Valley's edge: Success hard to copy

By John Boudreau
Mercury News

HONG KONG - Four years ago, Chuck Cheng left Palo Alto to launch a computer chip design company in this city known more for financial acumen than tech prowess.

He was lured by the Hong Kong government's generous incentives, such as subsidized rent in a new science and technology park, and strong intellectual-property laws. Then there were dream logistics: His company is a day trip from mainland China's Pearl River Delta, the world's factory for everything from iPods to personal computers.

But for all its advantages Hong Kong, like much of the rest of the world, is Silicon Valley 1.0. The city lacks the Bay Area's secret sauce - which includes an abundance of high-end engineers, quick access to world-class universities, vast networks of tech and market visionaries, and high-rolling venture capitalists.

"When you talk with the local venture capitalists in Hong Kong and China, all they care about is making a lot of money in a short period. But how can you innovate, how can you take risks?" said Cheng, who in the end launched his 10-employee start-up, AppoTech, with $1 million of his own money.

Nonetheless, Hong Kong and many other corners of Asia are betting billions of dollars to become incubators of innovation.

China has 56 official - and countless unofficial - technology parks, and President Hu Jintao regularly calls for "independent innovation."

In India, government and industry leaders sponsor start-up incubators and lure

venture capitalists in hopes of spawning the next generation of entrepreneurial inventors to lead the country beyond its role as back-end outsourcer.

Malaysia, the Philippines, Vietnam and Indonesia also seek tech riches. Meanwhile, Taiwan, the island of 23 million that many other regions look to for high-tech inspiration, is struggling to move up the tech food chain. Now a silent contract partner that turns the innovation of others into products lining the shelves of Best Buy, it wants to be an original creator of products and services.

But so far no other region rivals Silicon Valley. Though some experts say that day may come, Asia's emerging tech centers face a broad range of challenges.

Shortcomings: Seen as imitators, not innovators

China and India, for instance, are burdened with hundreds of millions of impoverished citizens whose needs divert from efforts to develop tech hubs. Nandan Nilekani, the co-chairman of Infosys Technologies, one of India's premier outsourcing companies, has worried openly that a slip in the country's economic growth could trigger social unrest.

Countries like Vietnam lack world-class universities. And though Taiwanese companies collectively receive a slew of U.S. patents every year, they have failed to convert their mental muscle into market-leading technology.

"What new innovations are coming out of India? What new innovations are coming out of China?" asked Bill Barney, chief executive of Hong Kong-based Asia Netcom, whose deep-sea fiber-optic cable network serves companies throughout Asia and in Silicon Valley.

One roadblock, Barney and others say, is that Asian societies tend to embrace strong corporate hierarchy and workers don't voice opinions.

"In Silicon Valley, you can chit-chat and share your views with your boss," said Alfred Kwok, a long-time Silicon Valley entrepreneur in the semiconductor industry who splits his time between San Jose and Suzhou, China. "In Asia, this is considered bad protocol."

While educational systems across Asia turn out smart, disciplined workers, industry experts say they don't promote creative thinking. Learning through memorization may have some benefits, but it can discourage innovative and imaginative thinking.

The economies of Japan and South Korea are overwhelmingly dominated by corporations and banks - conservative institutions that aren't as likely to take leaps of technological faith the way more nimble start-ups and VCs are, observed Johnsee Lee, president of the Industrial Technology Research Institute, or ITRI, a government-backed non-profit that helped give birth to Taiwan's tech industry more than three decades ago. Many of the new companies in South Korea are spun off of large and traditional companies, he added.

Japan has innovated in the auto and electronics industries, but experts say it has struggled to change its mass-production business mentality. Unlike the valley, where workers spur innovation by jumping between companies, engineers in Japan are less likely to leave.

Some other Asian countries also tend to be imitators rather than innovators.

China's prospering coastal cities have impressive new skylines and numerous technology parks. "But they are still at a stage of doing a lot of copying and process innovation," observed Bill Miller, co-director of the Stanford Program on Regions of Innovation and Entrepreneurship.

Chinese Internet entrepreneurs joke that their companies are based on the "C-to-C model" - Copy to China from Silicon Valley. The country's Internet market is crowded with Facebook, YouTube and LinkedIn knockoffs. Baidu.com, a Beijing-based Internet search and portal company, has not

only successfully deployed Google's business model to the Chinese market, but also has launched its version of MySpace, dubbed Baidu Space.

A copycat culture reaches to the highest perches of academia in China. In 2006, a government investigation revealed that a professor at Shanghai's Jiaotong University who declared he had created the first Chinese microchip had in fact inscribed his company's logo on chips made by an affiliate of Motorola.

"Intellectual property as a concept is only 30 or 40 years old in China," said Suzhou-based Kwok. He is a founding member of the Savantas Policy Institute, a non-profit organization focused on Hong Kong's efforts to transform itself into a tech hub. While he believes the city is well-positioned to create a tech sector, Kwok does not think Hong Kong, or any other region, can replicate the valley's ecosystem any time soon.

'Decades away': Traffic backups, backup generators

Some of the newer tech hubs lack basic infrastructure.

India's tech economy has advanced beyond call centers and simple software outsourcing, but software mecca Bangalore has epic traffic jams, and electrical power is so unreliable that companies must install their own backup generators.

"It's a couple of decades away from really being a country in which people feel comfortable saying, 'I'm going to drive all of my R&D out of India,' " said Matt Burlage, co-founder and chief executive of IRG Limited, a Hong Kong-based telecom media technology advisory and investment management firm.

But even if infrastructure problems were solved, top-flight experienced engineers can be scarce in many regions outside the United States.

Researchers at the Pratt School of Engineering of Duke University have concluded that Asia's assumed advantage in engineering graduates - often cited as 12 times more than those of the United States - is overstated. The 2005 report found that only a small number of universities in China and India can churn out engineers on par with those in the United States.

"In India, they are putting out a lot of tech and engineering graduates," Burlage said. "But if you need workers with project management skills or more than basic engineering skills, that pool shrinks very, very rapidly."

Serial entrepreneur Wu-Fu Chen shakes his head every time he sees yet another gleaming tech park being erected in Asia in pursuit of creating a start-up culture.

"They are building nice buildings, but that's the least important part," said Chen, a Los Altos Hills resident and successful tech entrepreneur who spends half the year in Taipei as chairman of iD Innovation, an early-stage venture capital firm. "You need experienced entrepreneurs, but China doesn't have experienced entrepreneurs."

Chen believes Hong Kong, China and other regions should develop tech niches anchored to their strengths.

"People think of Silicon Valley as a target, but I don't think anyone can replicate it," Chen said.

But Manuel Costa, chief operations officer of the Hong Kong Applied Science and Technology Institute and a former AT&T executive, does not take it as a given that Silicon Valley will remain at the top.

The sheer size of markets in China and India will create fertile ground for new technology, he said. "Their internal markets will be bigger by a factor of two than the U.S. and European markets combined," Costa said.

A decade ago, the Chinese treated AT&T engineers working in Shanghai and Beijing like celebrities. "They were viewed as gods of telecommunications," he recalled. "Now, the Chinese professors and Ph.D. students are no longer in awe of American technology. They are as good as the Americans. The question is: When will they be able to transfer their tech ideas into intellectual property and next-generation devices? They will become a powerhouse, no doubt."

Over the past 10 years, China has seen an eightfold jump in unique academic inventions, according to research firm Thomson Scientific. In 2006, the Japanese led the United States in the number of innovation patents filed in Japan, America and in Europe.

Likewise, India is experiencing dramatic uptick in research and development investment as multinational companies increasingly tap young engineers in the South Asian country to do more high-level research and innovation. Valley software start-ups now co-invent around the globe, as engineers in the Bay Area work with teams in Bangalore and other Indian cities.

Already, Nokia and Microsoft rely on China for critical innovation for its products. Huawei Technologies, once just another Chinese me-too company, is now a leading maker of switching equipment for telecommunications and the Internet. And many observers believe India's increasing software sophistication could lead to global companies some day.

Changing cultures: New ideas from Japan

The conservative business cultures in Japan and South Korea also are changing, according to the Stanford Program on Regions of Innovation and Entrepreneurship. Japan is becoming a cultural innovator through fashion, architecture and pop music.

"People have their heads in the sand if they say Silicon Valley and the U.S. will always be the defining architecture and no other place can touch us," said Marguerite Gong Hancock, associate director of the Stanford University program.

Successful transplants to the valley from Asia are spreading the tech start-up culture across the Pacific Ocean. And Asian educators are starting to promote creative thinking.

"The question you need to ask is: Why do these people become so productive when they come to the U.S.?" said Vivek Wadhwa, executive in residence at Duke University's Pratt School of Engineering, who researches the role of immigrants in America's economy. "The answer is the fertile environment the U.S. provides for ideas and innovation. Failure is accepted and risk is encouraged."

Even after returning to Hong Kong to launch his start-up, AppoTech, Cheng maintains close links with the Bay Area.

"It's just like with the Olympic Games. The holy fire comes from Greece," said Cheng, who spent 15 years in the valley as an entrepreneur and executive at companies such as National Semiconductor and Sun Microsystems. "It's the same with Silicon Valley. Silicon Valley is like Olympia. It's where the holy fire is, and we always have to go back to it."

Contact John Boudreau at jboudreau@mercurynews.com or (408) 278-3496.