



China's Digital Economy Goes Global

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INTRODUCTION

The rise of digital technology businesses in China has the potential to transform the Chinese economy. With its top technology companies now ranking among the most valuable companies in the world, China is counting on digital innovation as a new driver of the country's growth, raising national competitiveness, incomes, and living standards.

No other country today can match China in terms of mass-market manufacturing capability. The great boom in Chinese manufacturing industry starting from the 1990s has revolutionized supply chains and allowed consumers around the world to buy the latest product at the lowest cost. This process has transformed the Chinese economy, boosting national economic growth and increasing wages for its nascent middle class.

China is now at a critical juncture of two forces, one domestic and one global. Domestically, China is reaching the point where the rise in wages has made China less cost-competitive as an exporter. In order to avoid being caught in the middle-income trap, where a country's economy cannot make the leap to higher value-added industries, the Chinese economy must gradually shift to a consumer-driven, services-based economy.

Globally, the rise of digital technology is disrupting traditional production and consumption processes. The use of data analytics is helping companies understand and predict consumer behavior. Social media is directly connecting businesses and customers, workers and employers, disintermediating many traditional service industries. The prevalence of mobile devices and proliferation of mobile apps are creating on-demand businesses to meet customer needs faster than at any time in history.

Digital technology businesses in China provide a new and promising growth path for the country. In preparation for March 2015 parliamentary sessions, China's Politburo declared that innovation must become "a new driving force of the economy."¹ Concrete policies announced in advance of the sessions include measures to make it easier for entrepreneurs to start businesses, such as a tax cut for small-and-medium enterprises.² China's Premier Li Keqiang acknowledged the need for innovation to power economic growth at the 2015 World Economic Forum in Davos, quoting a Chinese proverb, "When the winds of change blow, some build walls while others build windmills."³

Can Chinese firms build profitable "windmills"? Chinese companies have often been criticized for being fast-followers as opposed to true innovators. When it comes to digital commerce, however, the picture is more encouraging. China is now home to a vibrant and rapidly-growing digital technology sector. Measured by 2014 revenue, three of the world's top ten Internet firms in the world (Tencent, Alibaba, and Baidu) are based in China.⁴ Lenovo, Huawei, and Xiaomi are among the world's top five smartphone makers.⁵

Chinese digital technology firms have already rapidly transformed the economy at home. They have leapfrogged Western, and indeed, Chinese competitors, in many traditional industries to offer consumers new products and services, often more efficiently and at a lower cost. More than half of Chinese consumers shop online at least once a week.⁶ China's e-commerce sector reached \$450 billion in sales in 2014 and grew almost 50% year-on-year in January-February 2015.⁷ E-commerce giants like Alibaba, which according to analyst estimates accounts for roughly 80% of China's online retail market, have enabled shoppers, particularly those living outside big cities where global brands and Chinese retailers do not have a presence, to purchase a great range of products they would not otherwise have access to.⁸ At the same time, numerous small businesses outside major Chinese cities are able to reach large numbers of customers through the e-commerce platform, in turn generating employment opportunities for millions. Mobile social media apps like WeChat (with more than 350 million users in China) and Sina Weibo (with more than 280 million users in China) transformed communication by providing an integrated platform for chatting, photo and video sharing, shopping, and gaming.

The potential for transformation in finance could be even more profound. Whereas individuals and small businesses often have difficulty securing loans from state-owned banks, Tencent's WeBank uses big data to evaluate credit risk and offers loans to small borrowers, reaching customers that were previously left out by big banks, such as those in lower-tier cities and in rural areas. Alibaba's Ant Financial Services Group, which has a platform called Yu'e Bao ("leftover treasure" in Chinese) originally designed for users to park money in between transactions, started selling a money market fund online in 2013 to its predominantly young users, who previously lacked investment alternatives. The fund now has about \$90 billion assets under management and more than 80 million investors, making it one of the top four money market funds in the world.⁹ Zhejiang Internet Commerce Bank, a partnership between Alibaba and Fosun, set to launch in May 2015, is expected to transform China's banking system by providing credit, loans, payment processing, and insurance to previously underserved small companies and consumers. What these companies are doing promises to overcome some of the country's domestic market inefficiencies and policy problems.

The rise of China's digital economy has huge future growth potential. China now has 650 million Internet users, about double the entire U.S. population; China also has more social messaging users than the U.S. population. Future demand, both domestic and global, is set to drive even greater growth. This briefing will explore several key success factors enabling the global take-off of China's digital innovation businesses.

BUILDING REPUTATION BY GAINING ACCESS TO OVERSEAS CAPITAL

No longer content to dominate their home markets, many of China's innovative technology companies are looking to expand overseas and compete with Western technology giants. More than half of the 2014 revenues of Lenovo and ZTE are from outside China.¹⁰ Alibaba's initial public offering (IPO) in September 2014 was a watershed moment for the Chinese digital technology sector, as the company issued the world's biggest-ever IPO (\$25 billion) and announced its ambitions to serve 2 billion global customers and 10 million small businesses outside China.¹¹ Tencent, besides gaining more than 70 million users outside China with its popular WeChat mobile messaging network by 2014, is rapidly moving into the cloud computing and online gaming sectors in the U.S.¹² Lenovo has risen from releasing its first branded smartphone in 2012 to acquiring Motorola Mobility from Google in October 2014 and becoming the world's third-largest smartphone maker behind Apple and Samsung.¹³ Consumers of the future may look back to 2014 as the year Chinese technology firms broke through to the international mainstream.¹⁴

A survey of Chinese e-commerce companies reveals that 46% have already expanded overseas, 34% plan to expand, and only 20% are content to remain solely in the Chinese market.¹⁵ While the emerging Chinese technology powerhouses may not enjoy name recognition in the West today, they are raising capital abroad and aggressively expanding market share overseas. A snapshot of the 158 Chinese com-

panies on the NYSE and NASDAQ as of March 2015 shows that more than a third are digital technology companies. These companies listed have an average market capitalization of \$13.6 billion, which can technically be described as large-cap and is slightly under Best Buy's market capitalization as of March 2015. They cover a range of industries, including e-commerce, travel, automotive, healthcare, and Internet and cloud computing services.

Given investors' appetite for Chinese technology companies and limitations to raising capital in China, as exemplified by Alibaba's initial attempts to list on the Shanghai and Hong Kong exchanges, the trend of Chinese technology companies listing overseas will likely continue.¹⁶ Their doing so will bring mutual benefits for Chinese and U.S. businesses. On the one hand, Chinese firms will obtain reputational benefits of listing internationally, tapping into the larger and deeper pool of capital in the U.S., the world's most developed technology market. Listing in the U.S. will also mean that Chinese firms must commit to high regulatory and transparency standards, given that U.S.-listed companies must demonstrate compliance with the Sarbanes-Oxley Act, which sets enhanced standards for public corporations.

On the other hand, multinational brands also benefit by being able to gain direct access to Chinese customers via the online rather than bricks-and-mortar platform. BMW and Coca-Cola have started advertising on Tencent's WeChat messaging platform. With close to 500 million active users globally, WeChat is one of the most effective methods of reaching Chinese consumers on their mobiles.¹⁷ Another example is U.S.-based online alternative lodging booking company Airbnb, which does not have an official presence in China but has partnered with Chinese outbound travel website Qyer to build name recognition with Chinese tourists traveling overseas before a planned launch in the Chinese domestic market.¹⁸ Leveraging online partnerships with domestic technology firms will allow international companies to circumvent some of the market and regulatory restrictions that might otherwise weaken their ability to compete in China.

ABSORBING GLOBAL TECHNOLOGY TALENT

A key strategy that China's technology giants have employed to demonstrate their commitment to developing a global presence has been hiring high-profile managerial and engineering talent from Western competitors. A notable example is former Google VP for Android Hugo Barra's decision to move to Xiaomi as VP of Global Business, leading the Mi smartphone's launch into emerging markets. Baidu has also acquired top talent from Western technology giants by bringing on respected executive and scientist Zhang Yaqin, who helped Microsoft build its largest R&D operation outside the U.S. in Beijing, and recruiting Google artificial intelligence expert and Stanford professor Andrew Ng to be Chief Scientist at Baidu Research in Silicon Valley.¹⁹

In addition, a new generation of serial entrepreneurs has emerged in China. Often educated abroad at top universities with computer skills and business acumen honed in Silicon Valley, China's next wave of entrepreneurs returned home to pursue opportunities made possible through China's market size and stage of Internet development. Of the 57 Chinese digital technology firms listed in the U.S., about 60% were founded by native Chinese citizens who were not educated abroad, while most of the rest were founded by Chinese citizens who were educated abroad.

Given their international background, it is highly unlikely that China's returnee talent will keep their sights solely on the Chinese market. Local entrepreneurs will be able to leverage their familiarity with both cutting-edge business strategies and insight into what China's online consumers experience. The promise of the emerging Chinese Internet market will draw back returnees with valuable skills and experience formed working in the overseas technology industry. Silicon Valley has already had an impact on China. At the same time, the acceptance of giants such as Alibaba, Tencent, and Lenovo by overseas markets could pave the way for international investors to consider the ideas of China's next generation of young entrepreneurs.

The private technology sector in China is also beginning to leverage the human capital pool in high tech-manufacturing hubs such as Shenzhen and research clusters such as Beijing's Zhongguancun science park, which is in close proximity to Peking University and Tsinghua University. Co-working spaces sponsored by both Chinese and international venture capital firms are popping up in Beijing, Shanghai, and Guangzhou. Former Google China chief Lee Kai-fu has launched the Young CEO Club in Beijing in order to provide seed funding and mentorship for the next generation of start-up founders.²⁰ The private sector is filling the gap in on-the-job training and mentorship, which will help China's young entrepreneurs develop the technical skills and business acumen necessary to start their own ventures and succeed in the new digital economy.

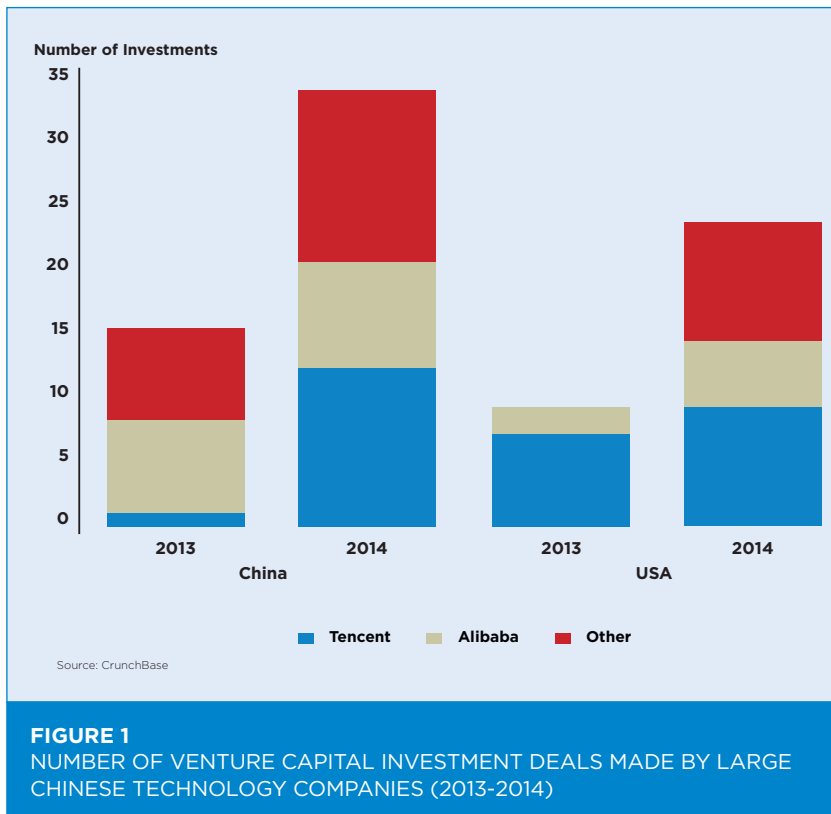
PROVIDING INNOVATIVE OFFERINGS FOR EMERGING MARKETS

Chinese technology firms in many instances are leapfrogging to offer services at home and abroad that are completely new to the market. An example of how China is pulling ahead in disruptive innovation is mobile payments systems. While Google Wallet and Apple Pay are struggling to gain traction in the crowded mobile payments space, users of Alibaba's Alipay and Tencent's Tenpay service can pay utility bills and purchase various basic goods, and even send holiday red packets from their mobile device using one synchronized platform, bypassing traditional banking services. Innovative solutions to problems consumers face in China are also expanding to other markets in emerging Asia and the developing world. Tencent has opened a joint venture with Indonesia's MNC Media to develop Internet products customized for users in Southeast Asia. According to mobile application analytics service App Annie, WeChat ranks among the top 50 downloaded Android apps from the Google Play store in Singapore, Nigeria, South Africa, and Indonesia.²¹ Clean Master, a utility application developed by Beijing-based Cheetah Mobile that upgrades the battery and security performance of Android phones, is one of the top ten downloaded applications in Spain, Israel, Mexico, and Brazil, boasting upwards of 100 million daily active users. Baidu has opened a language processing lab in Singapore aimed at improving its web browsers and search applications for speakers of Southeast Asian languages and has launched a localized version of its search engine in Brazil.

Only a few years ago, investors would have been skeptical of the impact of small business owners and entrepreneurs on global business models; however, the rise to success of major Chinese technology firms proves that there is a lucrative market in connecting previously ignored small-scale entrepreneurs to the digital marketplace. This will have major implications for other emerging markets, if such small and remotely located businesses can be plugged in through online platforms.

PROVIDING VENTURE CAPITAL TO START-UPS IN CHINA AND ELSEWHERE

In the last decade, the Chinese technology industry was the recipient of investments from the leading innovation powerhouses of the day, the U.S. and Japan. Venture capital funding in China surged to a record \$15.5 billion in 2014 from \$4.8 billion in 2013, driven by investments in mobile services.²² China's technology giants have matured to the point where they are now major sources of venture capital funding in innovation hubs such as Silicon Valley and Tel Aviv. In fact, venture capital investments in both China and the U.S. made by large Chinese technology companies valued at \$10 billion or more have shown a marked increase from 2013 to 2014 alone, with the most deals by Tencent and Alibaba (see Figure 1). As Chinese technology firms invest more actively both at home and abroad, with considerable amounts of Chinese venture capital being directed to Silicon Valley, the heart of the American technology industry, they will be able to significantly impact the strategy and business of companies in their portfolio.



Many large Chinese technology companies are making investments in American start-ups, primarily to gain technologies to help bolster their competitiveness and increase their share of the local Chinese market; higher exposure to the overseas technology industries could also have the added effect of creating new markets. For example, Lenovo has invested in Palo Alto-based security platform Nok Nok Labs, and Legend Holdings-sponsored Hony Capital has invested in Deem, a cloud and mobile commerce company. Alibaba and Baidu have

injected capital into rival American car-sharing services Lyft and Uber, respectively, to compete against Tencent-backed Didi Dache in China. Chinese security firm Qihoo 360 has invested in biometric security start-up EyeVerify to improve the effectiveness of its digital security apps.²³ Alibaba has recently led a \$60 million funding round in search engine for apps Quixey, a company whose technology allows for integrating data from different apps on a single platform.²⁴ All of these firms are based in the U.S., but have received strategic injections of capital from Chinese technology companies looking to gain a competitive edge in their bid to expand overseas while competing at home.

CHALLENGES FOR CHINA TO BENEFIT FROM DIGITAL ECONOMY

While the digital economy holds tremendous promise for China, and indeed the world, a number of key challenges remain. The transition to the digital economy has increased productivity and job growth in the sector, but these productivity gains and wealth creation driven by technological advances risk eliminating blue and white collar jobs in traditional industries.²⁵ In China, a shift in the types of jobs available and skill sets required will be painful for those who are less productive and those whose skills and expertise do not adapt, potentially widening income inequalities.

Second, concerns about data security, the loss of privacy, and other threats to intellectual property rights will become increasingly important to businesses and consumers. Chinese technology companies face reputational challenges, as illustrated by the controversy in the U.S. over Alibaba's alleged failure to crack down on sellers of counterfeit goods in 2014. The Indian Intelligence Agency announced security concerns over Tencent's WeChat in 2013. Consumers are especially reluctant to entrust their personal data to servers located on mainland China. What is unmistakable is that many Chinese firms will have to overcome the perceived "credibility deficit" in their overseas ventures.

Third, while government plays a key role in enabling and funding innovation, especially at early stages, China's technology policy is still stuck in a "national champions" model. Fostering an ecosystem of entrepreneurship that can take innovative ideas and turn them into products on the market requires a much

different set of conditions than China's top-down approaches to Olympic gold medals and high-speed rail. The focus on stimulating innovation through top-down regulation and favorable financing to certain companies may invariably crowd out the availability of financing for small and medium enterprises.

Fourth, technical leadership, while a necessary ingredient of innovation, must go hand in hand with market-based competition. China has benefitted immensely from foreign technology and investment; however, foreign companies seeking to enter the Chinese market find themselves at a disadvantage compared to the local competition. Domestic companies in China receive favorable access to capital and land, and the Great Firewall can effectively restrict information from overseas. If Facebook, Google, and Twitter hadn't been blocked, Renren, Baidu, and Sina Weibo would arguably not have been as successful. Indeed, China is showing signs of reaching an inflection point where the aspirations of its technology companies and citizens push against the protective umbrella of Internet restrictions. The European Chamber of Commerce in early 2015 found that 86% of companies surveyed expressed productivity losses and other increased difficulties of doing business as a direct result of Internet restrictions.²⁶ Tightening Internet control mechanisms may discourage foreign investment and disincentivize top talent from relocating to China. While current domestic conditions in China can guarantee that domestic firms can grow to scale and maturity, rising costs of doing business, in terms of productivity loss and access to useful information from overseas, can impede China's future plans to become an innovation powerhouse on a global scale.

CONCLUSION

The momentum for the world of digital technology is rapidly shifting eastwards; today, American giants such as Amazon, Apple, Facebook, and Google may be the undisputed leaders in bringing innovative technology to market, however, the next generation of start-ups will look to the likes of Alibaba, Baidu, Lenovo, and Tencent for inspiration.

China's technology firms have the potential to make China an even more important global economic power than it already is. These firms present formidable competition to the long-established dominance of U.S. technology companies, especially given the speed at which they are coming up with new products and services for consumers within China and globally.

Observers in the West accustomed to accusations of copy-cat manufacturing are now beginning to see a stunning reversal; technology firms in the West are now starting to look to China for the latest innovative technologies and new business models in e-commerce, mobile messaging that can be monetized, and affordable consumer electronics. If Chinese technology businesses and government leaders can break through some of the major challenges hindering the sector from prospering beyond China, they will realize the dream of transforming the future of consumption, production, and people's lives, not just in China but in major markets around the world.

APPENDIX: CHINESE DIGITAL TECHNOLOGY MARKET POTENTIAL AND MAJOR PLAYERS: SELECTED INDUSTRIES

SECTOR	MARKET POTENTIAL AND GROWTH ESTIMATE	MAJOR PLAYERS
E-commerce	<p>Estimated sales of up to \$650 billion by 2020, more than the U.S., Japanese, U.K., German, and French e-commerce markets combined.²⁷</p>	<p>Alibaba has 80% market share of all online consumer transactions in China.²⁸</p> <p>Competitor JD.com has a similar business model to Amazon in that it holds inventory in warehouses. It has about 10% of market share.²⁹ Its partnership with Tencent allows users to buy products through the WeChat messaging platform.</p>
E-travel	<p>China is the world's second largest travel market and the industry is expected to increase by 16% each year to reach \$615 billion by 2020.³⁰</p> <p>Online travel bookings in China are expected to reach \$30.3 billion in sales in 2015, projected to make up 24% of all travel bookings compared to 43% in the U.S.³¹</p>	<p>Ctrip and eLong have similar functionality to Expedia and Priceline. The online travel industry is more fragmented in China compared to the U.S.; Ctrip is the leader with a 23% market share compared to second-place eLong's 8.4%.³²</p>
Automotive	<p>Estimated 22 million in auto sales by 2020, with a growth forecast of 8% per year between 2011 and 2020; 19.7 million passenger cars were sold in 2014 compared with 16.5 million in the U.S.³³</p> <p>In a survey, 61% of Chinese buyers were willing to buy a car online compared to 42% of American consumers surveyed.³⁴</p>	<p>Autohome and Bitauto are the leading auto content and sales platforms in China. Bitauto had 2014 revenues of \$396 million, slightly more than Autohome's \$344 million.³⁵</p>
Healthcare	<p>Spending on healthcare in China is expected to go from \$357 billion in 2011 to \$1 trillion in 2020.³⁶ The demand for medical checkups is booming, though only 19% of China's population had a checkup in 2013 compared with 70% in the U.S.³⁷</p>	<p>iKang is a Beijing-based company that specializes in medical testing and preventative medicine. It has risen to 12% market share as China's largest provider of private preventative healthcare.³⁸ Apricot Forest offers apps that assist doctors by organizing patient medical histories and providing reference information. At least one of the three apps developed by Apricot Forest is used by 25% of China's 2.5 million doctors.³⁹</p>
Internet and cloud computing	<p>The market for cloud computing in China was valued at \$2.1 billion in 2013, expected to grow to \$5.9 billion in 2016. Annual growth is projected to stand at 26% between 2013 and 2017.⁴⁰</p>	<p>Alibaba's Aliyun is the largest Infrastructure-as-a-Service provider in China with a 23% market share.⁴¹ China Telecom and China Unicom rank second and third. 21Vianet is a data center operator that serves as a local partner for Microsoft's Azure and IBM's SmartCloud, the major foreign competitors in cloud services.</p>

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