

*Visionary software engineer N.R. Narayana Murthy is CEO and co-founder of Infosys and a pioneer in India's high-tech industry.*

*In the following interview, Murthy describes the foundations of the Indian high-tech industry and the vision behind Infosys in the context of globalization.*

## **The Basis for India's High-Tech Industry**

INTERVIEWER: Why did India actually create the IITs [Indian Institute of Technology]?

NARAYANA MURTHY: Nehru in some sense laid the foundation for modern India because he truly believed that it is very important for India to have a very strong foundation in both primary education and higher education if we wanted to integrate ourselves with the modern world. Right from day one he did several things. One, he started IITs and installed some management and other institutes of higher learning. The second thing was that right from day one he had zero import duties on books [and] periodicals. And the third thing that he did was right from day one, from 1947, the government of India released foreign exchange for students to go out and study elsewhere because... Nehru truly believed that higher education is extremely important for the emancipation of the country.

INTERVIEWER: What was his vision? What role in society were the graduates of the IITs going to perform?

NARAYANA MURTHY: He made a statement that the temples of modern India are the dams, the electrical power plants, the manufacturing plants, and he realized that these engineers, the doctors, the physicists, and the chemists, these are the people who will make these things happen. So he realized that they played a very important role.

## **Socialism in Post-Independence India**

INTERVIEWER: When you left IIT, did you know what your own political issues were? Did you believe in central planning and socialism?

NARAYANA MURTHY: Remember one thing: All of us believed in central planning; all of us believed in socialism because we were all children of a different generation. We were all

mesmerized by the charisma of Nehru. Nehru believed in central planning, Nehru believed in socialism. Nehru believed in the Soviet-influenced model of development. So it was not at all unusual for an idealistic man to be completely bowled over by these principles.

INTERVIEWER: Were you yourself?

NARAYANA MURTHY: I was very much influenced by Nehru's idea of socialism, Nehru's idea of planning. As a youngster, we all looked up to Nehru. But then I realized, when I went to France, and when I spent quite a lot of time in Europe—I spent about 10 full years—that if you want to eradicate poverty, you don't do it by redistribution of existing wealth. You have to create more wealth, and that's when I got somewhat disillusioned by the socialism as [it] is practiced in India. Socialism as it is practiced in Sweden, I think [that is] pretty good, but not as it's practiced in India.

### **Launching Infosys as an Externally Oriented Company**

INTERVIEWER: When you started off with Infosys, how much capital and how many people did you start off with?

NARAYANA MURTHY: When we started Infosys in 1981, we were seven people, and we put together about US\$250 at current exchange rates. We were short of money, but we were very long on hope. We were very united, very enthusiastic.

INTERVIEWER: You were very ambitious at the start. Tell me about this huge job. What was the time you set yourself?

NARAYANA MURTHY: Considering that we were starting with just \$250, certainly we were very ambitious. There's no doubt at all. Our [dream] was to create a company which was highly respected, a company that created jobs for the Indian men and women of the country, a company that stuck to a certain value system, a company that demonstrated the power of corporate governance as [it] is practiced in the best of the countries, a company that regained the educated talent in the country. These were really our primary objectives, and also a company that demonstrated itself by benchmarking with the best in the world, a company that focused on exports, because I do believe that exports are extremely important for various

reasons. One, only if you're export-oriented will you start benchmarking yourself with the best in the world. On the [one] hand, if we are inwardly focused in India, then our standard is Indian standard. On the other hand, if we are export-focused our standard is a world standard.

INTERVIEWER: From the start you saw yourselves in global terms, which I thought was pretty extraordinary in 1981.

NARAYANA MURTHY: Oh, yes. Right from day one we were externally focused, believing in competing in the most competitive markets in the world, [such as] the United States, because of several reasons. One, there was really no market for software in India at that point in time. Number two, all of us who founded this company have had experience of either working or studying outside of India. And third we realized that that's where the whole action was, that's where the whole leading edge of technologies were being invented and innovated. That's where the leading edge applications were being developed. And we said, Look, if we want to experience all the good things that are happening at the leading edge of technology, then we have to be globally competitive. We have to be externally oriented.

## **India's Comparative Advantage in High Tech**

INTERVIEWER: The whole conception of starting a global company in India is pretty hopeless. What are the actual advantages of starting up a business like this in India?

NARAYANA MURTHY: Well, I think India has several advantages in the knowledge sector, in the software sector. One, certainly, is the large number of educated professionals. Number two, most of these people are English-speaking, or at least comfortable in English. Number three, the fact that India is positioned strategically with the rest of the United States in terms of being nine and a half hours to 12 1/2 hours away from the United States. That is the third advantage, which means that by combining the primetime in the U.S. with the primetime in India we can have 24-hour productive days. And of course, India is very, very cost-competitive. I define globalization as producing where it is most cost-effective, selling where it is most profitable, sourcing capital from where it is without worrying about national boundaries. I think every country has to recognize its competitive advantage and liberate its

strengths to be a partner in global trade, and that's the only way you can survive and succeed.

INTERVIEWER: You said 5 percent of the Indian population are educated and speak English, but that gives you a pool of about 50 million people.

NARAYANA MURTHY: Absolutely.

INTERVIEWER: There's a reservoir of talent in India. Give us a sense of how many people, and how that comes about.

NARAYANA MURTHY: Every year we have somewhere around four to five million science and engineering students coming out of universities, and that's a fairly large number. These are people who come from the middle class, which means that they have the middle-class value system in terms of working hard, in terms of education, for making their lives better and better in terms of giving value for money to their employers, in terms of value of hard work [and] honesty. So this four, five million people coming out of universities every year, that's a good number, and I believe that these people can certainly help India become much better by creating a large export surplus, and by creating opportunities in both the secondary and tertiary sectors by their disposable income.

## **Entrepreneurship Under India's Permit Raj**

INTERVIEWER: Going back to 1981, how difficult was it to start a new business under the Permit Raj?

NARAYANA MURTHY: It used to take us about 12 to 24 months and about 50 visits to Delhi to import a computer worth \$1,500. Today, I don't need to go to anybody's office to import anything that I want. I can import a computer worth millions of dollars. See the difference? I think that the kind of inhibition that these permit [and] license laws brought into play, the kind of friction to business that these policies cost, is something that can only be experienced, it can't even be explained. It's difficult to appreciate.

INTERVIEWER: Is it fair to say the government was almost antagonistic to your free enterprising?

NARAYANA MURTHY: I don't want to use the word antagonistic. I [would say] government didn't appreciate the role that business could play in creating the wealth in the country, in solving the problem of poverty. Somehow the mindset in those days was that it was the job of the government to create more and more employment, [but] I don't think it was the task of the government to create more and more employment. It was the task of business to create more and more employment. It is the task of the government to create an environment where business thinks that it has enough incentives to create more and more jobs.

### **The Effects of Liberalization on India's High-Tech Industry**

INTERVIEWER: What difference did this liberalization make in 1991? You've given one example, but how did the climate of business change?

NARAYANA MURTHY: I think the liberalization introduced in 1991 did several things. Let me recount them. One, as I said, it reduced friction to business or enhanced the velocity of business. That is, we didn't need to go to Delhi any more to get any licenses. In fact, ever since 1991, there is not a single instance when I went to Delhi for any license for any business of Infosys.

Number two, the government abolished the Office of Control of Capital Issues. This officer was responsible for deciding the premium at which we could offer our shares at the time [of] the IPO—that is, what premium Infosys would get when it offered its shares in the market. Generally, this officer did not give too much of a premium; equity was not seen as a viable financing option. The government abolished the office and then said it is the company and the investment bankers who decide at what price they will offer shares to the public as part of the IPO. Equity became a very viable financing option.

The third thing that the government did was before 1991 there was no convertibility in the country. We had to get transaction by transaction approved by the Federal Bank, or from the Bank of India. If I wanted to travel, I had to get permission from some officer at this bank, and that was extremely difficult. There was very little possibility of Indian companies

establishing sales offices outside of India, [of] Indian companies starting big sales promotion campaigns outside of India. All those things were removed. Today it is absolutely easy to do any of these things.

And the fourth thing, the most important that the government did, was it allowed 100 percent equity for foreign companies in high-tech areas, and that brought the finest multinationals to India—the Microsofts of the world, the General Electrics, the Citibanks, the Oracles, the Suns. The reason was, one, it provided the latest technology to Indian companies. Second, it also created tremendous competition by a very important resource, which is human resources, and because there was tremendous competition for human resources, companies like Infosys realized that unless we compete with these multinationals in attracting and retaining those resources, we will disappear like dew on a sunny morning.

I am glad to say that Infosys realized this fairly early in the game and said we will play the game better than any multinational, because if we can't compete with multinationals in India, what is the hope of Infosys competing with multinationals in the UK, or in the U.S.? That was a very, very important thing that happened. So companies like Infosys learned to be more and more competitive.

## **Valuing Employees at Infosys**

INTERVIEWER: How do you keep people?

NARAYANA MURTHY: Well, we believe that our asset is primarily our people. Our asset walks out mentally and physically tired every evening. It is our responsibility to make sure that asset comes back enthusiastic in the morning. So what we have done is this: We have created an environment here where people would want to come and add greater and greater value to the company. We've done it by multiple things. One, we have ensured that the basic conditions are all satisfied—salaries, we have the country's most attractive stock option plan. We have everybody in the company have stocks; we have about two thousand rupee-millionaires. We have about 250 [or] 300 dollar-millionaires. That's one. The second thing is we have created flexible hours here. We have said as long as you satisfy the customer, you are absolutely free to spend the time the way you want to. We have created a sauna, gymnasium, swimming pool, we have created Internet cafes, and we have created libraries. People can spend the

time the way they want. In other words, people have realized that this is a civilized community, a community where you put the interest of the community first, ahead of your own personal interest, and that will indeed lead to the betterment of the individual. And that's the biggest mistake that we have passed, and people have understood that.

## **Infosys as a Global Company**

INTERVIEWER: Did liberalization help Infosys go global?

NARAYANA MURTHY: There's no doubt at all. As I said, if there's one good example, one shining example of all the positives of liberalization, it is Infosys. As you know, it has helped in many ways. One, it helped us open offices outside India, second it helped us become more competitive, third it helped us to get consultants in quality, in brand equity, from outside of India. In other words, it has made us realize that we can compete more effectively globally, but by first learning from the best companies from outside of India; and number two, seeing how we can improve on all these teachings.

INTERVIEWER: How global are you?

NARAYANA MURTHY: About 98 percent of [our] revenue comes from outside India. That's a good example of how global we are.

INTERVIEWER: And how many offices do you have abroad?

NARAYANA MURTHY: We have about 12 or 13 offices in the United States. These are sales offices. We have five or six sales offices off in Europe. We have two in Japan. We have one in Canada, we have two in Australia, and we have in Hong Kong. [In] addition to the eight development centers in India, we have three in the United States, we have a consulting division in Dallas, we have development centers in Fremont, California, in Chicago, in Boston. We have a development center in Toronto, Canada. We have one in London. So we are fairly global.

INTERVIEWER: You said that you set out to be a good employer, and I think you also said that your aim is to produce [goods] much cheaper.

NARAYANA MURTHY: Sure. One of the reasons why we have emphasized our activities in England is because of the access to talent. In our business, which is people's business, access to talent is extremely important. Every company has to identify what I call its strategic resources, and make sure that it grabs as much of its strategic resources as possible. In our business, it is people, technology, and processes. Because India offers a large pool of talent, we have realized that India forms a really important note in our game plan. And I'm sure tomorrow we'll go to the Philippines, we'll go to China, and we'll go to other countries, too. We'll search [for] a certain kind of talent in the United States, in the UK, in Canada. In what we call our proximate development centers in the U.S. and UK and Canada there are a lot of local people.

## **Globalization and Corporate Citizenship**

INTERVIEWER: More broadly speaking, do you think that globalization has been good for Infosys? On the whole, is it good or bad for mankind?

NARAYANA MURTHY: I think globalization is good for mankind. Globalization insofar as fair trade practices, agreed to and adhered to by every country, globalization is good. Those people who have nothing to offer to the marketplace do not like globalization. Globalization is good for those who have something to offer to the marketplace. Globalization is good for some people who want to buy something from the marketplace. Towards that I would say that as long as a country does not very clearly identify its competitive [advantage] and does not liberate these competitive [advantages] to bring some products to the global market with the best quality at the best price, then globalization is not good for those countries. But if a country has something to offer in the global market, it is good.

INTERVIEWER: It's not good for people who have nothing to offer in the market?

NARAYANA MURTHY: By and large, globalization is not good for countries which have not learned to attract global capital, which have not learned to integrate themselves with the global community, which have not agreed to play by the global rules, or the rules of the global market, and countries that don't have much to offer in the contemporary world. I don't want to mention any nations, just that those nations that are not accepting these principles will find it difficult to compete in the global marketplace.

INTERVIEWER: So [what do] you say to a socialist like yourself? I think you don't believe that global corporations, including yours, are quite simply the end of the threat?

NARAYANA MURTHY: No, I would say that this: I am a capitalist in mind, I am a socialist at heart. To me, every corporation, wherever it operates from, whether it operates in the United States, in India, in Sweden, in the UK, the corporation has several stakeholders. You have the customers, you have the employees, you have the partners, you have the government of the land, and you have the society. Unless you can create goodwill among every one of those stakeholders, the corporations will not survive and succeed in the long term. And if you want to create goodwill for the society, then you have to be seen as a fair player in that society. You've got to be seen as a member of that society, you've got to be seen as adding value to that society. You've got to be seen as a responsible citizen of that society, the corporate citizen. Any corporation that does not follow these principles is certainly not a good citizen for that society, and will not be liked and will not succeed in the long term.

INTERVIEWER: When you say any corporation, that sort of a corporation would be very much an exception. In view of the anti-capitalists and anti-WTO demonstrators, by and large corporations are not good neighbors.

NARAYANA MURTHY: No, I don't agree with that. If, in a country like India, we have to create more and more jobs, that has to come from the industrial sector of the economy because remember that the agricultural activity in India is very low. In other words, we can't create more and more jobs in agriculture. We have to [create] more jobs, [bring] people from the agricultural sector to the industrial sector. If that is so, then we need more and more corporations which operate in the service sector and the industrial sector, and I can't see how a corporation which is ethical and legal in its operation can be seen as bad for the economy, bad for the country.

## **Globalization and Poverty**

INTERVIEWER: Do you feel that global free trade is a way for the world's poor to escape from poverty?

NARAYANA MURTHY: There's no doubt about it. It's well proved economics that if a country which is rich and a country that is poor come together in global trade, sooner or later the standard of living of the poor country will go up towards that of the rich country. It's a well-proven principle in economics, and sure, I believe in that. I believe that it is good for a country which is not so rich to be in global trade with a country that is.

INTERVIEWER: One point that worries the anti-globalization demonstrators is that the WTO would get in, that the rules are fixed to favor big corporations at the expense of the poor, particularly the poor people like India. Would you agree with that?

NARAYANA MURTHY: I think there is some truth to the concern of the anti-globalization forces, that the rules of the WTO are rigged in favor of the [large] countries, because these are the countries that really decide on the rules. Let me give you a simple example. India is going to remove all quantitative restrictions by April 1, 2001. But that's not the case in certain areas in certain countries. I don't want to get into the specific country names, but some countries will retain quotas in areas like textiles until 2005. I think that's something that needs to be looked at. That's something that needs to be decided and corrected, but that isn't to mean that we should throw the baby out with the bath water. Globalization is good, global trade is good, free trade is good, competition is good. But at the same time, all of us must play by the ... same rules. There must be the same playing field. All of us have to have a common referee; all of us have to follow the same set of rules....

INTERVIEWER: Can you address the point of whether or not global free trade on the whole is good for poor countries or bad for poor countries?

NARAYANA MURTHY: I have no doubt at all that free trade is extremely important for poor countries to create more and more jobs. When we talk of free trade, it is free trade not just in India, it is free trade in G7 countries, free trade in G15, free trade all over. The key question we have to ask is what does a country have to offer, and what does a country have to sell in the global market? The moment we have something that we produce better than anybody else at the most competitive price in the global market, as long as there is free trade, then that country can sell those products in the global market, obtain global currency, and then import

the best product at the best prices to fulfill its other needs. So free trade is good; there is no doubt at all.

But the assumption is that every country has something to offer in the global marketplace. Unless I have something to offer in the global marketplace, then free trade is not good for me, and I will blame others who believe in free trade. So the question that every doubting country has to address on a very urgent basis is: Have we something to offer the world at the best price? Have we something of the best quality at the best price? And that is a much more difficult question to answer rather than saying that free trade is bad for the world. But free trade is not bad for the world at all.

... At different points of time in different sections of the economy, different sectors of the industry, different countries will have competition at one thing. At one point in time China had computers; Japan had computers and radios. Even today, for example, when I go home I have a General Electric fridge, I open [it] and then I see Pepsi. I see so many of these things. My computers in this company, for example, we import \$50 million worth of technology from the U.S. every year. The point is simply this. Indian computer manufacturers, Indian soft drink manufacturers will say, "Why do you drink Pepsi?" or "Why do you buy computers from outside India?" India must have some strength in certain products. United States today has the best strength in terms of computer technology, and everybody will buy the U.S. technology, but that's the best technology at the best prices. The question that we have to ask is what is it that I can bring to the global market at the best price, something that is considered the best in the world? That's the only way it works.

INTERVIEWER: What's your biggest fear about globalization? Do you imagine it going wrong?

NARAYANA MURTHY: The biggest fear I have is when some of the powerful countries see their economies go soft, or [a] section in their economies, if they [should then] take to protection. Then the countries which have suffered for long time, they may then say, Look, you're now changing the rules of the game. We have no confidence in this global trade because when it suits you, you have one set of rules, and now it doesn't suit you, [and] you have changed the rules of the game, so we don't want to come to the global trade table at all. I think that's my worry. The thought, the imperative on the G7 countries, the imperative on the advanced

countries, even at the time of the worst recession, they must adhere to global trade principles. They must adhere to free-trade principles. Then they will enhance their credibility. They will enhance the confidence of the poorer countries in the power of free trade.

INTERVIEWER: And do you think they will?

NARAYANA MURTHY: I have considerable hope that it will happen, because in the end it's got to be good for all of us. As I said, for short periods each country may suffer a little bit because of recession, but if they persist with the philosophy of free trade, I am sure that we will all be better off in the end.

INTERVIEWER: Do you feel that perceived conception of social injustice could set the pendulum swinging back the other way?

NARAYANA MURTHY: I believe that the right of people in the society, the [larger] countries in the world have had much greater responsibility to contribute to the well-being of the society, well-being of the world, much more than the poorer people, because these are the people who have the resources to help those that don't have. As long as the poorer people in the world, poor people in each society, realize that getting rich is not bad because in the end these people do have a certain social conscience. They do have a global conscience that they are willing to help the poor sections of the society. It'll all work because it is our responsibility to make sure that everybody likes capitalism. And if you want capitalism to be liked by everybody, then you have to behave as a compassionate capitalist. In other words, you have to show that you do indeed care for the society, because in the long term your survival will be threatened if you don't make a difference to the whole society. I think if you did that, then even the poorer sections of the society will accept your principles, will accept capitalism, will accept free trade, so the onus is on those people who are for free trade today to make it become attractive to those who are skeptical about free trade.