g., brokers, agents, distributors and value-added resellers) Software* — Allegis, Partnerware, Channelwave, Webridge

*Contact Center/Inside Selling/Telesales/Telemarketing* — Abalon, Broadway & Seymour, Clarify, Chordiant, Corepoint, IMA, Pegasystems, Onyx, Point, Siebel, Vantive

*Collaborative Web Selling* — ActiveTouch, Centra, Contigo, Outreach, Placeware, eGain (i.e., acquired Sitebridge), Webline

*Sales Configuration Systems (for configuring products, pricing, commissions, services and financing)* — Trilogy, Calico, Oracle, Baan, Selectica, BT Squared, Firepond, Newtonian, Exactium, i2, Cincom, Siebe, Enact

*Sales Compensation Software* —Trilogy, Incentive Systems, Callidus, Synergies

*Point of Sale Software* — ARS, ICL, SASI, Kyrus, IBM, NCR, STS/Trimax

*Merchandising Software for Retailers* — Stirling Douglas Group, MarketMAX, Retek, JDA, STS Open Systems

By June 1997, 50 consultants from KPMG joined the company. The company initially started with Y2K remediation business but soon began to focus on high-level services such as IT strategy. In October 1997, it merged with a management consulting firm The Hackett Group, which brought with it databases for benchmarking various functions of knowledge workers such as Finance, HR etc. The company had a non-compete agreement with KPMG until Dec 31, 1998 and was not allowed to approach companies that had been clients of KPMG. Even now, all employees leaving KPMG have to sign a non-compete agreement and cannot work with their former clients until a specified duration has expired.

## Current marketing argot

AnswerThink Consulting Group combines management consulting, IT strategy and technical skills to offer integrated consulting and technology-enabled solutions focused on the emerging Internet-driven marketplace. ANSR wants to provide "knowledge-based technology-enabled transformation solutions". It wants to help companies improve e-commerce strategies through benchmarking, advanced technology integration, and software implementation services. The company uses databases developed by subsidiary, The Hackett Group, to determine which competitive strategies will quickly implement the most reliable changes.

## Mergers & Acquisitions

AnswerThink has made mergers and acquisitions an integral part of its strategy. The acquired company is usually absorbed as a new practice with its President or CEO leading that practice. ANSR's acquisitions seem to have kept up with the changing trends in the industry. Its 1997 acquisitions included two companies in ERP, one in system integration and a management consulting firm. In 1998, it acquired one company in ERP, and one in Data Warehousing. Its 1999 acquisitions include three companies in e-commerce and one in call center automation.

1. June 1997, ANSR first acquisition was Relational Technologies, Inc. (RTI), an Oracle enterprise application implementation company. RTI had 52 professionals and offices in Atlanta and Dallas at the time of the merger. The CEO of RTI Scott Smith became the Managing Director for the Oracle solutions practice.
2. September 1997, ANSR acquired Summit Consulting. Founded in 1995, Summit provided systems integration services such as networking, software development, and Internet support to companies such as Republic Industries and AutoNation USA. Summit became a part of ANSR Systems solutions practice with Summit's president Ben Sardinas becoming vice president for this practice in the Southeast region.
3. October 1997, ANSR merged with The Hackett Group. Hackett was a benchmarking and best practices firm that focused on improving the efficiency and effectiveness of knowledge-workers in finance, HR, IT and procurement. Hackett had been benchmarking since 1992 and had gathered data from more than 1,100 companies on cost, productivity and practices of knowledge-worker functions. Gregory P. Hackett,

artists, engineers and associates. The entire deal was worth about $231 million and will close in the third quarter of 1999.

## Alliances

ANSR has formed 25 partnerships since its inception in April 1997, roughly one every month. These alliances usually involve technology or product vendors agreeing to use ANSR as a preferred service provider. 8 of these alliances have focussed on customer relationship management and call center automation; 7 on supply chain management, including cross-border supply chains and web-enablement; and 5 on Y2K remediation, which were signed in the first few months of the company's creation.

1. August 1997, ANSR signed an agreement with Viasoft Inc. to use its "c-era" short for 'cooperative-era", an initiative designed to bring together independent technology vendors to solve the Y2K problem. Under the agreement ANSR took ownership of the "c-era" and Viasoft became its premier partner that supplied tools and processes for Y2K conversion

2. September 1997, INTO 2000, a developer of Y2K tools for AS/400 joined ANSR's "c-era" program

3. September 1997, MatriDigm joined "c-era" program

4. September 1997, Peritus Software Services, a developer of Y2K tools for mainframe joined "c-era" program

5. November 1997, Accerl8 Technology Corporation a provider of migration tools from VAX/VMS to UNIX and NT as well Y2K conversion joined 'c-era"

6. December 1997, ANSR formed an alliance with Aurum Software, a Baan Company, which provided CRM solutions for automating sales, marketing and customer service operations. The partnership complemented ANSR's Customer solutions practice that provided consulting and system integration in the same service areas. Aurum's products - Customer Enterprise™ and the Interactive Selling Solution™ are integrated suites of sales force automation, sales configuration, telemarketing and customer service solutions.

7. February 1998, ANSR signed a non-exclusive agreement with POINT Information Systems to provide to consulting and integration services for TeamPOINT customer interaction center (CIC) solutions. ANSR's Customer solutions practice implementation lab in Philadelphia created custom templates that could be adapted to specific vertical markets.

8. February 1998, ANSR formed an alliance with Rockwell Electronic Commerce Division (ECD) that provided custom application development, package integration, data warehousing and other integration services for Rockwell's line of integrated call center solutions, including Spectrum™ Automatic Call Distributor (ACD).

9. February 1998, ANSR signed a technology and marketing agreement with Cabletron Systems, a provider of computer networking products. ANSR's Systems solutions practice, provider of systems and network integration and support services, will distributed and delivered solutions using Cabletron's line of networking products including, SmartSwitches, SmartSwitch Routers and SPECTRUM.

then, Yantra provided both the software and implementation services to customers but decided to keep its business focus on software development and let ANSR provide implementation services necessary to support the company's rapid growth. ANSR's Interprise Supply Chain solutions group was responsible for implementing the software.

16. August 1998, ANSR launched the CEO solutions practice. This practice provides companies with advanced business planning process design, performance measurement and decision-making capability development to enhance competitive agility.

17. August 1998, ANSR formed an alliance with Edify Corporation and became its certified implementation provider. Edify manufactured a suite of self service applications that included Electronic Workforce®, an enterprise-scale IVR solution; Employee Service System™, a HR application that integrated with PeopleSoft 7; and Electronic Banking System. ANSR's Customer solutions deployed Edify's applications at their Philadelphia facility for customer demonstration. Edify's self service solutions included automated service via the Internet, corporate Intranets and the telephone. It integrates and personalizes interactions between customers and employees.

18. September 1998, ANSR formed an alliance with BMC Software, the world leader in Application Service Assurance (ASA) solutions that improve the availability, performance and recoverability of critical applications in a complex computing environment. ANSR resold Software's PATROL® Application Management Suite of products.

19. October 1998, ANSR signed an agreement with CyberSystem Technologies, Inc to jointly sell and market CyberSystem's IntralMall, an electronic business-to-business procurement system. IntraMalls are supposed to fill the gap between connectivity and services that exceed current ERP and SCP applications. Currently CyberSystem is focussed on scientific research, hospital and pharmaceutical supplies organizations. The system was created to allow scientists and researchers shop, compare, and buy items directly from their desktops on a closed network system. CyberSystem is planning to develop many IntraMalls in the health science sector.

20. October 1998, ANSR formed an alliance with Manugistics that manufactures customer-centric supply chain optimization solutions and help its clients to create and optimize their supply chains around their customers.

21. November 1998, ANSR formed an alliance with i2 Technologies. As part of this alliance, AnswerThink has formed a dedicated "i2 solutions" practice. i2's RHYTHM solution suite is a comprehensive Internet-enabled family of solutions that provides complete supply chain management from sourcing and manufacturing to distribution, logistics and transportation planning.

22. November 1998, ANSR formed a new practice, HR solutions, to provide companies with a range of capabilities in business transformation strategy, process improvement, organizational development and technology implementation within the HR function. ANSR claims to have the most comprehensive HR benchmarking database and best practices library in the world.

23. January 1999, ANSR formed a strategic alliance with RockPort Trade Systems, a leader in Global Sourcing and Supply™ (GSS) solutions. ANSR formed a dedicated

r

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## Financials

AnswerThink Consulting Group, Inc
as of 17-Dec-1999



(C) 1999 Yahoo! Inc.                    Volume (1000's)         http://finance.yahoo.com/
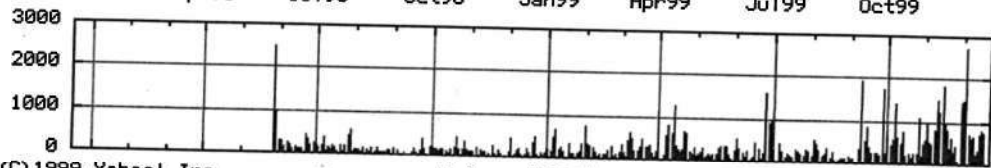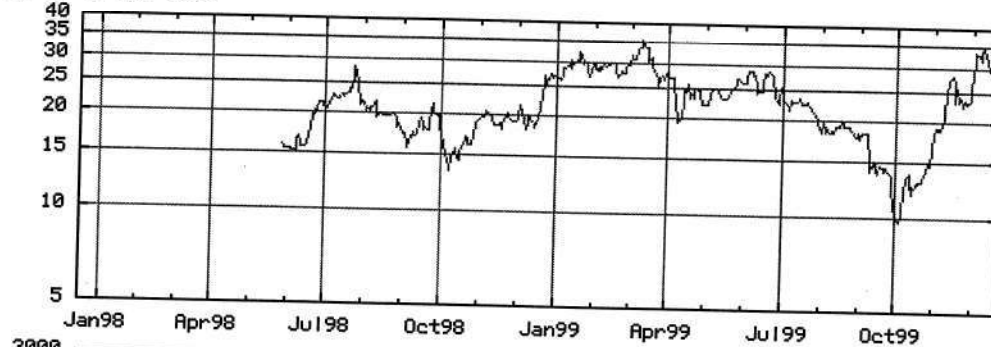
| Annual Income Statement (millions) | Dec 98 | Dec 97 |
|---|---|---|
| Revenue | 102.7 | 14.8 |
| Cost of Goods Sold | 61.4 | |
| Gross Profit | 41.3 | |
| Gross Profit Margin | 40.2% | |
| SG&A Expense | 28.9 | |
| Operating Income | 12.4 | |
| Operating Margin | 12.1% | |
| Total Net Income | (28.9) | (12.1) |
| Diluted EPS ($) | (1.52) | |
| % Growth | 591.7% | |
| Employees | 755 | |
| Employee Growth | 99.2% | |
| Sales per employee | 136,026 | |

| Quarterly Income Statement (millions) | 2Q 1999 | 1Q 1999 | 4Q 1998 | 3Q 1998 | 2Q 1998 |
|---|---|---|---|---|---|
| Revenue | 49.50 | 44.8 | 33.1 | 28.0 | 23.0 |
| Cost of Goods Sold | | 26.8 | 19.8 | 16.6 | 13.8 |
| Gross Profit | | 18.0 | 13.3 | 11.4 | 9.2 |
| Gross Profit Margin | | 40.2% | 40.2% | 40.7% | 40.0% |
| SG&A Expense | | 12.8 | 8.8 | 7.7 | 6.7 |
| Operating Income | 6.98 | 5.2 | 4.5 | 3.7 | 2.5 |
| Operating Margin | | 11.6% | 13.6% | 13.2% | 10.9% |
| Total Net Income | 4.21 | (1.6) | 4.3 | 3.9 | 2.3 |
| Diluted EPS ($) | 0.12 | (0.05) | 0.41 | 0.11 | 0.07 |

**Figure 18:** AnswerThink's Financials

illustrates the company's strategy of expanding its offering depending on the needs of the market, even for a very short term.

## Expanding its global reach

CBSI has 36 branch offices including facilities in Japan, Singapore, the United Kingdom Germany, Belgium, and Philippines. Increasing its geographic presence is an active part of CBSIs strategy. In April 1999, it acquired BPR Management in Belgium and opened nine new offices in US in the first half of the 1999. In June 1999, it opened a development center in Manila in an effort to attract some of the 17,000 English speaking computer science students graduating every year. The company is actively looking to acquire a company in India. CBSI currently employs about 4,800 people of which 3 500 are in US.

## Acquisitions

CBSI has been aggressive in its acquisitions. It increases its employee base, global reach and moves to different industry segments through these acquisitions. The company has made six acquisitions so far. Of these, two were in ERP and one each in SCM and e-commerce areas.

1. November 1997, CBSI acquired Synergy Software based in Chicago area with a consulting staff of 100. The deal was valued at $32 million.
2. January 1998, CBSI acquired Costello & Associates, of Connecticut, a privately held company in a stock swap of $70 million. Costello employed 750 consultants and managed 200 accounts that generated revenue of about $70 million. Like Synergy, Costello also provided computer training, installation and maintenance.
3. July 1998, CBSI acquired Claremont Technology Group Inc. of Oregon for $285 million. Claremont provided full life-cycle IT services to vertical industry markets including manufacturing, communications, financial services and utilities, as well as the public sector, particularly in the field of benefits services. Services included IT strategy, project management, BPR consulting, custom software development, packaged software implementation, consulting and implementation for client/server migration. Claremont's total revenue in 1997 was $81 million. The pooling of interest deal was made with an exchange of shares 1 Claremont = 0.77 CBSI and was tax-free.
4. December 1998, CBSI acquired privately held Sudbury River Consulting Group for $5 million plus potential future considerations. Sudbury was involved in ERP consulting and employed 38 consultants.
5. April 1999, CBSI acquired privately held BPR Management, s.a. of Belgium for approximately $3.5 million in cash plus 80,626 shares of CBSI common stock  BPR became part of CBSIs ERP, ERM and e-commerce practice in Europe.
6. April 1999, CBSI acquired the commercial division of Impact Innovations Group (Impact), Atlanta, Georgia, an operating unit of Medaphis Corporation for $15 million. Impact was a systems integration and technology consulting business specializing in delivery chain management and emerging-technologies including e-

projects might be delayed and lowered its revenue expectation in 1999. Analysts downgraded the stock from 'strong buy' to 'buy' and the price fell $7.88 to $16.37 on June 1. 1999.

Complete Business Solutions, Inc
as of 17-Dec-1999
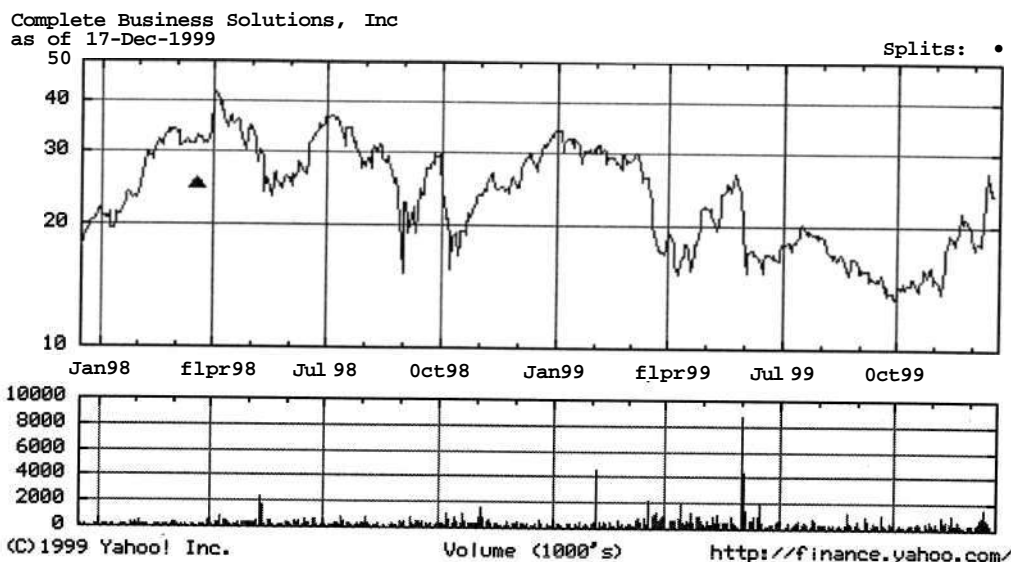


| 1999 Quarters | 1Q 99 | 4Q 98 | 3Q 98 | 2Q 98 | 1Q 98 |
|---|---|---|---|---|---|
| Revenue | 112 | 104 | 98.7 | 67 | 60.5 |
| COGS | 13.4 | (126.7) | 64.6 | 46.2 | 42.3 |
| Gross Profit | 98.6 | 230.7 | 34.1 | 20.8 | 18.2 |
| Gross Profit Margin | 88% | 221.8% | 34.5% | 31.0% | 30.1% |
| Operating Income | 14.6 | 12.9 | 12.3 | 8.2 | 2.8 |
| Operating Margin | 13.0% | 12.4% | 12.5% | 12.2% | 4.6% |
| Net Income | 10.2 | 9.2 | 1.3 | 6.0 | 0.3 |
| EPS | 0.27 | 0.25 | 0.03 | 0.21 | 0.01 |

| Annual Income Statement | 1998 | 1997 | 1996 |
|---|---|---|---|
| Revenue | 376.6 | 123.8 | 83.2 |
| COGS | 53.8 | 89.6 | 63.3 |
| Gross Profit | 322.8 | 34.2 | 19.9 |
| Gross Profit Margin | 85.7% | 27.6% | 23.9% |
| SG&A | 280.7 | 22.5 | 15.5 |
| Operating Income | 42.1 | 11.7 | 4.4 |
| Operating Margin | 11.2% | 9.5% | 5.3% |
| Net Income | 6.7 | 7.5 | 3.7 |
| Diluted EPS from NI | 0.18 | 0.35 | 0.34 |

**Figure 19:** Complete Business Solution's Financials

## History

Rajendra Vattikuti a graduate of Wayne State University in computer Science founded CBSI in 1985 when he took on an unfinished project at Chrysler. Before starting out on his own, he worked with Chrysler in manufacturing systems and then was CIO of Eureka

10. May 1999, CBSI received a $7 million contract from CB Richard Ellis, a commercial real estate services company, to implement, train, and perform production support services for PeopleSoft's Financial and HR systems. CBSI also provided applications development, integration, implementation, technical, and production support services for Global Field Support, Help Desk, Client and Deal Tracking, and Property Database functions that are being implemented on Vantive Products. The duration of the contract was not mentioned.

11. May 1999, CBSI was awarded a $2 million contract to automate the childcare functions for the Office for Children in Fairfax County, Virginia and will maintain the system for three years after implementation. CBSI will use its packaged solution called CCMS/2000 to automate payment processing, eligibility determination, provider management, resource and referral, and other critical functions. CCMS is currently installed in Florida, Alabama, Tennessee, Nevada and Kentucky.

12. May 1999, Commonwealth of Kentucky chose CBSI as one of its Strategic Alliance Service (S AS) Partners. CBSI is a "Niche" partner in this alliance and will perform "full life cycle services" in Retirement, Human Services, and Data Warehousing systems

13. May 1999, CBSI opened its second office in LA

14. May 1999, CBSI opened an office in Milwaukee

15. June 1999, CBSI was selected to upgrade the PeopleSoft General Ledger module for The United Illuminating (UI) Company of New Haven. The highly modified implementation of UI will be done using on and off-site consulting staff.

16. June 1999 CBSI received a contract from Indiana State Teacher's Retirement Fund and the Indiana Public Employee's Retirement Fund to implement a new pension administration system. CBSI will implement the $13 million system in stages over a two-year period. Under the agreement, the state can ask CBSI to maintain the system for four more years for approximately $5 million.

17. July 1999, CBSI received a contract from CCC Information Services Inc., a technology provider to automotive dealers, collision repair facilities, and insurance companies. CBSI will develop a Web-based product called Office Toolkit that will enable CCC clients to access its services over the Internet. CBSI will also modify two other products for CCC for the European market.

## Appointments

1. February 1999, CBSI hired Joseph Benaroya, VP of Global Sales for IBM's PC Division as its EVP of Eastern Operations. The new EVP's salary was not disclosed.

2. June 1999, CBSI hired Kailash C. Khanna as EVP of Technology, Solutions and Consulting. Khanna was the Head of Technology for SWIFT s.c.
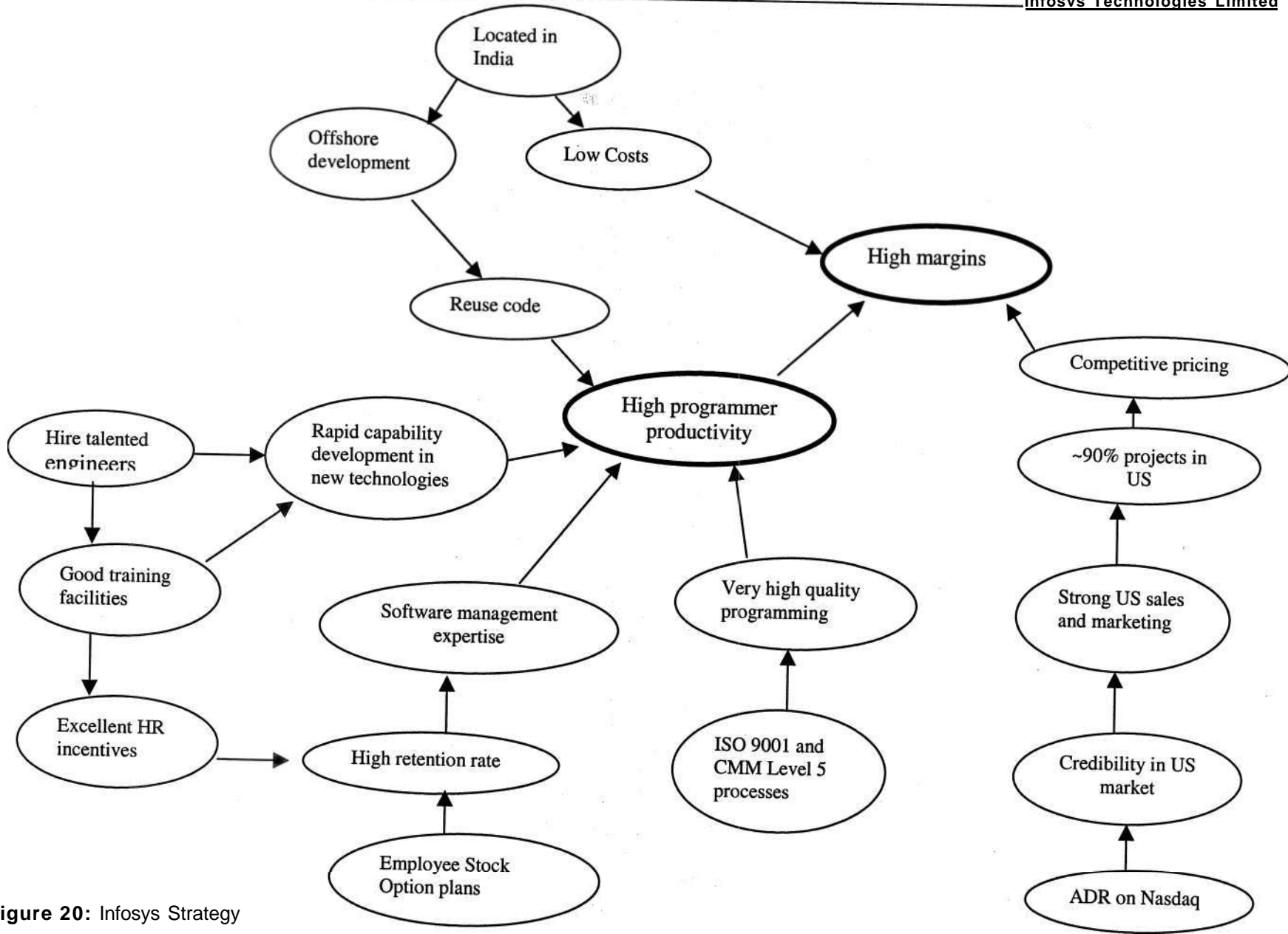
**Figure 20:** Infosys Strategy

| 1999 Quarters ($ ,000) | 3Q 1999 | 2Q 99 | 1Q 99 | 4Q 98 | 3Q 98 | 2Q 98 |
|---|---|---|---|---|---|---|
| Revenue | 47,900 | 39,728 | 36,011 | 33,042 | 28,237 | 23,665 |
| COGS | 27,400 | 20,620 | 19,308 | 16,417 | 16,068 | 13,540 |
| Gross Profit | 20,500 | 19,108 | 16,704 | 16,625 | 12,170 | 10,125 |
| Gross Profit Margin | 42.8% | 48% | 46.4% | 50.3% | 43.1% | 42.8% |
| Operating Income | 14,600 | 12,306 | 10,738 | 10,811 | 8,182 | 6,049 |
| Operating Margin | 30.5% | 30.9% | 29.8% | 32.7% | 29% | 25.6% |
| NI | 14,700 | 13,310 | 9,836 | 10,001 | 6,996 | 5,606 |
| EPS | 0.23 | 0.20 | 0.16 | 0.16 | 0.12 | 0.09 |

| Annual IS ($ ,000) | Mar 1999 | Mar 1998 | Mar 1997 |
|---|---|---|---|
| Revenue | 120,956 | 68,330 | 39,586 |
| COGS | 65,331 | 40,157 | 22,615 |
| Gross Profit | 55,624 | 28,173 | 16,971 |
| Gross Profit Margin | 46% | 41.2% | 42.9% |
| SG&A | 16,199 | 13,226 | 7,010 |
| Operating Income | 35,780 | 13,901 | 9,193 |
| Operating Margin | 29.6% | 20.3% | 23.2% |
| NI | 32,439 | 13,864 | 8,642 |
| Diluted EPS from NI | 0.53 | 0.23 | 0.15 |
| Number of employees | 1,705 | 2,186 | 3,158 |

The depreciating rupee boosted INFY's 1Q income by approximately $2 million in the year ending March 1999. The company recorded compound annual revenue growth of 66% between 1994 and 1999 with net income increasing by 65%.

## Historical Income Statement

| Year | Revenue ($ m) | Net Income | Net Profit Margin | Employees |
|---|---|---|---|---|
| 1999 | 121.0 | 17.4 | 14.4% | 3,766 |
| 1998 | 68.3 | 12.4 | 18.2% | 2,614 |
| 1997 | 38.8 | 10.3 | 26.6% | 1,705 |
| 1996 | 26.0 | 6.2 | 23.7% | 1,172 |
| 1995 | 17.6 | 4.2 | 24.0% | -- |
| 1994 | 9.2 | 2.6 | 28.0% | -- |
| 1993 | 4.5 | 1.1 | 25.3% | -- |
| 1992 | 3.1 | 0.8 | 25.3% | -- |

- InEuro - Practice devoted to help companies transition to the Euro environment. However, according to surveys conducted, most European companies are planning to do this conversion in-house.
- Speech Solutions - An end to end business solution to speech enable call centers i.e. adding voice recognition to customer service centers. Again, INFY is leveraging its experience in developing these solutions and marketing it as a value added service. From information available on its web site, INFY appears to have developed significant capability in providing this service.

Over the years, Infosys has concentrated on branding its solutions and getting its tools and processes trademarked in an effort to move up the value chain. Its Internet Consulting Practice and the Speech Solutions services illustrate this.

## Revenues from Services

| ($ ,000) | 1999 | 1998 | 1997 |
|---|---|---|---|
| Development | 42,177 | 28,699 | 21,097 |
| Maintenance | 49,600 | 25,921 | 7,983 |
| Y2K, Euro and Migration | 37,274 | 21,194 | 6,940 |
| Package Implementation | 12,445 | 4,773 | 1,229 |
| Non-Y2K Services | 92,856 | 48,719 | 31,586 |
| Total | 117,146 | 64,653 | 34,554 |

As a percentage of revenues, Y2K revenues in the quarter ending June 30,1999 decreased from 15.2% to 12.1%. E-commerce revenue increased from 5% to 6.4%. 64% of company's engagements are T&M and 36% are fixed price.

## Products

- Websetu - INFY's web enablement product. It links legacy databases on DB2 to the Internet. Three other toolkits are present in this suite, Dynaswift which generates HTML forms dynamically and PowerCGI which manages transactions on the Internet and Entark, a message-oriented middleware
- INFY's flagship product is Bancs2000, a package that integrates retail and corporate operations of a bank. There are several add-ons available with this product
- BankAway which allows online banking on the Internet, Intranet etc
- BancsMart allows users to analyze data captured with other products
- BancsConnect which enables users to connect with the bank via ATM, telephone and Internet
- Treasury Solutions, are products that manage financial instruments like money markets

## American Depositary Receipts

On March 11 1999, INFY issued1.8 million ADRs (American Depository Receipts) or ADSs (American Depository Shares) at $34.00 per share. It issued another 270,000 on March 18, 1999. Two ADSs represent 1 equity share traded in India.

## Infosys in its competitive group

| Company | Ticker | Price (7/19/99) | P/E | Market Cap ($million) | Long-term growth |
|---|---|---|---|---|---|
| CBSI | CBSI | $19.4 | 33.2 | 735 | 34% |
| Computer Horizons | CHRZ | $13.9 | 9.65 | 423 | 20% |
| IMRglobal | IMRS | 18.1 | 36.75 | 620 | 25% |
| Intelligroup | ITIG | 6.5 | 21.04 | 100 | 35% |
| Keane | KEA | 25.3 | 18.24 | 1,881 | 20% |
| Mastech | MAST | 20.6 | 28.17 | 1.04 | 34% |
| Syntel | SYNT | 12.25 | 20.16 | 166 | 29% |
| Infosys | INFY | 91.25 | 270.12 | 6035 | 35% |

It should be noted that Infosys's valuation is the highest in this competitive group. Even Microsoft, the giant in software industry has P/E ratio around 75.

- "Manage" consists of application outsourcing and made up 32% of 1Q 1999 revenues.

The company has collaborated with Sterling Commerce to acquire capabilities in eCommerce packaged software. It was the first company in the industry to partner with Cerebellum Software that manufactured a Java based application development product to access disparate databases from disparate platforms. This product will help Keane in getting web-enablement projects.

## Improving organizational capabilities

The company is focussing on improving its internal operations as well. It recently purchased an Intranet productivity tool called Account4 Professional Services. The tool would enable its 8,500 employees real-time access to their work content, time and expenses. Account4 will keep track of skills of all consultants and will make searching for people with a specific skills simple. The software will replace the manual skill-tracking system that was used by 50 branch managers.

## Industry Recognition

Keane has won numerous awards for its rapid growth. It ranked 28th in Business Week's list of world's best performing companies. It was chosen by WSJ as the best 10-year stock performer among 1000 corporations. Boston Globe gave it the 'best stock performer of the decade' and #2 in overall corporate performance among Massachusetts companies. Newsweek and Boston Herald recognized Kean's stock performance and Computerworld listed it among the Top 25 places to work in IT.

## Business Units

Keane has two business units: Information Services Division (95% of sales) and Healthcare Services.
- Information Services provides software design, development, integration, outsourcing, and management services to government and corporations.
- Healthcare Services Division develops financial, patient care and clinical applications for hospitals and long-term care facilities.

## History:

John Keane, a graduate of Harvard Business School and a veteran at IBM and Arthur D.Little started the company in 1965 in Highham, MA. The company initially provided software services and established its Healthcare Services Division in 1975.

18. January 1997, Keane announced a Strategic Recruiting Partnership (SRP) with Information Technology Institute (ITI), Canada. Under the agreement, ITI recruited 200 fresh university graduates yearly. Keane hired these graduates after they successfully completed a nine-month training program

19. February 1997, Keane received an outsourcing contract from Microsoft to manage its Tucson customer support facility

20. March 1997, Keane signed its 170th Y2K contract with Lexis-Nexis, the database services company

21. April 1997, Keane signed an agreement with Peritus Software Services to license Peritus Automate:2000, an automated COBOL code renovation product

22. April 1997, Keane started marketing a Y2K remediation methodology it jointly developed with Viasoft Inc

23. June 1997, Keane had received almost 250th Y2K remediation contracts. By this time it had acquired 43 new customers, trained 500 new employees, and increased revenue by over $150 million since it had started focussing on Y2K. The company expected to train over 4,000 new employees in 1997 and had 90 recruiters scouring university and college campuses

24. June 1997, Keane announced that it was going to expand its Resolve 2000 practice to include training, practice development, field communication and support, implementation services, software factories, and compliance testing services

25. June 1997, Keane received a $14.4 million Y2K contract from State of Indiana. Keane to make systems of 44 state agencies Y2K compliant

26. June 1997, Keane's Canadian subsidiary announced a partnership agreement with the Baan Company. Keane configured, tested and implemented Baan IV products

27. July 1997, Keane received its 290th Y2K contract for $6 million from Alamo Rent-A-Car

28. August 1997, Keane partnered with Aspect Telecommunications and The Vantive Corporation to implement their call-center products internally. At that time Keane employed more than 1500 technical support personnel and was one of the top 5 help-desk outsourcers in the world

29. October 1997, Keane became a solution provider for US West's MarketEdge, a fully managed Internet and Intranet hosting service. MarketEdge gives its customers high-speed Internet access, web site support, training and a suite of 12 productivity applications on the Internet

30. October 1997, Keane received a $3.5 million, 18-month application development contract from GuaranTec LLP. The company provides national student loan-guarantor services. Keane developed applications that were used in loan guarantee, maintenance and collection systems

31. November 1997, Keane expanded its presence in Canada by opening a new office in Calgary

32. November 1997, Keane received an application outsourcing contract from West Group unit of Thompson Corporation

33. December 1997, Keane received its 435th Y2K contract from Janus Capital Corporation

47. May 1999, Keane Federal Systems Inc, a subsidiary of Keane Inc. received the Information Technology Support Services (ITSS) contract from US Department of Justice. The multiple-award task order contract was worth $475 million

48. May 1999, Keane received a subcontract from Lockheed Martin to maintain Gateway legacy applications. Gateway employees

## Partnerships

1. May 1999, Keane partnered with Cerebellum Software that develops and markets application development tools that can be used to access data from almost all legacy databases, including ERP packages and presents them in a uniform format. Cerebellum is platform independent as it uses Java.

2. June 1999, Keane collaborated with Sterling Commerce to provide a complete e-commerce services solution including business, creative, and technical design. The partnership hopes to leverage Keane's consulting methodologies and Sterlings e-commerce products COMMERCE, CONNECT, and GENTRAN.

## Acquisitions

1. January 1998, Keane acquired Omega Systems, a privately held Pittsburgh-based application development firm for $6 million. Omega employed 130 professionals Keane exchanged 180,339 of its shares for all shares of Omega

2. April 1998, Keane acquired GSE Erudite Software, an IT consulting company in Salt Lake City for $18 million. Erudite employed 175 professionals. Besides consulting Erudite was also involved in training, hardware and software sales. Erudite was the' fastest growing company in Utah for the previous five years

3. April 1998, Keane acquired Bricker& Associates Inc., a privately held operations improvement firm. The 92 employee, $15 million company focused on improving work processes, IT and organizational design changes that increased operational efficiency. The acquisition was valued at $110 million and was accounted by pooling of interests. According to marketing literature, *'Bricker seeks to isolate the root cause behind business problems that encumber revenue and profit growth'*. Besides moving up the value chain, this acquisition enabled Keane to cross-sell its application development services at a higher management level

4. August 1998, Keane acquired Icom Systems Ltd., $50 million IT solution provider in Birmingham, England. Icom provided business consultancy, workflow imaging and application management to financial sector in UK. The acquisition, done through a pooling of interests was valued at $50 million

5. October 1998, Keane acquired Fourth Tier Inc, a privately held company which provided Enterprise Relationship Management (ERM) solutions such as Siebel for sales, marketing, and customer service departments. Fourth Tier had revenues of $5 4 million in the first half of 1998. The all-stock transaction was worth $26.7 million '

6. January 1999, Keane acquired Emergent Corporation, a privately held IT consulting firm specializing in data warehousing solutions. Emergent's 1998 revenues were $4 million
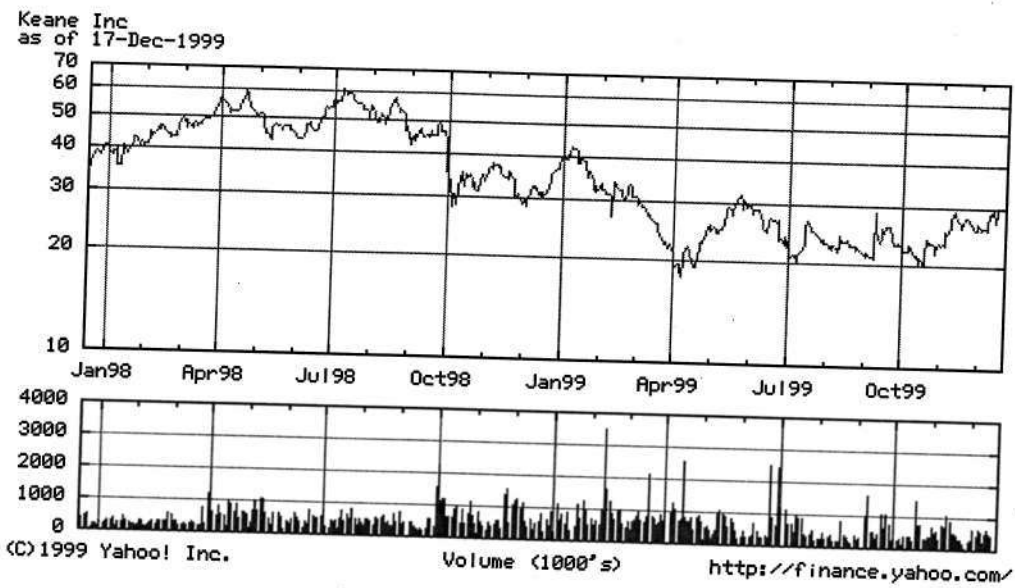
**Figure 23:** Keane's Financials

The company expects 1999 earnings to be the same as 1998 earnings because of the slowdown in Y2K revenues.

Management commitment to the company's ebusiness focus is further illustrated by its decision to retool the company earlier this year. In the first quarter 1999, the company took billable resources off projects and trained them on Internet-based technologies. This caused a drop in utilization and operating margin. The earnings outlook however remained unaffected.

The company is extremely selective in its recruitment. It holds Super Saturdays eight times a year in its offices in San Francisco, Atlanta, and Cambridge. It brings in engineering, business and computer science graduates and tests leadership skills, poise confidence and leadership skills through a series of individual and team exercises. A young lead developer, who portrays the image as dynamic, rewarding innovation and creative solutions typically gives the company presentation. Humor is supposed to be a way of life. The company has extremely low turnover rates, supposedly below 15%.

## QUADD Methodology

This unique rapid application-development methodology enables SAPE to differentiate itself from its competitor and raise barriers to entry in the custom application-development market. The process has four phases, each of which is priced separately.

a.  Rapid Implementation Plan (RIP) workshop, identifies client requirements and develops an execution strategy to meet the requirements
b.  Design workshop, highlights the proposed process requirements and needed IT solutions
c.  Implementation phase, solution development which could include testing or customization of a third party or an internally developed application
d.  Production phase, application maintenance, enhancement and support.

The RIP phase usually involves Sapient and client team spending a week locked away at a Sapient office focussing exclusively on the project details. The Sapient team facilitates breakout groups and meetings to understand client's business and IT strategy and make sure that the new application truly addresses business needs. Several clients have mentioned that the collaborative process of RIP was a unique learning experience for them.

## History

The company started when Jerry Greenberg and Stuart Moore both working with Cambridge Technology Partners (CTP) decided to go on their own. Jerry was 25 had been out of Harvard for just four years and was CTP's database guru. Stuart was a salesman. They decided not to give the company away for startup capital, charged $100,000 to their credit cards and invested $60,000 of their savings. They used $20 000 worth of used equipment that Moore owned. Their premise was that *customers who needed new software systems would pay well if they could be guaranteed a fixed price and a delivery date'.* Sapient's first major project was developing a data capture and decision support system using Oracle database for Au Bon Pain whose V.P. Mark Factor

## Acquisitions:

- December 1997, Sapient acquired EXOR Technologies Inc.; a Dallas based Oracle ERP consulting firm. Sapient issued 305,869 shares values at $16 million. EXOR with its 65 employees had considerable experience in implementing ERP solutions in Manufacturing, Energy Services, and Financial Services segments. The company took a one-time acquisition charge of about $560,000. In April 1998, EXOR started offering fixed-time, fixed-price implementation on all its projects.
- August 1998, Sapient Corp acquired a closely held Internet consulting firm, Studio Archetype Inc, for about $24.6 million. Studio employed 140 people and generated revenue of $20 million in 1998. Studio has designed sites for IBM, UPS, and Infoseek.
- March 1999, Sapient acquired Adjacency, a San Francisco Web marketing firm for 790,675 shares of its stock, valued at $50.6 million yesterday, for all equity. The 57-employee company has designed e-tailing shops for Virgin Entertainment and Apple Computers. Adjacency's price tag is nearly ten times its expected 1998 revenue. Several analysts think the Sapient paid too much for Adjacency as Net design firms are usually valued three times their revenue.

## Projects

1. 1992, Sapient created software applications that let Au Bon Pain analyze store transaction data and then distribute reports either via hard copy or electronically to each district manager's laptop
2. 1995, Sapient delivered a Sales Compensation application for Oracle 7 database server for Sprint Corp
3. June 1996, Sapient developed a system that Pacific Bell Internet Group used to market Internet services to its customers. After the system was successfully implemented, Sapient marketed the application framework to other Internet services providers
4. July 1996, Sapient developed the industry's first online real-time small-business banking system for Wells Fargo Bank. The system using web browsers allowed small-business owners to transfer money, view balances, track transactions, and other customer service functions.
5. Jan 1997, Sapient developed a Decision Support System for Maine's Bureau of Medical Services. The system improved its customer service and reduced program costs by $7 million.
6. February 1997. Sapient developed a system for Shaw's Supermarkets that could forecast sales a week in advance. The system also scaled recipes depending on the production forecast. The system cost Shaw between $1 million to $2.5 million and was completed within nine months. Currently the system is running in all of Shaw's 122 stores.

   March 1997, Sapient developed internal web sites for GM engineers to share information. These Web sites were called 'Knowledge centers'

## Financials

| Annual IS ($ million) | 1998 | 1997 | 1996 |
|---|---|---|---|
| **Revenue** | 160.4 | 90.4 | 44.6 |
| COGS | 77.6 | 43.8 | 21.0 |
| Gross Profit | 82.8 | 46.6 | 23.6 |
| Gross Profit Margin | 51.6% | 51.5% | 52.9 % |
| SG&A | 52.3 | 28.0 | 14.1 |
| Operating Income | 30.5 | 18.6 | 9.5 |
| Operating Margin | 19.0% | 20.6% | 21.3% |
| NI | 1.7 | 12.4 | 6.6 |
| Diluted EPS from NI | 0.49 | 0.47 | 0.27 |
| Number of employees | 835 | 817 | 530 |

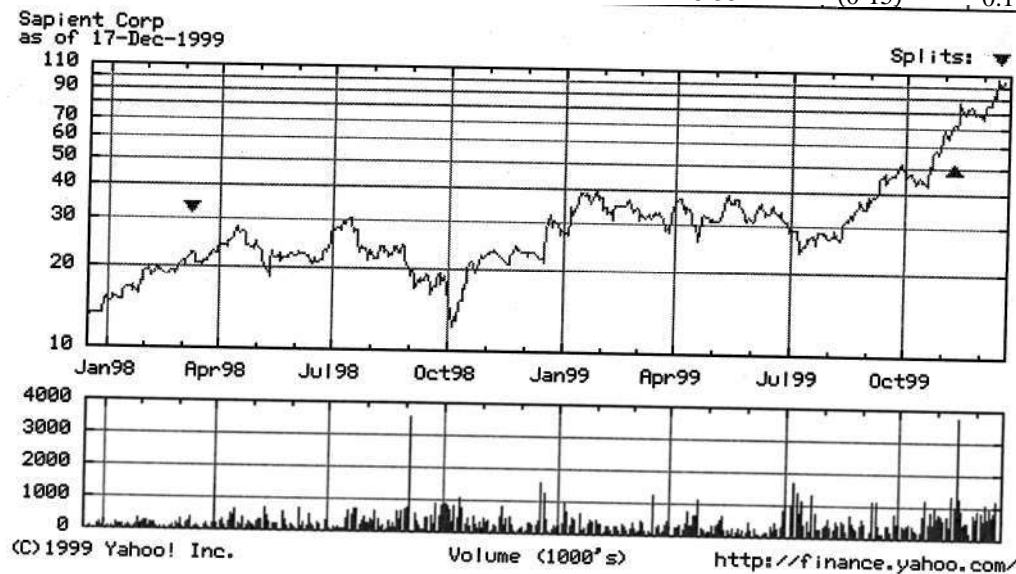| Quarterly IS ($ million) | 2Q 1999 | 1Q 1999 | 4Q 1998 | 3Q 1998 | 2Q1998 | 1Q 1998 |
|---|---|---|---|---|---|---|
| **Revenue** | 64.2 | 57.8 | 52.5 | **41.8** | 35.4 | 30.7 |
| COGS | 30.61 | 28.3 | 77.6 | 0.0 | 17.0 | 14.7 |
| Gross Profit | 33.6 | 29.5 | (25.1) | 41.8 | 18.4 | 16.0 |
| Gross Profit Margin | 52.3% | 51% | | 100% | 52.0% | 52.1% |
| SG&A | 21.74 | 20.9 | (34.3) | 34.0 | 11.1 | 9.8 |
| Operating Income | 11.32 | **8.6** | 9.2 | 7.8 | 7.3 | 6.2 |
| Operating Margin | 17.6% | 14.9% | 17.5% | 18.7% | 20.6% | 20.2% |
| NI | 7.7 | 4.3 | 8.4 | (4.0) | 5.1 | 4.3 |
| Diluted EPS from NI | 0.25 | 0.14 | 0.30 | (0-15) | 0.18 | 0.16 |



**Figure 24:** Sapient's Financials

In the second quarter, the company spent 8.4% of its revenue in sales and marketing to brand the newly acquired Adjacency and Studio Archetype under the Sapient brand  In the 2Q 1999, Ebusiness initiatives represented more than 70% of the revenue mix up from 30% in the same quarter last year. The company says that 80% to 90% of the projects in pipeline are Internet based. Sapient currently has 1,790 employees of which 1,413 are billable.

system innovator". It wants to do everything required to take its client's business to the Internet. This includes formulating business strategy, IT strategy, web site development, infrastructure implementation and maintenance. The company is not focussing on technology as much as it is on strategy. In that regard, it compares to McKinsey & Company rather than IT system integrators. In addition to eBusiness strategy, Scient offers its clients industry specific knowledge and integrates the new model into its existing business and legacy systems.

Scient has extensively researched ebusinesses. It has developed business plans, marketing models and performance metrics that are applicable to businesses operating on the Internet. These models are radically different from the ones that work for traditional businesses. Scient has developed a methodology called "the Scient Approach™" that guides its consultants to bring about system innovation. Scient Approach has four stages

- Conceive - Define business results, strategy, business model, and initiatives
- Architech - Design the business application and supporting software and infrastructure
- Engineer - Develop applications
- Extend - Evolve solution with changing environment and business needs

## Clients

Some of Scient's high profile clients include Realtor.com, Chase Manhattan, eBay, PlanetRx. AIG, First Union, innoVisions, and RealSelect.

## Appointments

The company is attracting top talent from professional service firms, Internet service providers, Internet design firms, and corporate information systems departments. The positions it is hiring include e-business strategists, architects, engineers, security experts, and software developers. Some of its distinguished recruits are:

- Bob Howe's, President and CEO. Started IBM Consulting Group, and Integrion, an electronic banking consortium. Howe managed IBM's global banking, finance and securities industry, and was a member of the worldwide management council. He is also a member of the Board of Directors of both Development Bank of Singapore and Johnson Commercial, an SC Johnson company.
- Mort Meyerson, Vice Chairman. Former chairman and CEO of Perot Systems
- Frederick Gluck former counselor at Bechtel Group and ex-managing partner of Mckinsey & Co.
- Bill Kurtz, CFO. VP of cost management at AT&T,
- Stephen Mucchetti, COO. General manager of IBM's telecommunications and media group and IBM Consulting;
- Scott Frisbie, CTO. Scott worked with IBM Consulting Group and recently designed Integrion, and GOLD financial specification language for a consortium of 14 largest

## Financials

| Annual IS ($ ,000) | 1998 |
|---|---|
| Revenue | 11,288 |
| COGS | 5,738 |
| Gross Profit | 5,550 |
| Gross Profit Margin | |
| SG&A | 7,710 |
| Operating Income | (2,160) |
| Operating Margin | |
| NI | (5,550) |
| Diluted EPS from NI | (0.88) |
| Number of employees | 27 |

| Quarter ($ ,000) | 2Q 1999 | 1Q 1999 | 4Q 1998 | 3Q 1998 | 2Q 1998 |
|---|---|---|---|---|---|
| Revenue | 16,404 | 9,400 | 6,300 | 3,100 | 1,924 |
| COGS | 5,738 | | | | 942 |
| Gross Profit | 5,550 | | | | 982 |
| Gross Profit Margin | 33.8% | | | | 51% |
| SG&A | 13,105 | | | | 1,583 |
| Operating Income | (8,989) | | | | (601) |
| Operating Margin | | | | | |
| NI | (8,393) | (6,200) | (3,700) | (1,300) | (523) |
| Diluted EPS from NI | (0.46) | (0.91) | (0.56) | (0.21) | (0.09) |
| Number of employees | 415 | | | | |



Scient Corp
as of 17-Dec-1999

Splits:

(C) 1999 Yahoo! Inc.    Volume (1000's)    http://finance.yahoo.com/
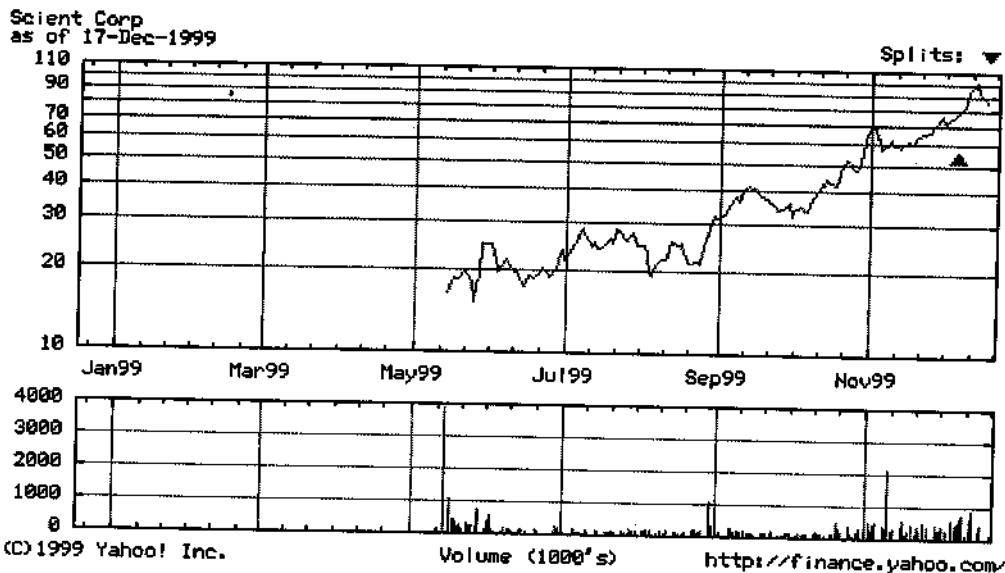
**Figure 25:** Scient's Financials

company needs to focus attention on selling its high-margin services and showing some profitability.

## History

*'We'll begin to think of our Web sites as our desktops'.* Joe Firmage, 1996

Four visionaries, Joseph Firmage VP of strategic planning at Novell, Toby Corey VP of marketing Novell's Netware products division, James Heffernan CFO at Interlink Computer Sciences started USWeb in December 1995. They were joined by Sheldon Laube also with Novell in January 1996. The founders wanted to make USWeb a chain of Web design firms that would make it synonymous with Internet consulting. They believed that *"Web sites are essentially real estate lots in an unbounded territory on a new continent and that civilization will change in fundamental ways as the Web frontier is progressively settled".* They predicted that the web would be the place where almost all transactions from voting to entertainment would take place. This was in 1995.

The firm had a two-tiered strategy consisting of corporate USWeb at the back end and its franchises at the front end. Corporate USWeb was responsible for providing high-speed links with phone companies and other access providers, developing marketing campaign generating Web templates and creating content libraries. The franchisees were offering ' Internet and Intranet Web site development, consulting, Internet access, Web site hosting website marketing and education services. The franchisees paid corporate USWeb $50,000 signup fee and 7% of their revenues as annual royalty. The first 10 franchisee signed up free and the first 40 paid only $25,000. This way USWeb was able to build a web of Internet expertise nationwide much faster than it would have by recruiting and training an organization. The company specialized in midsize net sites that cost $25 000 to $100,000 to build. Although USWeb made franchising famous, it did not pioneer'it Novell and USConnect had successfully used it earlier.

By May 1996, three small Internet consultancies NetOffice Inc (6 employees) in Atlanta OpenNet Technologies Inc in Clearwater Fla, and PageOne Associates (100 employees)' in Albuquerque signed up as USWeb's franchises. Also in May 1996, USWeb partnered with BBN Planet and outsourced the actual hosting (hardware and software) services to it. BBN Planet was a national ISP hosting hundreds of web sites with over 140 business partnerships. BBN provided 24X7 web site performance monitoring and reporting  BBN had earlier signed a deal with Scitor, a European ISP, and gained access to customers across the Atlantic. The alliance was beneficial to both companies. BBN achieved economies of scale with this relationship and USWeb got BBN's expertise and service.

By July 1996, USWeb had 14 affiliates. The next month, it signed a partnership with Compaq and Shiva Corporation to develop standardized configuration for web servers and networking equipment. In October 1996, USWeb got its 30th affiliate. In December 1996, it signed a partnership with Microsoft and press starting noting USWeb as 'one of nation's largest Web professional services firm'.

The company offers USWeb Professional Certification Program courses for professionals seeking Internet skill certification. Courses include Fundamentals of the Internet, Web Site Logistics, and Web Development Fundamentals.

A subsidiary of the company, USWeb Learning provides vendor-neutral certification programs for the Internet. It focuses on Internet design, administration, applications, and security. The certificates awarded are Certified Web Specialist, Internet Administration Specialist, and Internet Security Specialist. USWeb Learning has a network of authorized training centers that provide training.

## Application Outsourcing Market

In February 1999, USWeb started rolling out applications on the web. These include Communications Central, a suite of videoconferencing and meeting management apps, Presentations Central, an online presentation package, and Microsoft Exchange Services, a collection of customized e-mail applications based on Exchange. The company currently uses Frontiers OC-48 backbone to connect to its clients. Subscription price is around $7500 per month for 100 users. Since February, USWeb has increased its Internet applications to include CRM, back-office, E-commerce, communications and knowledge-management applications on a subscription basis.

In a report published by IDC in March 1999, the application service provider (ASP) market will reach $2 billion by 2003 representing 91% compound-annual-growth rate. The companies in this market include USinternetworking, IBM Global Services, EDS, USWeb, FutureLink, Oracle Online, Corio, ServiceNet, and World Technology Service. The report said that the market would consist of complex application environments (e.g., ERP), up-front consulting, customization and extension of the application, and ongoing technical support.

## Financials

| Quarterly Income Statement (millions) | 2Q 1999 | 1Q 1999 | 4Q 1998 | 3Q 1998 | 2Q 1998 | 1Q 1998 |
|---|---|---|---|---|---|---|
| Revenue | 100.1 | 84.1 | 72.6 | 34.0 | 25.4 | 13.7 |
| Cost of Goods Sold | 51.24 | 98.0 | 86.2 | 49.4 | 37.0 | 15.3 |
| Gross Profit | 49.72 | (13.9) | (13.6) | (15.4) | (11.6) | (1.6) |
| Gross Profit Margin | | - | - | - | - | - |
| SG&A Expense | | 32.0 | 29.5 | 20.9 | 31.7 | 11.0 |
| Operating Income | (22.71) | (45.9) | (43.1) | (36.3) | (43.3) | (12.6) |
| Operating Margin | | - | - | - | - | - |
| Total Net Income | (22.57) | (51.7) | (84.1) | (38.5) | (60.9) | (16.4) |
| Diluted EPS ($) | (0.29) | (0.73) | (1.26) | (0.95) | (1.81) | (0.56) |

## FINDINGS AND RECOMMENDATIONS FOR FUTURE POSITIONING

Comparing the financial performance of the seven companies leads to several interesting observations. In the three month period, market capitalization of three firms increased the most: Scient (349%), Sapient (267%) and Infosys (206%). Refer to figure 27 for all details. A look at the strategies of these three companies reveals some similarities.

*Focussed:* All three companies were focussed in their service offerings. Of the three Scient was the most focussed, providing only eBusiness and web marketing strategy. Sapient focuses only on financial services, government, telecommunications, manufacturing, energy and ebusiness. Infosys, the least focussed of the three is gradually moving towards eCommerce development.

*Differentiated:* Infosys has differentiated itself by developing very high quality processes and getting certification from Software Engineering Institute as well as International Standards Organization. Infosys is only among ten other software companies in the world that have achieved Capability Maturity Model (CMM) Level 5 rating. Sapient is differentiated in its fixed-time, fixed-price offering, and is amongst less than 5% of computer services firms that give such guarantees.

*Internal capability development:* Scient, Sapient and Infosys have not developed capabilities through acquisition or alliances, instead they have relied on training or selective industry recruiting to develop new skills. Scient hires the best in the industry and sells this "Dream Team" to its customers. Infosys hires PhD's for developing education material for its employees and trains its programmers continually. Of the three only Sapient has made acquisitions and these have been very selective, web design and marketing companies called Studio Archetype and Adjacency, respectively.

A firms that does not conform with the above observations but whose market capitalization appreciated significantly (195%) is USWeb/CKS. This firm has made over 40 acquisitions, and is currently in the process of merging with Whitman Hart, another computer services company. As USWeb/CKS's stock price is currently very volatile, an accurate representation of its strategy vis-a-vis its financial performance is not possible.

## *Recommendations*

According to Michael Porter, *'strategic positioning means performing different activities from rivals' or performing similar activities in a different way"*. Some of the ways computer services companies can differentiate themselves from their competitors are:

### Focus on verticals

Management consulting companies have followed the "practice" model for a long time. By focussing on a particular segment of the market, employees gain business expertise and develop 'best practices' that they then use to advice their clients. Although computer services firms are usually not in the 'advice' business, trends in the industry are pointing towards vertical segmentation. ERP vendors are standardizing their applications around specific industries, SAP on energy, Lawson on healthcare, and PeopleSoft on retail. CBSI, after implementing several 'Retirement Services' projects for state governments has started a 'Public Retirement System Services' practice. In a market where the package software customization and custom software development is the biggest cost component, prior industry experience can enable services providers to decrease the deployment time and suggest ways to improve existing business processes. By marketing themselves as an 'industry experts', companies such as CBSI and Keane can differentiate themselves from their competitors and command a premium for their services.

### Brand methodologies

Branding or trademarking their services is another excellent differentiating tool. Trademarking an offering brings it under copyright protection. The market perceives the service as a product of R&D that is superior in quality to unbranded services. Several companies have used this method effectively. Sapient calls it's offering the QUADD (Quality, Design and Delivery) methodology. Scient calls it's project implementation process as "the Scient Approach". AnswerThink has trademarked its knowledge management technology as 'Mindshare'. Companies should codify their learning from projects executed earlier, create templates, frameworks, documentation and other standards and trademark these methodologies.

### Building capabilities

As the first mover advantages become increasingly significant in the IT industry, rapidly developing capability will become a source of competitive advantage for companies. Firms can develop capabilities by training its employees; partnering with software vendors and acquiring companies that enhance its capabilities.

*Training:* An important characteristic of computer services industry is rapidly evolving technology. The most important asset in this industry is people. Firms have to continuously update the skills of their employees if they have to stay current with the latest technology. Some firms such as Tata Consultancy Services (TCS) have perfected a 'Train the trainer" model. Under this model, employees impart training to their co-

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