



Dr. Morris Chang, founder and chairman, Taiwan Semiconductor Manufacturing Company

# The view from the high tower

Forty years in business have given this industry legend a simple formula for success: Instill a common set of values in your employees, always go the extra mile for your customer, consider all the consequences of each decision and have faith in the regenerative powers of capitalism.

When Morris Chang was promoting the first volume of his autobiography a few years ago, he told Taiwanese journalists he was in no hurry to write the next volume because the “most interesting events” in his life had all taken place before he was 33.

The comment referred to the Chinese-born Chang’s incident-packed youth, which was spent fleeing invading Japanese armies in the 1930s and 1940s, and facing the challenges of building a new life in the United States after the Communists came to power in China in 1949.

It was not, however, an opinion that many in Taiwan would share. Since moving to the island in 1985 at the age of 54, Chang has become one of its most influential industrialists and the champion of a business model that has made Taiwan a major player in the global semiconductor industry.

*Chang: “You have to take a very macro view, you have to anticipate all the paths that lie ahead.”*

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While Chang's initial role as head of the government-backed Industrial Technology Research Institute was important enough, it was his 1987 founding of Taiwan Semiconductor Manufacturing Company that was to make him a popular hero among Taiwanese.

TSMC, initially bankrolled by the government and Dutch electronics giant Philips, was the world's first dedicated "foundry" producer of made-to-order computer chips. Other Taiwanese electronics companies have long made products on contract for companies elsewhere, but foundry chip making as practiced by TSMC goes further by offering a dedicated manufacturing service open to specialized design houses and big electronics companies that are increasingly willing to outsource production.

That business model gives design houses access to capacity without the need to shoulder the huge financial burden of building their own fabrication plants. And it means that TSMC and its imitators can spread the risk of so-called fab construction across a wide range of customers and products and focus on developing more advanced manufacturing processes.

The company continues to be an innovator. TSMC Online, for example, was an industry pioneer in the use of the Internet in Asia.

Generating sales of more than \$5 billion in 2000 and employing more than 14,000 people, TSMC is Taiwan's most respected company, according to a survey by *Common Wealth Magazine*, the country's leading management publication. Its chairman, who has a master's degree from the Massachusetts Institute of

Technology and a doctorate from Stanford University, is a presidential advisor and a voice to be reckoned with in the island's economic policy. This was demonstrated last year when Chang's simple expression of interest in establishing a TSMC outpost in China provoked a storm of local comment about what it might mean for Taiwan's future competitiveness.

TSMC already has a joint venture in the United States, while a Taiwan-based competitor has factories in Japan and Taiwan. The emergence of new foundry rivals in South Korea, Malaysia and China underline the international appeal of Chang's example.

That appeal appears likely to survive the current semiconductor downturn and a rough year for TSMC. In 2001 the company's share price slumped to a third of its 2000 high, while the company forecasts net 2001 profits to be just one-fifth of the previous year's \$1.9 billion.

Chang, who spent 25 years at Texas Instruments, is not worried. To the TSMC chairman, the slump is part of a five- to six-year semiconductor cycle dubbed Chang's Law. And, if nothing else, this year's market woes certainly amount to an event interesting enough for inclusion in a future installment of his autobiography.

Recently Chang sat down with Mure Dickie, the Taiwan correspondent for the *Financial Times*, to discuss what he thinks are the keys to running a successful company and being a good leader.

**Outlook:** You have played important roles in some very successful businesses. What are the keys to building a successful company?

**Chang:** I consider the three major elements of a successful company

to be a vision, a set of values and a good strategy.

Vision is what you want a company to be in 5 or 10 years. Five is usually enough for a startup company because you don't want to set the vision too high. You want to be realistic and then, after you have almost achieved your initial vision, you can always revise it upwards to a bigger vision.

As the founder and CEO, you probably should keep in the back of your mind what the eventual vision is—without really disclosing it, because if you are a startup company and if you are an ambitious person and you disclose your ultimate vision initially, you often become a laughingstock because people don't believe it.

A common set of values—I really think that's the most important cement among people. There is a Chinese saying: *Zhi tong dao he*—"To share aspirations and have values in accord." If you get a team of people that share the

vision and share the values, then that will be a very solid team.

#### How detailed a strategy do you need?

At the beginning I don't think it needs to be too detailed. It needs to cover the important paths. You have a destination, and the strategy is a road map of how to get to that destination, the destination being the vision.

#### How has all this worked at TSMC?

My five-year vision when I started was to be a dedicated silicon foundry. This was something that the world never had before.

I eventually wrote the values up in a pamphlet; we required every employee to know them. In the case of high-level recruits, vice presidents, before I gave an offer, I would give him the pamphlet and tell him that these are our values and that he needs to share them.

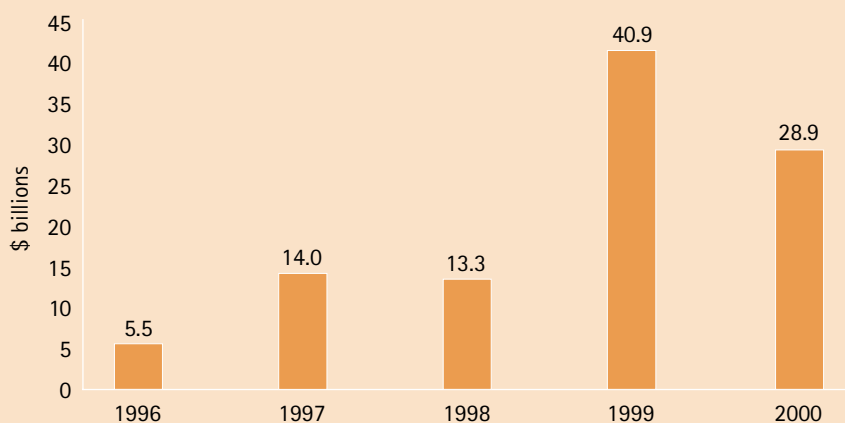
#### And your strategy?

There are two main parts. One is focus. We don't do anything but

"When you come to differences, you try to go along—without violating your basic values—with the local culture."

### TSMC market capitalization, 1996–2000

Year-end figures



SOURCE: FACTSET WORLDSCOPE

**“Decision making is more intuition than analysis because usually there isn't much data that you can analyze.”**

foundry. Because of our focus, we can expend all of our efforts on perfecting our operations, and that means a lot of things. It means a customer orientation. The other main part is that we do not compete with our customers.

Being in Taiwan was an important part of this strategy, too, because we felt that Taiwan at that time had very significant competitive advantages for a foundry, although very few people—I should say perhaps nobody except me—even knew what a foundry was.

**What do you think makes a good leader?**

First, let's define a leader. He has to know where he is going, and he needs to have a group of people follow him. That's all it takes.

If you have a group of people following you but you don't know where you're going and you're going around in circles, then that's not a leader.

Now if you know where you're going but nobody follows you, then you're not a leader either. I remember something I liked that was said by Winston Churchill, right after the Second World War. He said, “Britain leads the world, but no one is following it.”

Now a good leader is one whose direction is correct . . . but that doesn't become known until after the fact, usually.

**It's important to be able to bring people along with you even when they can't be sure that you're right.**

**How do you go about that?**

That is a question of a leader's personal characteristics. He is also helped by the financial incentives he has at his disposal, but I think these are only a small part of it.

Integrity, I believe, is very important. Every military general would tell you that if a commanding officer doesn't have integrity, it is very hard for the troops to be loyal to him. The same situation is true in civilian cases too. The leader needs to know what direction he is going in. It's not just knowing, it's also conviction. When you start to show some doubts, boy, that's when you lose people.

**Do you think leaders are born, or are they trained?**

Training will help, but a large part [a person] is born [with]. But I think my view may be a minority theory.

**You've thrived in two very different business cultures—Taiwan and the United States. What sort of approach do you think companies in general should take to cultural differences?**

I really think there is a remarkable degree of commonality in values [even among different cultures].

You might say, for instance, that people in Taiwan cater to a cradle-to-grave employment culture. I think that probably is an important difference. The way to handle it is to go along with the culture to some extent.

For instance, in the latest recession, we did have a layoff in the United States, but we did not have a layoff in Taiwan. That's because in the United States, layoffs are pretty common and people accept them. But in Taiwan—even though they are more common now—it is culturally far less acceptable.

But still, my point is that I think there are a lot more commonalities than differences, and when you come to differences, you try to go along—without violating your basic values—with the local culture.

Good management is global, but you have to adapt to where you are. Right. I do not believe in transporting the headquarters' local cultural values to a different country. Some Taiwan companies have tried to do that, and I think that's a mark of failure.

So operations abroad should be part of the business culture where they are located.

Exactly. And for that reason, almost without exception, the headman in our overseas operations is a [local] national.

When it comes to making business decisions, do you follow certain strategic principles?

How do I make strategic decisions?

Well, I generally try to consider all angles. Again, there's a Chinese poem: *Du shang gao lou, wang jin tian ya lu*—"Alone you climb to the high tower, and then you see all the roads to the end of the world." Basically, it means you have to take a very macro view, you have to anticipate all the paths that lie ahead.

Before I make a decision, I try to do that. I try to climb up to the high tower and look at all the consequences.

Is that a matter of analysis or intuition?

I think it's both, but more intuition than analysis because usually there isn't much data that you can analyze.

Can you give a specific example?

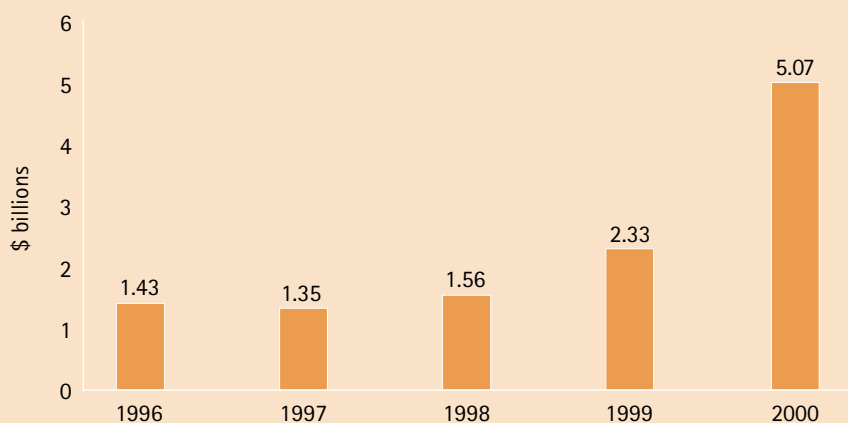
One of the major decisions we've made in the last two years was the acquisition of two companies, two foundries, Acer Semiconductor and WSMC [Worldwide Semiconductor Manufacturing Corporation]. And the decision had to be made quickly—within a matter of weeks—because there were competitive bidders. So the way I made it was I climbed up to the high tower to see what could happen.

One possibility was the market would grow as we expected, which was very fast. In that possibility, the acquisition was obviously a good thing to do. It would return rich

"It will take maybe more than 40 to 50 years before China's income per capita reaches the developed nations' standard."

TSMC revenues, 1996–2000

Year-end figures



SOURCE: FACTSET WORLDSCOPE

# 獨上高樓，望盡天涯路

dividends to us. The other extreme possibility was that the market would not grow rapidly but would crater. So most of my thoughts—my intuition, if you will—were centered around the dire consequence, the dire possibility that the market would crater. But I decided that even if that were to happen, competitively it would still be a gain to us because in addition to acquiring capacity—which was really only one of the things we were after—it was also an acquisition of customers and talent.

In competitiveness theory, it's never how well you do alone that counts; it's always the distance between you and your competitor. So I decided that even if the worst in the marketplace were to happen—and it did actually happen—we would still gain competitively.

**Customer relations are obviously very important for TSMC. What is the key to building strong relationships?**

It's making sure you know what the customer is looking for—naturally, you know your own interest—and finding a path that satisfies both. Something unanticipated always happens. When that unanticipated thing happens, you generally give up something that you originally anticipated, give it to the customer—you know, compromise.

Years ago I read a *Fortune* magazine article where [Hong Kong tycoon] Li Ka-shing was quoted as advising his sons in the following fashion: When you enter into a partnership with somebody and you expect to make a dollar and your partner expects to make a dollar, too, then when the deal is over, why don't you just take 80 cents? And if you take 80 cents, maybe he will offer you 90 cents, and you still have a good partnership. But even

if he doesn't offer you 90 cents and you take your 80 cents, that's okay. But never, never should you try to take \$1.10. If you follow my advice, he told his sons, you will never lack partners. Well, I'm not Li Ka-shing's son, but I thought that was pretty good advice.

We have run into situations where we thought that both the customer and we would gain a dollar each, and we end up gaining only 50 cents, and the customer gains a dollar. But we still consider that to be a success, and we still keep doing business.

**China is a hot topic in boardrooms around the world. What do you think about China as a place to do business now?**

Because of its huge population, it has to become an economic power, but not as quickly as some people think. I imagine in 20 to 30 years it will certainly in absolute size be an economic power. But it will take longer than that, maybe more than 40 to 50 years, before its income per capita reaches the developed nations' standard.

**How important is it for international companies, including TSMC, to get in now?**

Well, as soon as it starts to become an economic power in size, it will become a very sizable market, and I think that for semiconductors that will come even before the overall economy becomes big, because semiconductors are on the leading edge. So we want to be there to participate in the market. And also, before China achieves an income per capita or even achieves the superpower status economically, it will have already become a major manufacturing center for the world. And

we want to participate in the opportunities there too. So we want to be there for the market reasons and because it will become a major manufacturing center.

The term Chang's Law has been used to describe your belief that every five or six years the semiconductor industry suffers a recession or a downturn. What can companies do to try to ameliorate the worst effects of that cycle?

Well, by not expanding to the hilt when times look good, and by maintaining your expansion pace, at least to some extent, when times are bad.

The biggest difficulty with this average approach is that technology changes pretty fast. Let's say, if times are slow, you expand. Then the recovery may be a mild one. If the recovery is a mild one and you have expanded too much, then your machinery becomes obsolete. So I think following Chang's Law would solve at least half of your problems. But it won't solve the other half. The other half you have to figure out according to the specific circumstances. But following it is much better than nothing.

There's concern about whether demand for PCs and mobile telecom equipment is going to return to the levels of the 1990s. What's your feeling, and what are the most important drivers of market growth? Are there new applications on the horizon? PC growth has slowed down. It's still growing, it will still grow, but it has slowed down. In mobile communications, the growth will still be quite brisk but probably not quite the breathtaking rate we saw before.

You ask about new applications. I don't know yet, but that is not

unusual. And it's not a cause for panic, because over the last 30 or 40 years there have been many times we did not know what the new killer applications would be, and yet they always came. I don't consider it blind faith; I consider it faith in our economic system because the capitalist economic system offers so much incentive for innovations. And it is innovations that bring the killer applications. So if you have faith in the capitalist system, then the killer applications will appear. ■