STUDENT MANAGED INVESTMENT FUND

GICS classification
Industry: Information Technology
Sub industry: Computer Software

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April 21, 2003

Infosys Technologies Ltd.

Ticker: ● INFY **Recommendation: ● BUY**
Price: ● $43.60 (4/18/03) **Price Target: ● $50.09**

Earnings/Share

	Jun.	Sept.	Dec.	Mar.	Year	P/E Ratio
FY2001A	$0.20	$0.25	$0.26	$0.29	$1.00	65.07
FY2002A	0.30	0.31	0.32	0.32	1.25	45.14
FY2003A	0.33	0.36	0.40	0.40	1.49	29.2
FY2004E	-	-	-	-	**1.83**	27-35

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Highlights:

- **Undervalued:** As per our analysis we calculated two values for the INFY stock price. We used two separate approaches, a relative value approach using the P/E ratio and a multiple cash flow model approach in order to achieve an intrinsic value. The average of the two were then taken and a target price of $50.09 was settled upon. This value is $6.49 higher than the current stock price of $43.60.
- **Satisfies Client Needs:** Due to a great decline in IT spending, many companies do not want big contracts. They want some things outsourced for cheap, this way they could focus on their core business. In general, Infosys saves a company about 40% in costs, does an excellent job in the services they provide, and allows the client to focus on increasing its revenue by targeting what they want to. Infosys makes everything customized to each client's needs.
- **Honorable Achievements:** Infosys got ICRA's highest corporate governance rating. It also bagged the CII-EXIM Bank Award for Business Excellence for 2002. The chairman was voted "IT Man of the Year" and awarded the Corporate Leadership Award. The management team is well experienced and involved in various substantial activities outside the firm. Several articles talk about its excellent leadership and strategy implementation
- **Has Great Future Outlook:** Outsourcing is a great trend in the marketplace. It has entered into huge deals with many leading firms. There is an increased opportunity in the government marketplace because of defend spending. It provides a valuable resource by adding to the customer's bottom line results.

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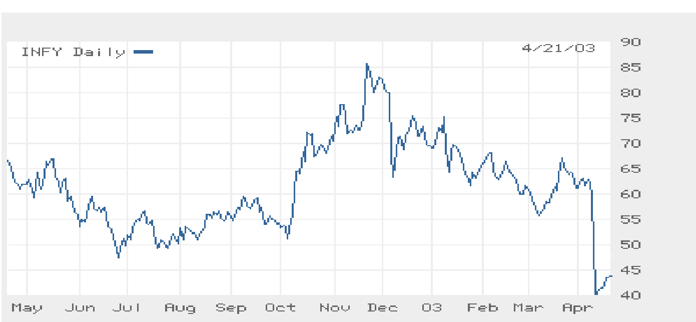


Market Profile	
52 Week Price Range	$ 86.83 to $38.51
Average Daily Volume	253,000
Beta	1.9
Dividend Yield	0.4%
Shares Outstanding	132,372,000
Market Capitalization	5,786,980,120
Institutional Holdings	2.8%
Return on Equity	31.129%
Return on Assets	27.668%
Debt to equity	.1
Est. EPS FY 2004	$1.83

Investment Summary

Our analysis of Infosys Technologies has **yielded a buy rating, and a twelve-month price target of $50.09.** We believe that at its current price Infosys is very attractive and can become highly profitable in the near future. The recent decrease in the stock price has made the stock even more attractive to us. We feel that even though investors have lost some confidence in Infosys' ability to match past performances, the company will still be a strong earner and they will remain one of the top companies in the industry well into the future. The decrease in the stock price ($59.33 to 40.25) in one day of trading may have been over- exaggerated given the current bearish nature of the market, leading us to believe that as the bear begins to seek hibernation Infosys will rally back.

Infosys derives a large portion of its revenues from North American operations. There has been an ongoing decrease in IT spending among the American businesses, forcing the competition to become tighter. Larger firms are swiping market share away from the smaller firms in efforts to maintain their growth. Infosys has aligned themselves with various exclusive contracts with many financial service firms in the U.S and is poised to maintain there continued growth in revenues, with our estimates of 25%, 23% and 22% for FY 2004, 2005, and 2006 respectively. By gathering exclusive contracts Infosys will be able to keep distance between them and their main competitors.

We are projecting revenues to increase to around $942 million for FY 2004 and by FY 2005 we expect Infosys to become a billion dollar a year corporation, approximately a growth of 858% from FY 1999. A large cry from the small startup company they once were.

Figure 1: INFY Daily Stock Prices / From May 1999 to April 2003

Source: BigCharts.com

Infosys' stock has traded at many different prices throughout the last four years. Extraordinary growth is the main driver in all this, causing the stock to trade as high as $332 on Feb 7, 2000, and as low as $33.63 on September 24, 2001.

Valuations

Relative Valuation: (see exhibit 1) To achieve a relative value we first took an estimate of Infy's earnings and came up with a value of $1.83, we then multiplied this value by our estimated P/E. Our estimated P/E ranged from 27-35, so we multiplied P/E's of 27, 30, and 35 by the earnings estimate. We achieved relative values of **$49.41, $54.90, and $64.05** respectively. It was clear to us that at each P/E level Infy is considered undervalued. To achieve a final target price we took the average of all three values and came up with a relative target price of ***$56.12***. Compared with the current stock price of $43.60 we can conclude that Infy is currently relatively undervalued.

Multiple Cash Flow Model: (see exhibit 2) In order to come up with an intrinsic value of the company we constructed a cash flow model. We used FY 2004 estimates in order to come up with the components for the model. We assumed growth rates of 25%, 23%, and 22% for the next three fiscal years (2004,2005,2006). Again we used the same three P/E values (27, 30, and 35) to formulate an intrinsic value. After achieving our valuations we came up with values equaling **$39.54, $43.25, and $49.43**. All of these prices indicate that Infy is undervalued. Taking an average of these prices we came up with a target price of ***$44.07***.

Target Price Range: We came up with a target price range based on our two valuation methods between **$56.12 - $44.07**. In order to get our final target price we took the average of the two and got a value of **$50.09**

The Convergent Economy

Converging technologies of telecommunication, information technology and media have redefined the way business is done. Electronic commerce and enterprise systems are becoming a way of life. Likewise, there has been a sharp increase in the need for qualified software professionals to manage these functions. Demand exceeds supply, and the shortage of human resources has resulted in increased personnel costs, longer time to market and longer product development cycles. One doesn't have to manage all business functions in-house. Outsourcing provides a neat solution to several business problems.

The Harvard Business Review has identified outsourcing as one of the most important management ideas and practices of the past 75 years. Spending by U.S. organizations on outsourced business services was said to have tripled from $100 billion in 1996 to $318 billion by 2001. Studies indicate that executives and top management, at both U.S and multinational companies, increasingly view outsourcing positively. Michael F. Corbett & Associates, Ltd. conducted research with more than 500 executives and found that:

- One in four organizations had planned to increase their outsourcing spending by 25% or more in 1999.

- By the end of 2000, outsourcing was said to represent 19.5% of the typical executive's budget.

- Firms in dynamic markets such as telecommunications, high-tech products, and professional services, already source more than 40% of their operations outside.

- Innovation is now seen as the key strategic benefit of outsourcing.

Company Description

Businesses

Infosys Technologies Ltd (NASDAQ: INFY) was incorporated in 1981 and provides consulting and IT services to clients globally. With over 10,000 employees worldwide, they use a low-risk Global Delivery Model (GDM) to accelerate schedules with a high degree of time and cost predictability. They provide solutions where business and technology strategies converge. Their method focuses on new ways of business, combining IT innovation and implementation in addition to leveraging an organization's current IT assets.

The company, based in India's "Silicon City" of Bangalore, offers a range of customized software services including development, maintenance, and reengineering, along with e-commerce consulting. It also sets up dedicated offshore software development centers for large clients. Infosys applications perform a variety of business functions such as automating bank operations and assisting with inventory, distribution, and warehouse management. Their clients include Boeing, Cisco Systems, Dell, Toshiba, and more.

The company grew rapidly in the mid-1990s by signing short-term pilot projects that it was able to leverage into more extensive contracts for managing mainframe upgrades, designing custom software, and implementing e-commerce systems. In 1998 Infosys established offices in Canada, Japan, and the US to better market its offshore development capabilities. The move paid off because by 1999, sales had reached $250 million. That year Infosys became the first Indian company to list its shares on Nasdaq, an offering timed perfectly with the surge in demand for technology stocks. Infosys' market cap ballooned to more than $17 billion in 2000.

Infosys works with large global corporations and new generation technology companies in order to build new products or services. Infosys is one of India's fastest-growing companies and is the first in that country to implement employee stock options. It derives about 70% of its sales from North American clients. AT&T signed a $5 billion dollar agreement and J.P. Morgan Chase signed a $7 billion dollar agreement with Infosys to manage their IT. It entered a long-term pact with Microsoft to dedicate more than 1,200 engineers to build e-commerce, financial services, and customer relationship management applications for the software giant. KPMG and Goldman Sachs have outsourcing agreements with Infosys as well. It has sales of over $545 million. Infosys executes practical business and technology strategies in today's dynamic digital environment.

Infosys Technologies has offices in Argentina, Australia, Belgium, Canada, France, Germany, Hong Kong, India, Japan, Sweden, the UK, and the US.

2002 Sales

	$ Mil.	% Of total
North America	388.2	71
Europe	106.1	20
India	10.7	2
Other regions	40.1	7
Total	545.1	100

Products/Operations

2002 Sales by Sector

	$ Mil.	% Of total
Financial services	199.7	37
Manufacturing	93.4	17
Telecom	85.2	16
Retail	67.1	12
Other	99.7	18
Total	545.1	100

2002 Sales

% Of total

Services

Development	32
Maintenance	29
Re-engineering	10
Package implementation	10
Consulting	4
Testing	3
Engineering	3
Other	5
Products	4
Total	100

Competitive Positioning

Strengths
Infosys offers a wide array of customized software services and business functions. It has secured contracts with major firms in the market and established offices in 12 countries. It has large cash reserves and can afford to offer large discounts to its overseas customers. It has a strong brand equity and can offer superior solutions at a fraction of its competitors' fees. Infosys is one of the largest computer software firms in India and has won numerous awards for its business and leadership.

Weaknesses
Infosys' share price fell 27% last week after it posted its lower than expected earnings for its fourth quarter and made a disappointing earnings outlook. It said that pressure on its profit margins will continue as long as clients demand lower prices and the stronger rupee (currency of India) reduces earnings. Infosys has to make sure that it doesn't let a company contribute more than 10% of its revenues. It made a mistake when it lost General Electric as a client a few years back. GE was its biggest client and contributed up to 20% of Infosys' revenue. A loss like that can be devastating so changes need to made as to how much one company can control Infosys' revenue.

Opportunities
Infosys can expand to other countries as well. It can secure more contracts with large firms. It has been highly documented in news reports that clients in general are pleased with Infosys' services. This sheds good light on the company and it can generate even more profits. There is also more opportunities in the government marketplace because of an increase of homeland security and defense spending.

Threats
It faces increasing competition from global rivals in the outsourcing business, with some overseas companies, such as IBM and Intel, setting up units in India. Infosys has blamed the war and the Severe Acute Respiratory Syndrome (SARS) for a weak fourth quarter, when net profit fell 23%. There is also the threat of decreased spending for IT services. Infosys has to deal with changes in the economy and find ways to overcome certain obstacles not under its control.

Large Competitors
Infosys resides in an industry that has plenty of competitors. Its three largest competitors include IBM, Wipro, and Satyam Computer Services. Wipro and Satyam are headquartered in India.

Small Competitors
Their small competitors include Accenture, EDS, iGate, Sapient, Computer Sciences, Bull, and S1. These companies are noticing the advantages of having outsourcing as one of its services and are starting to put them to use.

Industry Overview – *Information Technology*

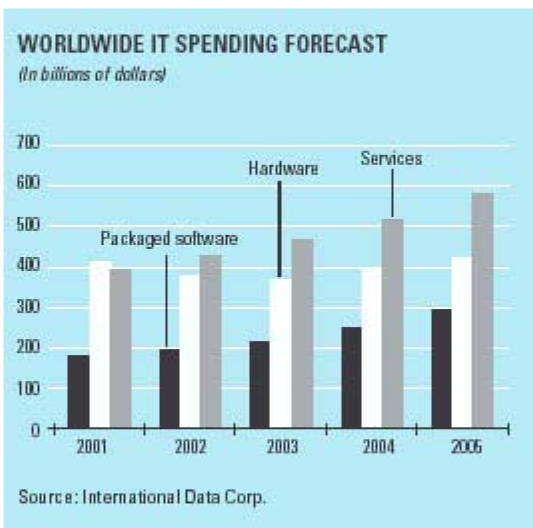
The current environment shows that the demand for computer services may strengthen.

Main Markets
Three primary areas of focus for IT service companies are consulting, payroll processing, and e-commerce.

Those who provided commercial computer services have faced a challenging environment in recent years. An example would be the burst of the Internet stock bubble in 2000. Economies worldwide began to slow in late 2000 and continued like that through late 2002. Spending on information technology forced great changes on the industry.

The decline in IT spending impacted the entire industry. Even the major companies must adjust to slower growth rates through realignment and cost-containment initiatives. The economic slowdown has demonstrated the importance of maintaining a diversified revenue stream. Outsourcing services held up much better than other areas, for example- consulting. Many smaller Internet consulting companies are out of business.

With the current economic condition and uncertain outlook in the near-term, many companies have tightened their IT spending budgets. Many companies prefer less intensive ventures. This reduction has caused increased competition among the service providers. Strong opportunities remain in corporate outsourcing.



Government agencies
Government agencies are projected to be among the fastest growing segments for IT services over the next few years. They have been hurt by the economic slowdown, shown by the rising number of layoffs. Budget tightening and cost-cutting efforts have become necessary. With their value-added offerings, IT service providers can help such customers run their operations more efficiently and reduce overall costs.

Defense spending
The September 2001 terrorist attacks realigned the federal government's priorities, placing a greater emphasis on defense. Department of Homeland Security was created in November 2002, merging 22 agencies into one entity with a budget of close to $40 billion. This could be highly important to the IT services industry, whose expertise in efficiently managing and integrating

various information gathering sources could be a major attribute to the government's new venture.

Business process outsourcing Growth
Business Process Outsourcing (BPO) is a part of the outsourcing industry that's just come out but is growing tremendously. BPO entails outsourcing an entire business function of a company, such as its human resources or finance departments. BPO services usually carry higher profit margins than traditional outsourcing, such as systems integration, consulting, and IT services.

INFORMATION SYSTEMS OUTSOURCING SPENDING
(In millions of dollars)

	2001	E2006	CAGR 2001-06E
United States	29,044	47,859	10.5
World	63,616	113,643	12.3

CAGR-Compound annual growth rate. E-Estimated.
Source: International Data Corp.

Outsourcing
It's one of the greatest segments of the computer services industry and has high revenues. According to International Data Corp. (IDC), an IT market research firm, worldwide spending on information system outsourcing services totaled $64 billion in 2001. They stated that less than half of all outsourcing business worldwide takes place in the United States. The drivers for demand are globalization, privatization, deregulation, and technological innovation. These trends are increasing global competition and pressuring companies to cut costs.

Merger & Acquisition
This is a major point for IT service providers who want to expand their growth opportunities and diversify their revenue bases. They can take advantage of the decreasing valuations of technology companies.

Payroll processing The payroll processing industry has had strong growth for many years. It only has a few major competitors. Because of the increasing complexity of administrative and compliance issues, payroll outsourcing is gaining more acceptance.

Outlook: Improvement

2002 was a challenging year for the IT services industry. The weak global economy caused customers to look at their IT spending more carefully. This caused more uncertainty about revenues and earnings per share. Customers are still placing orders but have delayed implementation.

The growth rates were in the mid-single-digit range in 2002. For the year, industry revenues should be close to $450 billion. For 2003, an analysis from Standard & Poor's shows that the recovering economy will help the industry, meaning that growth rates should approach 10% and an increase of nearly $494 billion in sales.

Contrary to the problems it faces, the industry has many positive characteristics such as increased opportunity in the government marketplace (because of defense spending and homeland security), and a great outsourcing trend. IT service companies provide a valuable resource by adding to their customers' bottom-line results, while allowing capital to flow to higher priority segments of their businesses.

WORLDWIDE INFORMATION TECHNOLOGY SERVICE SPENDING*
(In millions of dollars)

	2001	E2002	F2003	F2004	F2005	F2006	% CHG 2001–02	ANNUAL % GROWTH 2001–06
Consulting	19,805	20,600	21,915	23,671	25,841	28,396	4.0	7.5
Systems integration	89,619	91,779	99,908	110,172	122,541	136,010	2.4	8.7
Systems integration	70,532	71,441	77,278	84,719	93,561	103,141	1.3	7.9
NCIS	19,087	20,338	22,630	25,453	28,980	32,869	6.6	11.5
CAD	18,232	18,650	19,546	20,672	21,931	23,364	2.3	5.1
Outsourcing	109,575	125,480	145,695	170,108	198,051	229,505	14.5	15.9
Custom outsourcing	97,339	107,851	120,968	136,703	153,849	171,621	10.8	12.0
AM	11,233	12,677	14,456	16,491	18,867	21,629	12.9	14.0
IS outsourcing	63,705	70,190	78,468	88,776	99,741	110,611	10.2	11.7
NDOS	22,401	24,984	28,044	31,436	35,241	39,381	11.5	11.9
IT services SP	12,237	17,629	24,727	33,405	44,202	57,884	44.1	36.5
Application SP	1,784	2,792	4,373	6,876	10,601	16,504	56.5	56.0
System infrastructure SP	10,453	14,838	20,354	26,528	33,601	41,380	42.0	31.7
Deploy and support	88,572	91,758	98,358	106,183	115,169	125,765	3.6	7.3
Hardware deploy and support	45,041	46,106	47,867	49,718	52,202	54,599	2.4	3.9
Software deploy and support	43,531	45,652	50,491	56,465	62,967	71,166	4.9	10.3
Education & training	20,259	20,917	22,123	23,904	26,048	28,603	3.2	7.1
TOTAL	346,062	369,184	407,545	454,711	509,582	571,643	6.7	10.6

*Excludes processing services. E-Estimated. F-Forecast. NCIS-Network consulting & integration services. CAD-Custom application development.
AM-Application management. IS-Information services. NDOS-Network & desktop outsourcing. SP-Service providers.
Source: International Data Corp.

Performance During Past:	Infosys Technologies Ltd	DJ Software	DJ U.S. Total Market Index
3 Months	-36.40%	0.11%	-0.93%
6 Months	-39.61%	7.32%	2.04%
Year-to-Date	-37.31%	1.86%	1.44%
12 Months	-36.28%	-16.38%	-21.04%
2 Years	-19.87%	-32.04%	-24.39%
5 Years	0.00%	-21.66%	-21.16%

Reasons to Outsource:

Acquire technology skills	49%

Gain industry expertise	48%
Increase application expertise	38%
Add flexibility/reliability	25%
Improve IT performance	22%
Improve competitive position	13%
Link IT and business strategy	12%
Share risk	10%
Reduce costs	10%

Business Processes	Currently Outsourcing	Best Candidate for BPO (All Companies)
Human Resources	42%	59%
Finance and Accounting	41%	70%
Payroll	37%	70%
Real Estate	32%	65%
Procurement	15%	33%

Top executives are increasingly recognizing the need to manage their company's growth with less infrastructure. Thus, they are considering outsourcing processes that are essential, but not core to the growth of their business, including Finance & Accounting functions.

Attitudes towards BPO	Companies Outsourcing Finance and Accounting	All Companies
BPO allows companies to focus on core competencies	94%	86%
BPO allows companies greater efficiencies without having to invest in people and technology	85%	76%
BPO helps companies become more profitable, leading to increase in shareholder value	77%	66%
BPO will lead to better service levels than intenal service departments can provide	63%	48%

Satisfaction with BPO	Companies Outsourcing Finance and Accounting	All Outsourcers
Satisfied	84%	84%
Dissatisfied	13%	10%

More than 8 out of 10 executives (84%) outsourcing Finance and Accounting services are satisfied with their initiatives. One third of these executives report that BPO initiatives are in their company's current business plans.

Top 3 Strategic Benefits of BPO	Companies Outsourcing Finance and Accounting	All Companies
Maintain competitive edge	80%	67%
Focus on company's core business	79%	75%
Improve service quality	77%	70%

Industry Highlights

• Global giants such as IBM, Microsoft, Novell, Oracle, AT&T, Fujitsu, Motorola, Hewlett-Packard, Philips, General Electric, IBM, Reebok, General Motors and Sears are keeping ahead of their rivals because of the competitive advantage they received from some of the best software companies in India. They were able to benefit greatly from a successful outsourcing strategy.

• Demand exceeds supply, which has led to increased labor costs, longer product development and even longer time to market. A recent Wall Street Journal article related a greater willingness on the part of CIO's to outsource software work that is not mission critical.

• Reduce marketing and software delivery costs

• Gain access to global buyer base needing software development

• Manage projects online with buyer participation

• Neutral marketplace with global choices

• Economies of 24 hour X 7 days a week low-cost software development with access to global consulting firms. For instance, Advanced communication technology has allowed global software teams to become commonplace. Some software companies are organizing global software teams to employ the best talent in the world.

Management

N. R. Narayana Murthy - ***Chairman and Chief Mentor*** since March 31, 2002. He was Chairman and Chief Executive Officer from inception to March 30, 2002. He is 55 years old. In 2002, TIME/CNN named him among the "25 most influential global executives". From 1992 to 1994, Mr. Murthy also served as the President of the National Association of Software and Service Companies. He is on the Governing Council of the National Information Technology

Task Force of India and was voted "IT Man of the Year" for 1996 by Dataquest India. In 1998, Mr. Murthy was awarded the prestigious J.R.D. Tata Corporate Leadership Award.

K. Gopalakrishnan - ***Chief Operating Officer and Deputy Managing Director, Head - Customer Service and Technology*** since 1994. He was a co-founder and Director from 1981 to 1987. From 1987 to 1994, he was Technical Vice President and managed all projects at the U.S.-based KSA/Infosys, a former joint venture between Infosys and Kurt Salmon Associates. He is 46 years old.

T. V. Mohandas Pai - ***Director and Head of Finance and Administration, and Chief Financial Office***r since May 2000. From 1996 to May 2000, he was Senior Vice President. From 1994 to 1996, he served as Vice President of Finance. From 1988 to 1994, he was Executive Director of Prakash Leasing Ltd. He is 43 years old.

Deepak M. Satwalekar - *Director* since October 1997. From 1993 to 2000, he was Managing Director of Housing Development Finance Corporation Ltd. and Deputy Managing Director between 1990 and 1993. He's been a consultant to the World Bank and the Asian Development Bank, and is a member on the governing council of various management and educational institutions. He is 53 years old.

Dr. Jitendra Vir Singh - *Director* since October 2000. He is the Saul P. Steinberg Professor of Management at the Wharton School of Business in the University of Pennsylvania. He was earlier Vice Dean of International Academic Affairs at the Wharton School between 1998 and 2001 and Director of the Emerging Economies Program from 1996 to 1998. From 1991 to 1995, he was a Research Director of Entrepreneurship at the Entrepreneurial Center at Wharton. He received his Ph.D. from the Stanford Business School in 1983. He is 48 years old.

Claude Smadja - ***Director*** since October 2001. He is President of Smadja & Associates: Strategic Advisory, a firm advising global corporations and governments on strategic issues, global trends and their implications on policies. He organized the yearly East Asia Economic Summit. Between January 1996 and April 2001, he had been the Managing Director of the World Economic Forum. Prior to that, Mr. Smadja had been Director for the News and Current Affairs Department of the Swiss Broadcasting Corporation in Geneva and a Senior Advisor to the World Economic Forum. He is on the board of several corporations in Switzerland and abroad, and is the Chairman of the International Board of Overseers at the Illinois Institute of Technology.

Dr. Marti G. Subrahmanyam - ***Director*** since April 1998. He served as the Charles E. Merrill Professor of Finance and Economics at the Stern School of Business at New York University since 1991, and has been a visiting professor at leading academic institutions in England, France, Germany and India. He is a director of ICICI Ltd. and Nomura Asset Management (U.S.A.) Inc. He currently serves as an associate editor/editor of several leading academic journals in finance.

Philip Yeo - *Director* since October 1999. He served as the Co-Chairman of the Singapore Economic Development Board since February 2001, and Chairman of Singapore's National Science and Technology Board since February 2001. Mr. Yeo was the first Chairman of Singapore's National Computer Board from 1981 to 1987. Mr. Yeo joined the Administrative Service in 1970 and served in the Ministry of Defense where he held several appointments including the appointment of Permanent Secretary for logistics, technology research & development and defence industries up to January 1986.

Not immune to the slowing economy, Murthy saw his wealth drastically decrease in 2001; he lost more than $100 million due to Infosys' declining share value. In 2002 Murthy stepped down from the daily management of the company; co-founder Nandan Nilekan took over as CEO while Murthy, who remained chairman, adopted the new title chief mentor.

News and Analysis

From the **Fortune** issue of **Asia's Businessmen of the Year** in February 6, 2003, there is an article referring to Infosys titled "They Get IT – The Dynamic duo at the top of Infosys have done well and good". Some main ideas will be discussed. Location may be the most obvious thing that distinguishes Infosys from its U.S. software rivals, but it stands apart in other ways too, for example - paychecks. At Infosys, annual salaries for topnotch software engineers start at $4,500--an upper-class wage in India, but less than a tenth of what it would cost to hire a U.S. programmer with comparable skills. Chairman Narayana R. Murthy, 57, and CEO Nandan Nilekani, 47, are paid just $44,000 and $42,000 respectively. None of the firm's seven founders receive stock options, and Infosys still makes money. In 2002, CIOs all over the world over decreased technological spending. It may have seemed like bad news for Infosys since it designs software applications to fit the specific needs of clients as its core business. But the company's executives figured out that it could actually play to its strength as a low-cost alternative. It knew that corporate spending on IT service slowed, but spending on the sort of services they provided was compelling. CIOs wanted to get stuff done at the same quality level for less money with an outside partner.

So instead of retrenching, Infosys ramped up recruitment and launched an aggressive overseas sales and marketing blitz. The result was amazing. In the last three months of 2002, year-on-year earnings jumped 24%, and sales gained 45%. In the financial year that will end in March, the company expects to make a record profit of $194 million on sales of $740 million, up 50% from the previous year. While Nasdaq continued its free fall and finished 2002 down 31.5%, Infosys shares went in the other direction, rising more than 12%. Infosys stands out as a model of corporate governance. It may be the only company in the world to publish financial statements in accordance with the accounting standards of eight countries (Australia, Britain, Canada, France, Germany, India, Japan, and the U.S.). Its annual report discloses compensation details for directors and 452 top executives.

The two executives have put Infosys and India at the front line of a far-reaching revolution: the globalization of white-collar work. Over the past two decades Infosys pioneered a powerful business model that is widely emulated by rivals like Wipro and Satyam, that taps India's large pool of inexpensive, English-speaking engineers to deliver high-quality information technology services. Clients include Citigroup, Cisco, Aetna, and Gap. The bottom line is that India's revenues from software services are on course to top $10 billion this year (and still rising fast), accounting for more than a sixth of the country's total exports. The transformation would not have come so far if it had not been for Murthy and Nilekani. In 1999, Infosys became the first Indian company to list on Nasdaq, where its share price zoomed from $37 to a peak in March 2000 of $375. It couldn't last, of course, and Infosys stock tumbled like the rest. The difference is that there was a solid company beneath the bubbles, which was shaken, not destroyed, by the madness.

Infosys worked hard to make the most of its good fortune moving to more sophisticated tasks. In 1994, Nordstrom hired Infosys to help untangle the complexities of a new software package purchased for its employee benefits program. It was a small contract, but Nordstrom was so pleased with Infosys that it invited the company's programmers to help out with core business operations. In 1995, Infosys designed a system that would allow buyers to track which products were selling where. Nordstrom officials later calculated that hiring Infosys to do the job cost 40% less than doing it in-house, and it enabled them to get the system up and running in a third less time. These days, Nordstrom is a $20 million-plus client, employing 90 Infosys programmers-15 in Seattle and 75 in Bangalore.

Today Infosys serves 315 companies, most of them in the U.S. About 60 are FORTUNE 500 firms. The five firms that dominate India's software export industry--Infosys, privately held Tata Consultancy Services (TCS), Wipro Technologies, Satyam Computer Services, and HCL Technologies--typically transfer about 70% of the work they do for U.S. and European clients back to India. That yields enormous savings, while still allowing them to pocket healthy margins. Analysts at SG Cowen Securities estimate that Infosys posted a 2002 profit margin of 34%--roughly triple that of IBM and of Accenture, and four times that of EDS.

India has also learned to turn its location to advantage. The fact that Infosys lies halfway around the world from its U.S. clients means that engineers toiling in California or New York can hand off work to colleagues in Bangalore at the end of the business day. When they come back to work the following morning, the job is done. Another area in which Infosys and other Indian firms look likely to make a dent is "business process outsourcing" -mainly call centers. But the term also encompasses a wide spectrum of more sophisticated back-office functions, such as telemarketing, processing insurance claims, or booking airline reservations. IT geeks tend to mock back-office work: Margins are lower and employees need fewer technical skills. But the attributes that helped India succeed in software--good skills, cheap labor, and fluent English in a strategic time zone also make it an attractive back-office location. Demand is booming; all the major Indian software players are piling in.

In an article from **Hoover's** titled **India's Infosys gets ICRA's highest Corporate Governance Rating** from April 17th, 2003, it states of Infosys obtained the rating of "CGR1" for its best practices and financial disclosures. This is despite the guidance issued by Infosys that its growth in earnings for the fiscal year would be lower than the last one.

In an article from Asia Pulse on April 16th, 2003, it stated that India's **Infosys bags the CII-EXIM Bank Award for Business Excellence for 2002.** Infosys was chosen among 10 companies, including Indian firms operating abroad.

Earnings Analysis

Total revenue for FY2003 grew 38.3% for the year up approximately 6.6% from a year ago. Revenue growth has been a major driver in the success of this company pushing its way up to high double-digit % growth from year to year. COGS has increased with the increase in revenue but the company has witnessed a second consecutive year of decline in gross profit margin, which should draw some red flags, but in the IT industry this a norm, especially during times of high competitiveness. GPM is estimated to decline for the third consecutive year due to high pricing pressures of the industry.

Net income enjoyed an 18% increase in FY2003, and we have estimated continued increases into FY 2005 of approximately 23% and 25%. EPS is estimated to check in at $1.83 for FY2004 and $2.27 for FY 2005. EPS for FY2003 saw a healthy increase of $.24 per share to $1.49 and is expected to continue to grow into the next fiscal year.

Investment Risks

Since revenue and profitability have grown rapidly in recent years and are likely to vary significantly in the future from quarter to quarter. It is possible that in the future some of Infosys' quarterly results of operations may be below the expectations of market analysts and investors, which could cause the share price of to decline significantly, as was witnessed on 4/10/03. Some factors affecting this may include, changes in the companies pricing policies or those of their competitors, the effect of seasonal hiring patterns and the time required to train and productively utilize new employees, particularly information technology, or IT, professionals.

Other factors not within the control of the company consist of the duration of tax holidays or exemptions and the availability of other Government of India incentives, currency exchange rate fluctuations, particularly when the rupee appreciates in value against the dollar since the majority of Infosys' revenues are in dollars and a significant part of their costs are in rupees.

General economic factors have contributed to some of the risks with Infosys. They consist of the current economic downturn and the current outbreak of the SARS virus in Asia. Intense competition in the market for IT services could affect their cost advantages, which could reduce their share of business from clients and decrease their revenues.

Infosys' success is highly dependent upon its skilled management team, key personnel and large part upon the company's highly skilled IT professionals and their continued ability to attract and retain these personnel.

The IT services market is characterized by rapid technological change, evolving industry standards, changing client preferences and new product and service introductions. Future success will depend on Infosys' ability to anticipate these advances and develop new product and service offerings to meet client needs. The company may not be successful in anticipating or responding to these advances in a timely basis, or, if they do respond, the services or technologies they develop may not be successful in the marketplace. Further, products, services or technologies that are developed by their competitors may render Infosys' services non-competitive or obsolete.

Terrorist attacks, such as the attacks of September 11, 2001 in the United States and other acts of violence or war, have the potential to have a direct impact on Infosys' clients. To the extent that such attacks affect or involve the United States, the company's business may be significantly impacted, as the majority of their revenues are derived from clients located in the United States. In addition, such attacks may make travel more difficult, may make it more difficult to obtain work visas for many of Infosys' IT professionals who are required to work in the United States, and may effectively curtail the company's ability to deliver their services to their clients. Such obstacles to business may increase their expenses and negatively affect the results of their operations. Many of Infosys' clients, in particular for their newer services, such as business process management and IT outsourcing, visit several IT services firms onsite prior to reaching a decision on vendor selection. Terrorist threats and attacks could make travel more difficult and delay, postpone or cancel decisions to use their services. Also **Regional conflicts in South Asia** could adversely affect the Indian economy, disrupt Infosys' operations and cause their business to suffer.

Key Ratios

	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Return on Assets (ROA)	11.354%	27.975%	38.542%	34.907%	27.668%
Return on Equity (ROE)	12.496%	30.961%	42.319%	37.178%	31.129%
Net profit margin	14.424%	30.153%	31.883%	30.174%	25.851%
Gross profit margin	45.987%	45.400%	48.384%	46.788%	44.633%
Current Ratio	8.87	7.52	6.77	10.39	8.05
Asset turnover	0.79	0.93	1.21	1.16	1.07
Days Sales Outstanding	60.52	56.04	57.28	46.22	52.84
Debt to Equity	0.10	0.11	0.10	0.07	0.10
Equity Multiplier	110.06%	110.67%	109.80%	106.51%	112.51%

	FY 2003	IBM	WIPRO	SAY	Industry	Market
Return on Assets (ROA)	27.668%	3.900%	24.70%	10.30%	2.70%	0.80%
Return on Equity (ROE)	31.129%	16.600%	30.30%	13.30%	4.60%	4.90%

Net profit margin	25.851%	4.530%	24.52%	12.35%	3.62%	2.50%
Gross profit margin	44.633%	44.100%	42.98%	91.29%	74.40%	47.96%
Current Ratio	8.05	1.21	4.04	4.59	1.84	1.38
Asset turnover	1.07	0.90	1.10	0.90	0.80	0.30
Days Sales Outstanding	52.84	121.31	63.36	NA	80.79	60.30
Debt to Equity	0.10	1.14	1.23	0.01	1.69	5.95

Profitability Ratios:

The **gross profit margin** measures gross profit per dollar of sales. It is calculated by dividing gross profit by sales. InfoSys has a gross profit of 44.633%. When Compared to its competitors InfoSys does slightly better than IBM (44.100%) and WIPRO (42.98%), however SAY (91.29%) shows a substantially higher GPM than its competitors. When compared to the industry and the market, InfoSys does substantially lower than the Industry (74.40%), but stays comparable to the market (47.96%). InfoSys has had a decline of gross profit of about 2% since 2001, which it attributes the higher cost of human capital and weak economic conditions.

The **net profit margin** equals total net income divided by revenue, represents the amount of each dollar of revenue that results in total net income. The net profit margin of InfoSys is 25.851%, which soars above many of its competitors, the industry as well as the market. The net profit margin indicates that InfoSys retains more of its sales than its competitors.

The **return on assets** equals the net income, divided by the total assets. InfoSys' ROA equals 27.668%. InfoSys' return on equity is significantly higher than its competitors as well as the industry and the market, excluding WIPRO that has a ROA of 24.70%. This can be an indication of InfoSys' superior ability to manage its assets.

The **return on equity** equals the net income from total operations divided by common stock equity. It is a measure of the return on each dollar invested by the common shareholders. InfoSys' return on equity equals 31.129%, which also is substantially better than its competitors, industry and the market. The ROE for InfoSys is a pleasant sign being that it is an for net income generated on the equity invested in the company.

Liquidity Ratio:

The current ratio is calculated by dividing current assets by current liabilities. It indicates the extent to which current liabilities are covered by those assets expected to be converted into cash in the near future. Infosys has a current ratio of 8.05, which almost doubles the ratios of its competitors and soars above the industry and the market. The ratio shows that Infosys has lower short-term liabilities when compared to its competitors.

Asset Management:

The asset turnover is calculated by dividing sales by total assets. It measures how efficiently a company uses its assets to help generate sales. InfoSys has a ratio of 1.07, while its IBM and SAY have a ratio of 0.90 and WIPRO has a ratio of 1.10. The industry has a ratio of 0.80 and the market has a ratio of 0.30. The ratio shows that InfoSys adequately uses its assets to help generate sales, but when compared to WIPRO, it can be inferred that it has room for improvement.

The days sales outstanding is calculated by dividing accounts receivable by revenue divided by 365. This ratio indicates the average collection period. Infosys has days sales outstanding of 52.84 or 53 days. Its days sales outstanding is comparably lower than its competitors, industry and the market. The days sales outstanding implies that Infosys is efficient in collection of debts.

Leverage Ratio:

The **debt to equity** ratio is calculated by dividing total debt by common stockholders equity. The ratio indicates how leveraged a company is toward debt compared to its equity. Infosys has a debt to equity ratio of 0.10. When compared to it competitors it fairs extremely well compared to its competitors, industry and market. Infosys' ratio is only outdone by SAY that has a ratio of .01. This implies that Infosys carries little debt and interest rate fluctuations are not much of a concern to the company.

DuPont Analysis:

ROE = PROFIT MARGIN * ASSET TURNOVER * EQUITY MULTIPLIER

$$\frac{\text{NET INCOME}}{\text{EQUITY}} = \frac{\text{NET INCOME}}{\text{SALES}} * \frac{\text{SALES}}{\text{TOTAL ASSETS}} * \frac{\text{TOTAL ASSETS}}{\text{EQUITY}}$$

FY 2003:

31.129% = 25.851% * 107.03% * 112.51%

$$\frac{\$194{,}870{,}041.00}{626{,}004{,}919} = \frac{\$194{,}870{,}041.00}{\$753{,}807{,}025} * \frac{\$753{,}807{,}025}{\$704{,}308{,}967} * \frac{\$704{,}308{,}967}{626{,}004{,}919}$$

FY 2002:

37.178% =30.174% * 115.68% * 106.51%

$$\frac{\$164{,}466{,}309}{\$442{,}379{,}366} = \frac{\$164{,}466{,}309}{\$545{,}051{,}214} * \frac{\$545{,}051{,}214}{\$471{,}161{,}734} * \frac{\$471{,}161{,}734}{\$442{,}379{,}366}$$

FY 2001:

42.319% = 31.883% * 120.89% * 109.80%

$$\frac{\$131{,}948{,}104}{\$311{,}791{,}701} = \frac{\$131{,}948{,}104}{\$413{,}850{,}510} * \frac{\$413{,}850{,}510}{\$342{,}347{,}819} * \frac{\$342{,}347{,}819}{\$311{,}791{,}701}$$

Analysis:

The DuPont analysis shows that Infosys' ROE has lowered from 2002 to 2003. With further study it can be seen that the factors affecting the lower performance in ROE has been most significantly impacted by its sales, which could be attributed to the competitive pricing in the industry. What is most apparent from the year 2002 to 2003 is that the equity multiplier increased by 6%, however the company still carries low debt and isn't much higher than previous years.

Exhibit 1: (Relative Valuation)

Infosys Tech. stock price (4/17/03) = **$43.60**
Current EPS = $1.49
Current P/E = 29.2
Estimated EPS (FY 2004) = 1.83

Forward P/E = 43.60/1.83 = 23.825
Estimated P/E for (FY 2004) = 27x

*Target Price = Est. P/E * Est. EPS*

= 27 * 1.83 = $49.41
= 30 * 1.83 = 54.90
= 35 * 1.83 = 64.05

Average target price = ***$56.12*** ***(Relatively Undervalued, compared to current price of $43.60.)***

Exhibit 2: Multiple cash flow model

FY 2004 expected cash flow = net income + dep. (non-cash expenses)-capital expenditures

CF1 = 1.88
CF2 = (1.88*.25)+1.88 = 2.35
CF3 = (2.35*.23)+2.35 = 2.89
CF4 = (2.89*.22)+2.89 = 3.52
CF5 = assuming growth rates of 23%(2005) and 22%(2006)

2003 = 1.49
2004 = 1.83
2005 = (1.83*.23)+1.83 = 2.25
2006 = (2.25*.22)+2.25 = 2.74

Price = P/E (2006) x 2.74
Estimated P/E = 35, 30, 27
35 x 2.74 = 95.90

30 x 2.74 = 82.20
27 x 2.74 = 73.98

=1.88/(1.25)+2.35/(1.25)^2+2.89/(1.23)^3+3.52/(1.22)^4 = **6.15** + (95.90, 82.20, 73.98, either one)/(1.22)^4

(35) = **$43.28 + 6.15 = 49.43**
(30) = **$37.10 + 6.15 = 43.25**
(27) = **$33.39 + 6.15 = 39.54**
Average target price = $44.07

INFY is **undervalued** at its current price of $43.60, compared to an intrinsic value of **$44.07**.

Disclosures:

Ownership and material conflicts of interest:
The author(s), or a member of their household, of this report holds a financial interest in the securities of this company.
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Compensation of the author(s) of this report is not based on investment banking revenue.
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Ratings key:
Banks rate companies either as BUY, HOLD or SELL. A BUY rating is given when the security is expected to deliver absolute returns of 15% or greater over the next twelve month period, and recommends that investors take a position above the security's weight in the S&P 500, or any other relevant index. A SELL rating is given when the security is expected to deliver negative returns over the next twelve months, while a HOLD rating implies flat returns over the next twelve months.
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