

China Technology Innovation Comes of Age

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Why American corporations need to reassess their ability to compete, their views of China's potential, and their strategies for innovation.

Software and copyright registrations in China now top 2,200 per day -- up 47% over the government's prior five-year plan -- and patent applications thus far in 2015 are running 21% ahead of last year. Invention is back in vogue here, and the entrepreneurial energy driving this economy is China's own.

Despite the global impact of the recent recession, Chinese innovation is quickly beginning to reshape the landscape, and the State Intellectual Property Office doesn't shy away from showing off new stats on Chinese creative growth.

But what does innovation in the "new China" really mean, especially for American firms?

While there is healthy skepticism about official data releases, there is a constellation of reasons for China's rising star, beginning with demographic factors that will challenge the United States and other Western nations when it comes to competition in a tech-driven future. Consider the dramatic shift in education and more specifically in science, technology, engineering, and math degrees. Back in 1999, fewer than 1 million Chinese students obtained a university degree of any kind, but by 2014 the number had grown to 7 million. On this measure, China bypassed the United States in 2004, which is concerning but not surprising given China's scale. A more eye-opening and alarming fact is that China awards 31% of its degrees to engineering students while America awards just 5% of its degrees to such students.

By any measure, that is a tremendous surge of talent being unleashed into the Chinese economy, particularly in R&D, and it's just one of the reasons why American corporations need to reassess their ability to compete, their views of China's potential, and their strategies for innovation.

Many companies continue to underestimate the strength and capability of Chinese competitors and dismiss their prospects because of dated assumptions about Chinese culture, Chinese governance, Chinese ethics or some combination thereof. Far too many American business leaders continue to

echo the bravado of American exceptionalism that U.S. Vice President Joe Biden voiced last year, when he praised America's GDP powerhouse, research universities, and advances in energy technologies, and added: "But I challenge you, name me one innovative project, one innovative change, one innovative product that has come out of China."

Rhetoric aside, there are plenty. For example, Xiaomi, which has commandeered one-sixth of the market for smartphones in China in less than five years to become the market leader, is now going global and gaining traction in a wide range of additional high tech applications.

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Well-known firms like Tencent, Baidu, and Alibaba are recognized as innovators in communications, search, and e-commerce. Others include Haier in appliances and ZTE in network gear. All have distinctive stories of how innovation gave rise to the company or helped the company attack a new market.

Chinese creativity has been, at best, an oxymoron in the eyes of innovative Western firms, because the rigidity and centralized economic structure of five-year plans and the philosophies that support them don't have a reputation for cultivating a culture of design -- at least not as most American and multinational executives understand. The reality is that firms like Tencent, the creator of WeChat, are delivering the kind of design quality and user experience that rivals American products in rapid fashion. In just five years, WeChat has attracted more than 500 million users -- an achievement on par with Western success stories like Apple, Facebook, and Uber.

Tales of innovation are spreading rapidly, creating a new entrepreneurial class that will soon rival that of Silicon Valley in number if not in longevity. It's true that more formal Chinese culture doesn't align with individualism and the maverick nature of many American entrepreneurs, but assumptions about Chinese creativity on the basis of culture are largely rooted in antiquated assumptions.

Western businesses can't afford to ignore Chinese ingenuity. In the quest to ensure competitiveness, some American firms are now revamping their own R&D efforts in order to better leverage emerging Chinese creativity in their organizations and processes -- a trend that most experts feel will grow as China's raw talent matures.

American Companies Rethink China Innovation Strategy

Yet, there is some truth in how cultural influences constrain the Chinese entrepreneurial space. In June, [*Foreign Policy*](#) translated and reprinted a [Chinese blog author](#) (*registration required*) who underscores why creative culture is such an advantage for American firms.

“We lack an environment conducive to creativity. Innovation is not something that a single person can accomplish by just closing the door and thinking hard,” said the author. “But Chinese are not good at using lively debate to turn a spark of originality into a developed idea, and Chinese companies aren’t skilled at using cooperation and competition, or ‘coopetition,’ to innovate.”

In the view of the blogger, the cultural and political influences that transform, that turn the tech startup scene into discoveries that create value and change lives, are Western strengths, not China’s. But the author also addresses the legitimacy of all those patent applications, which many American analysts question for their quality, their rigor -- and often enough, their provenance. The author hits head-on the flawed research and the questionable discoveries, as well as China’s reputation for absorbing the ideas of others.

The intellectual property rights problem can’t be overlooked, and legal recourse and other remedies for infringement remain woefully inadequate. But many managers of Western multinationals too readily discount recent structural improvements in Chinese patent law, which are worth understanding and which can lead to more informed research and development strategies.

Staying aware of key local developments on standard-setting is also valuable, because it can signal early policy changes in government-led reform efforts. Engagement of this kind, while demanding extraordinary patience, can contribute to incremental changes in one’s innovation approach vis-à-vis Chinese firms -- and deliver long-term profitability and value.

American technology companies who shifted away from using joint ventures in China, preferring the independence of wholly-owned entities that allow better intellectual property protection, are now starting to shift back, recognizing that special-purpose alliances can play an important role.

The next Steve Jobs won’t come from China. But he’ll need China if he expects to build a global company."

— Yuquan Wang, founding partner of Haiyin Capital

Going it alone seemed logical at first, but it turned into “applied protectionism” because it limited access to the market knowledge best derived through the kind of relationships that local partner-companies so readily obtain, but which elude multinationals. Even as some companies taper their China strategy, others are moving to embrace China even more ambitiously, looking for the mutually beneficial win-win that Chinese can offer despite less-than-perfect market conditions.

“The next Steve Jobs won’t come from China,” says Yuquan Wang, founding partner of Haiyin Capital, in a July [China Business Review interview](#). “But he’ll *need* China if he expects to build a global company. Our idea is to find those companies in the U.S. and help them use China to achieve explosive growth.”

That’s an observation worth noting for its clarity, and the Chinese surely do. Global products and services are being emulated by Chinese firms, and importantly, not just copied, but improved.

Chinese venture capitalists are constantly on the hunt for concepts that work elsewhere in the world but have not yet been introduced to China. When these concepts are launched, they are first adapted for the China market and then, very rapidly, turned into better versions of the original. Some will no doubt go around the world again -- this time, as Chinese exports.

China does not just emulate, however -- it now invents. Somewhat ironically, China’s role as the world’s factory floor has directly contributed to its renewed ability to innovate. Chinese production is no longer focused on low-end products alone -- it now entails sophisticated products requiring precision manufacturing and equally detailed processes.

As Chinese suppliers and managers learned the value of process innovation -- and offered foreign firms cost, scale and other production advantages -- the Chinese closed the gap between R&D, product development, and production. Examples in semiconductors, automobile components, and electronics underscore the angst for American companies, who helped to refine this advantage, which they initially claimed for their own China operations, and which is now circulating among domestic Chinese companies.

In the future, China’s ability to compete will be based on its products of its own design, invented in China by Chinese engineers. The Chinese government is using some of the same techniques the West has long employed to spur this transformation. But China is not the West, and its officials are not only investing in incubators, they are also repurposing entire cities for specific industries and commanding state-owned Chinese companies to help Chinese innovators succeed. This massive push could well accelerate China’s emergence as a technology innovator on a global scale. Rather than ignore the change or deny the threat, American companies should acknowledge the surge in talent and figure out how to incorporate and leverage the creative skills of the next-generation China into their own businesses.



Tom Manning, an affiliate partner at Waterstone Management Group, is a global operating executive with extensive experience developing, leading and directing technology-based businesses. Located in Asia for seventeen years prior to returning to Chicago in 2012, he brings a unique perspective to Waterstone clients across a wide range of issues that include corporate strategy, business model design, and growth in emerging markets such as China. Tom's past roles include CEO of Ernst & Young Consulting Asia, CEO of Capgemini Asia, senior partner with Bain & Company, and CEO of Cerberus Asia Operations and Advisory Limited (Beijing). He speaks Mandarin and has served on the boards of directors of seven publicly-listed companies, including five Chinese companies, as well as numerous private-equity-backed high-tech companies in Asia.

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