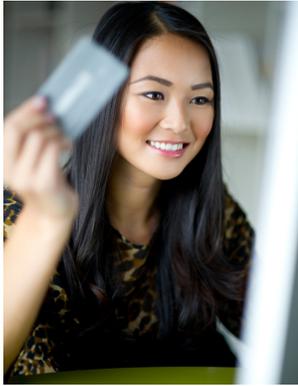


McKinsey Global Institute



March 2013

# China's e-tail revolution: Online shopping as a catalyst for growth



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# China's e-tail revolution: Online shopping as a catalyst for growth

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# *A powerhouse industry ...*

China has the world's largest online population, with

**130 million**

residential broadband accounts

E-tailing produced more than

**\$190 billion**

in 2012 sales

China's e-tailing industry has posted

**120%** compound annual growth since 2003

More than

**6 million** e-merchants list products on Taobao

Singles Day 2012 generated

**\$4 billion**

in online sales, surpassing Cyber Monday in the United States

# ... *with huge growth potential*

China's broadband penetration is only **30%**

Online sales could reach **\$650 billion** by 2020

By 2020, e-tailing could potentially lift China's private consumption by an additional **4-7%**

In Tier 4 cities, the average online shopper spends **27%** of disposable income through e-tailing

E-tailing could boost labor productivity in China's retail sector by **14%**



# Executive summary

China's remarkable economic rise has coincided with the Internet revolution. The convergence of these two powerful forces is transforming the retail landscape and unleashing a surge of innovation and entrepreneurship. In a nation where many other sectors are rapidly expanding, e-tailing stands out for its astonishing growth.<sup>1</sup>

China's e-tailing sales totaled \$120 billion (RMB 774 billion) in 2011, surpassing online sales in Japan (\$107 billion), the United Kingdom (\$56 billion), and Germany (\$32 billion). By 2012, the Chinese market had soared to an estimated \$190 billion–\$210 billion (RMB 1.2 trillion–1.3 trillion) in revenue.<sup>2</sup> It is exceedingly rare for a market measured in the hundreds of billions of dollars to achieve a year-over-year sales increase of some 60 percent.

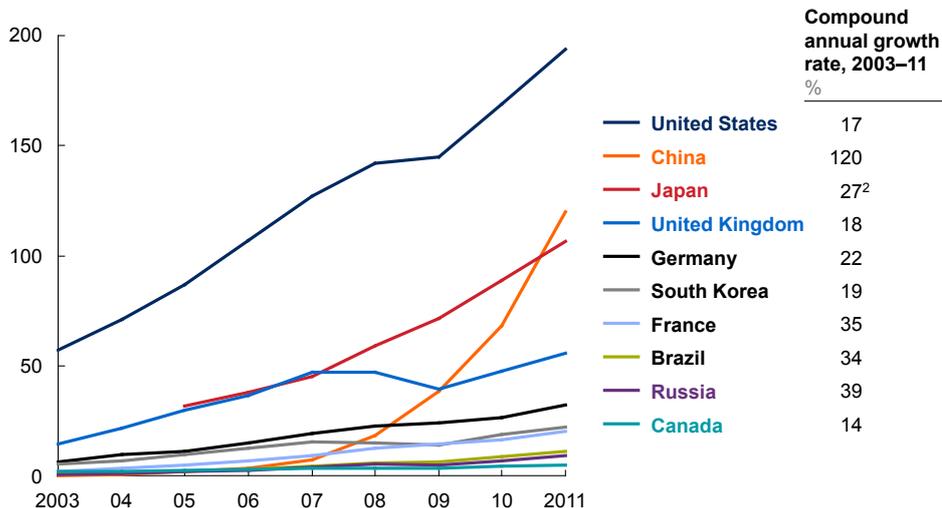
China was the world's second-largest e-tailing market in 2011, and came very close to equaling the United States for the top spot in 2012. Its growth is outpacing the rest of the world by leaps and bounds (Exhibit E1).

## Exhibit E1

### China's e-tailing market has posted the world's highest growth rate

2003–11 e-tailing market<sup>1</sup>

\$ billion



<sup>1</sup> Excluding online travel.

<sup>2</sup> Japan's CAGR covers 2005–11.

SOURCE: Euromonitor; Forrester; US Census Bureau; Japanese Ministry of Economy, Trade, and Industry; iResearch; McKinsey Global Institute analysis

1 This report focuses on the segment of e-commerce known as *e-tailing*—that is, consumer-facing e-commerce transactions. The sellers may be larger businesses (B2C) or microbusinesses and individuals (C2C). Our definition of e-tailing excludes online job search services, financial services, and billing services.

2 Excluding online travel; exchange rate at 1 USD = 6.32 RMB in 2012 and at 1 USD = 6.46 RMB in 2011.

As China's consuming class continues to expand, the market may reach \$420 billion–\$650 billion (RMB 2.7 trillion–4.2 trillion) in sales by 2020.<sup>3</sup> The broader economic impact of e-tailing will be much bigger still.

Underpinning this growth is the world's largest online population. China had 129 million broadband accounts in 2011, dwarfing even the 81 million accounts in the United States.

Surprisingly, China's retail industry is already more wired than many of its international counterparts. E-tailing accounted for 5-6 percent of 2012 retail sales in China vs. about 5 percent in the United States.

Our analysis of spending patterns across 266 cities in China suggests that e-tailing is having a strong incremental effect on private consumption. This increase is particularly evident in China's medium-size and small cities, which generally lack compelling physical retail offerings. As consumers gain better access to a broader set of products, they are spending more. Unlocking demand in currently underserved regions accelerates China's policy goal of increasing private consumption.

Chinese retail is still predominantly regional; it is exceedingly difficult to scale up traditional store networks across such a large and diverse developing country. The emergence of large national chains has been a milestone in the retail development of most countries, but Chinese retail is coming of age during an era of profound digital disruption. Because of that context, there are two different scenarios for its future evolution.

China could develop a balanced mix of physical and digital retail, with national brick-and-mortar chains eventually dominating some product categories and online sales capturing others. But given the extraordinary growth of e-tailing, Chinese retail might mature along very different lines. In this alternative scenario, e-tailing could unleash a transformative "leapfrog" effect. China could forgo the national expansion of physical stores commonly seen in Western nations and move directly to a more digital retail environment. Such a shift would not only help to boost efficiency in the overall retail sector, but it could have broad implications for China's urban development. In a more digital world, emerging Chinese cities would need less space for physical storefronts—and civic life might not revolve around shopping districts and malls in the traditional sense. Warehouse space, trucking routes, and other logistics infrastructure would have to be priorities for smaller cities to fully participate in this Internet economy.

E-tailing is already beginning to generate broad ripple effects. First and foremost, it has provided a powerful launching pad for China's next-generation entrepreneurs and small and medium-sized enterprises (SMEs). These SMEs are able to sell directly in the e-tailing marketplaces where economies of scale matter less than in traditional manufacturing and distribution. Strong growth in e-tailing may lower demand in the commercial real estate sector, but it will also create tangible market incentives for innovation in technology, another policy priority for China.

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3 Based on 2011 prices and exchange rate.

Realizing the full potential of e-tailing in China will require investment in large-scale expansion of broadband penetration, 3G+ coverage, data analysis capabilities, and logistics infrastructure. The industry will also have to make great strides in labor productivity.

But the size of the prize is vast—and all stakeholders, government and private-sector alike, should recognize the strategic importance of this opportunity. E-tailing is only one of many drivers that will contribute to China's new growth model, but it assumes larger significance as a new source of comparative advantage in the world. If Chinese e-tailing successfully achieves a “leapfrog effect” that drives a rapid transformation in consumption, innovation, logistics, and productivity, it will serve as an important case study for other emerging economies in how to harness disruptive change as a catalyst for growth.

### **CHINA'S E-TAILING INDUSTRY IS SHAPED BY THE COUNTRY'S UNIQUE CONTEXT AND DOMINATED BY THE MARKETPLACE MODEL**

China's new consuming class increasingly has money to spend, but in many regions, the offline (brick-and-mortar) retail industry remains underdeveloped. E-tailing has produced super-charged growth precisely because it is successfully targeting and fulfilling this previously unmet consumer demand. In addition, China's powerful manufacturing sector provides ease of sourcing for a great diversity of merchandise—and selection is critical to generating consumer pull.

Among the striking characteristics of the Chinese market, based on 2011 figures:

- Large B2C (business-to-consumer) sites are the clear leaders in other countries, but not so in China, where nearly 90 percent of the industry is marketplace-based (see Box 1, “Online marketplaces: The giants of Chinese e-tailing”). This compares with a marketplace share of only 23–24 percent in the United States. With few major physical retailers developing a successful multichannel approach, marketplace operators have consolidated a huge market share. They have become an effective channel for a significant base of small manufacturers and wholesalers eager to sell directly to consumers.
- More than 70 percent of the market is C2C (consumer-to-consumer), a share that is in the single digits in most other countries.<sup>4</sup> This again underscores the importance of small businesses in driving the industry's growth.
- Although the industry is still in the initial building phases, high growth is being achieved with relatively low investment of 2–4 percent of revenue on an annual basis. The prevalence of C2C and marketplace transactions has made this possible.
- The overall e-tailing ecosystem is profitable, at around 8–10 percent earnings before interest, taxes, depreciation, and amortization (EBITDA). Marketplace-based players are the more profitable segment.

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<sup>4</sup> C2C in China encompasses sales by small enterprises and microbusinesses without company registration, while C2C in other countries primarily consists of secondary-market transactions by individuals. This difference accounts for the much larger share of C2C in China.

### Box 1. Online marketplaces: The giants of Chinese e-tailing

The largest online marketplace operators—Taobao, Tmall, and Paipai—account for an enormous share of the Chinese e-tailing market (Exhibit E2). Like eBay, their US-based counterpart, they provide one central website where a wide universe of SMEs and microbusinesses can sell all manner of merchandise. Taobao alone had more than six million registered sellers by the latest count; together they generate hundreds of millions of product listings. These e-merchants are able to fill micro and local pockets of demand while staying price competitive due to their low overhead.

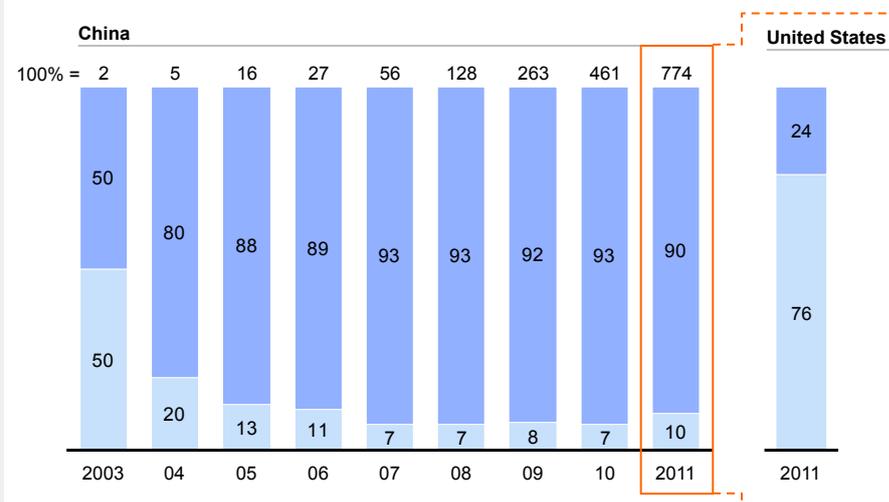
For individual e-merchants, the most crucial advantage of selling through a marketplace is tapping into the huge aggregated traffic flow that these sites have already built. In addition, marketplaces act as one-stop shops that assist these businesses in launching quickly and with minimal start-up costs by providing the tools needed for setting up their individual online storefronts, listing items, and collecting payment. They can also connect sellers with certified providers of services such as warehousing and shipping. Marketplace operators generate revenue through online advertising and, in some cases, charging sellers transaction fees.

#### Exhibit E2

#### Marketplaces dominate Chinese e-tailing

#### E-tailing market

%; RMB billion



NOTE: Numbers may not sum due to rounding.

SOURCE: iResearch; eMarketer; expert interviews; McKinsey Global Institute analysis

Comparing the Chinese and US models of e-tailing side-by-side reveals some interesting differences (Exhibit E3). For example, Chinese and US consumers have different expectations about how their purchases will be delivered. US consumers do not expect one- or two-day delivery from all e-merchants (although that is a feature offered by some leading names), but they almost always have the option to pay extra for faster delivery, which is available across most of the nation. Chinese consumers in the largest cities do expect next-day delivery, but that level of service is not available in small cities. Cash on delivery has largely become a thing of the past in the United States, but it remains common among many independent B2C merchants in China. This has given rise to the Chinese phenomenon of the “mobile fitting room” (when apparel purchases are delivered, couriers often wait for the shopper to try on the garment before collecting payment).

### Exhibit E3

#### How does China's e-tailing market differ from the US market?

■ Similar  
■ Different

		China	United States
<b>How large is the market?</b>	Size of e-tailing market (\$ billion) <sup>1</sup>	\$190–\$210	\$220–\$230
	E-tailing as % of retail <sup>1</sup>	5–6%	5%
<b>Where do sales happen?</b>	Marketplaces' share of e-tailing (%)	90%	23–24%
	C2C's share of e-tailing	>70%	Single-digit
<b>What do online shoppers buy?</b>	Biggest product category	Apparel	Travel
<b>How do e-tailers perform?</b>	Average EBITDA across ecosystem	8–10%	8–10% <sup>2</sup>
	Diversity of EBITDA across ecosystem	Wide range	Narrower range
<b>What devices are shoppers using?</b>	Mobile commerce's share of e-tailing	2%	5%
	Smartphone penetration in population	10%	42%
<b>How are products delivered?</b>	Coverage of next-day delivery by major express delivery companies	Mostly in Tier 1 and Tier 2 cities	Almost nationally
<b>How do shoppers pay?</b>	Cash on delivery by independent B2C	Common	Rare
	Third-party payment systems/bank cards	Majority	Majority

1 2012 figures, while others are 2011 figures.

2 Assumes the same revenue share by roles as in the Chinese e-tailing ecosystem.

SOURCE: McKinsey Global Institute analysis

## E-TAILING IS GENERATING INCREMENTAL CONSUMPTION AND BECOMING A MAJOR ECONOMIC DRIVER

E-tailing is not just a replacement channel for purchases that would otherwise take place offline. It actually seems to spur incremental consumption in China, especially in lower-tier cities where there is pent-up demand for choice in merchandise that physical retail stores have not yet managed to deliver.<sup>5</sup> China's economy has long been reliant on manufacturing exports, but e-tailing could play a role in realizing the government's stated policy goal of increasing domestic consumption to drive further development and growth.

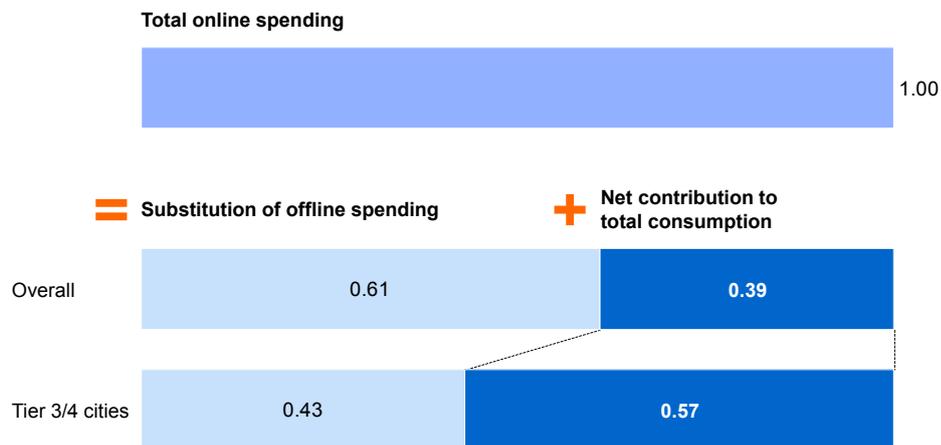
5 Cities in China are grouped into four tiers based on their economic development and political importance. Tier 1 cities are Beijing, Shanghai, Guangzhou, and Shenzhen; in all four, the 2010 nominal urban GDP is in excess of RMB 932 billion. Tier 2 cities are mostly provincial capitals, plus a few other major urban areas with RMB 120 billion–932 billion nominal GDP in 2010. Tier 3 cities have a nominal GDP of RMB 22 billion–120 billion in 2010. Tier 4 cities have less than RMB 22 billion GDP in 2010.

Examining data from 266 cities, we find that the development of e-tailing has produced an incremental increase in total consumption. After controlling for income variances, we observe that cities with higher online consumption tend to have higher overall consumption. It seems that more than half of every yuan of online consumption comes from replacing consumption through physical stores, but slightly less than half is new consumption instigated by the online channel. While data limitations make it difficult to precisely quantify these effects, preliminary analysis points to an even larger incremental effect in lower-tier cities (Exhibit E4).<sup>6</sup> Taking these preliminary data as a proxy, we estimate that e-tailing may have already added 2 percent of incremental value to China's private consumption in 2011.

#### Exhibit E4

#### Online spending raises China's total consumption— and the effect is even more pronounced in less developed areas

\$



SOURCE: McKinsey Global Institute analysis

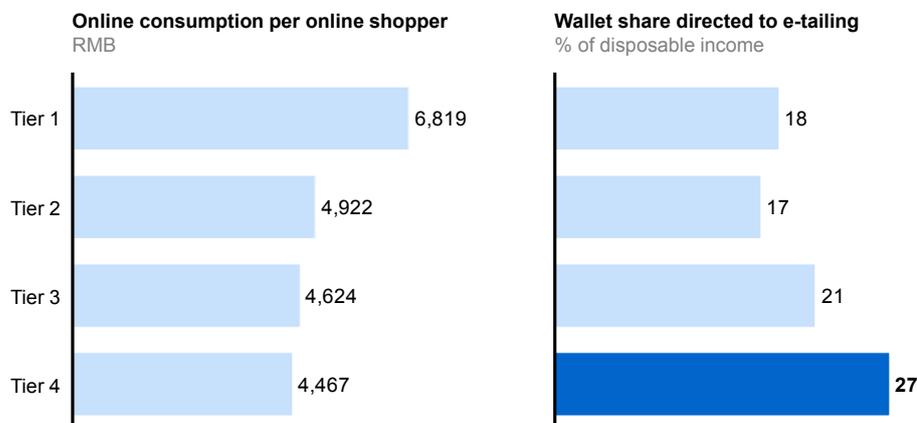
Consumption levels used to exhibit striking variations across city tiers, but e-tailing is equalizing these differences. The enthusiasm for online shopping among consumers from lower-tier cities is apparent when we analyze the relative wallet share directed to online purchases by active online shoppers (that is, the share of their disposable income that is spent online). Online shoppers in Tier 4 cities have lower average incomes, but the amounts they spend online tend to be similar to those of shoppers in China's Tier 2 and 3 cities, which are larger and more prosperous. This translates into a higher wallet share for online spending in lower-tier cities (Exhibit E5). Qualitative research confirms that the main driver of this higher wallet share is access to a greater assortment of goods. While pricing is always important, it may not be the most crucial motivator for online purchases in lower-tier cities.

<sup>6</sup> Although data availability issues rendered a full statistical multi-variable regression analysis impractical, the effect of e-tailing on overall consumption is clear, as is the pattern showing a larger effect in lower-tier cities.

**Exhibit E5****Tier 4 cities have the highest wallet share directed to online spending**

266 CITIES

China e-tailing consumption by buyer location



SOURCE: McKinsey Insights China database; McKinsey iConsumer survey; McKinsey Global Institute analysis

Beyond increasing overall consumption, e-tailing is reshaping the Chinese economy in other profound ways—notably by lowering retail prices for consumers and driving significant growth in adjacent sectors.<sup>7</sup> E-tailing has spurred the development of a \$13 billion (RMB 83 billion) service provider industry that encompasses online advertising and marketing, payment systems, warehousing, express delivery, and IT services—all of which e-merchants are using to support their selling activities. E-tailing is also accelerating consolidation and the modernization of formats in the physical retail world. More efficient retail will affect other sectors, creating better coordination between supply and demand that improves efficiencies for the overall economy.

### THE INDUSTRY'S POTENTIAL IS ENORMOUS—IF ITS PRODUCTIVITY AND INFRASTRUCTURE CONTINUE TO IMPROVE

By 2020, we project that Chinese e-tailing will match the combined size of today's US, Japanese, UK, German, and French markets, reaching \$420 billion–\$650 billion (RMB 2.7 trillion–4.2 trillion) in sales. This has the potential to generate an incremental gain of 4–7 percent in private consumption. The major enabler of this continued growth will be enhanced 3G+ and broadband penetration.

Previous MGI research has found that as Internet usage spreads, its observable positive effects grow.<sup>8</sup> The Internet has already had significant impact in China and other emerging economies, but there is tremendous potential for driving

<sup>7</sup> Our research (including both data and expert interviews) finds that online prices are an estimated 6–16 percent lower than offline prices (or 4–9 percent lower after taking into consideration the proportion of common stock-keeping units, or SKUs).

<sup>8</sup> *Internet matters: The Net's sweeping impact on growth, jobs, and prosperity*, McKinsey Global Institute, May 2011.

future GDP growth if these countries reach the levels of access and usage seen in advanced economies.<sup>9</sup>

But unleashing the full potential of e-tailing in China is not a foregone conclusion. Achieving this growth hinges on realizing significant gains in labor productivity. Productivity across the entire e-tailing ecosystem is still much lower than that of brick-and-mortar retail, and given the shortage of high-tech talent, the industry may be forced to find productivity drivers that can mitigate the need for workforce expansion.

International experience shows that a dramatic improvement is possible: select e-merchants in the United States, Japan, and the United Kingdom have achieved productivity levels that are 2.2 to 4.4 times the productivity of offline retailers. Labor productivity in China's retail sector is only two-thirds of the US level today. By 2020, the overall sector's performance could rise by 14 percent if China's e-tailers catch up with their counterparts in other major markets. Enhancements such as basic IT tools or big data applications may hold the key.

Capital investment to date has been minimal for the majority of the market, despite the rapid growth. This has contributed to the industry's profitability, but it will be difficult to sustain as competition intensifies, technology evolves, and consumer expectations rise. Given that such a large portion of the market consists of small and medium-size merchants operating through marketplaces, there is an urgent need for the government or marketplace operators to commit the necessary investment and expenditure in data analysis and warehouse capacity. That being said, the total capital employed to support e-tailing is still more efficient than in the brick-and-mortar world, due to the lack of need to build a physical presence.

Sustainable growth in e-tailing has to be built on attaining efficiency in the broader ecosystem. But efficiency gains have not been the primary driver of the Chinese economy for decades; a new mindset will be required on the part of both government and the private sector to recognize the looming barriers and act on them quickly.

## **STAKEHOLDERS HAVE ENORMOUS OPPORTUNITIES AND CHALLENGES**

The growth of e-tailing is already generating tremendous consumer surplus—starting with lower overall retail prices. It has given consumers in smaller cities and more remote areas access to a much wider array of goods than they have ever been able to purchase before. Even residents of Tier 1 cities benefit from the greater convenience afforded by online shopping and the availability of niche products.

Private companies need to be fully prepared if they hope to capture the opportunities presented by the rapid rise of e-tailing. China's entrepreneurs now have the ability to launch new ideas with minimal start-up costs and access to a large pool of potential customers. E-tailing is still a young and wide-open market where small, innovative businesses can gain traction very quickly.

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<sup>9</sup> *Online and upcoming: The Internet's impact on aspiring countries*, McKinsey & Company High Tech Practice, January 2012.

Established makers of consumer products can take advantage of the e-tailing platform to accelerate tapping into new markets in smaller cities, although they will have to meet the challenges of managing a more fragmented digital trade (especially as wholesale networks move online) and developing more complex brand and product portfolios to serve the online market. Brick-and-mortar retailers will need to adapt their format and footprint strategies, and they will be forced to make clear decisions on supply-chain investment.

As e-tailing matures and the associated business infrastructure develops, an increasing number of e-merchants may opt to set up their own online storefronts beyond the marketplaces. Right now, many independent e-merchants are losing money in an attempt to compete solely on price. They will need to invest wisely to build and strengthen their unique value proposition and improve productivity. This may involve using big data tools to identify their target customers, understand their needs, and price their offerings; it may also involve investing in aspects such as automated sorting and packaging or modular product design that can facilitate mass customization.

For service providers, holistic supply-chain and information management will be a major growth area. The field is open and competitive for marketing services, IT, warehousing, and integrated service providers to enter. By contrast, clear winners are already emerging in online advertising, payment services, and delivery (although many companies are still operating in a relatively labor-intensive way).

For marketplace operators, quality and safety assurance, as well as fraud detection and prevention, are already significant administrative challenges—after all, this is a universe in which sellers number in the millions. China's logistics system is also far from efficient. But there are ways to address these problems, primarily by developing strong systems that centralize back-end administrative tasks and making the necessary investment to keep pace with technology. Marketplace providers will also need to sustain their productivity and prepare innovative strategies to deal with a looming shortage of workers with the right set of skills.

The Chinese government has allowed e-commerce to develop without a great deal of intervention to date. It can facilitate continued growth in e-tailing—and encourage its attendant effects on overall consumption—by focusing on expanding broadband and 3G+ infrastructure; accelerating and incentivizing investment in logistics infrastructure and big data capabilities; facilitating R&D geared to technology innovation; and addressing the looming skills shortage. Public-private partnerships may be the answer for investing to further improve infrastructure.

The growth of e-tailing will pose new issues for cities, given the reduced need for physical storefronts and the increased need for warehouse space, trucking routes, and other logistics. Even residential architecture might need to be adapted to accommodate package delivery as a facet of daily life.

Other emerging economies can draw on China's experiences in growing e-tailing to unleash entrepreneurship. Building the backbone technology infrastructure to provide payment systems and traffic aggregation should be the early-stage priorities.



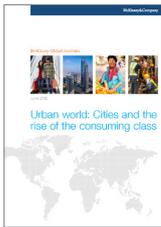
If China continues to develop the most robust e-tailing market in the world, it may create a successful example of leapfrog growth, overtaking Western nations in the move to a more digital and efficient retail market. This could occur even without a physical store footprint that extends across the entire country—and if this scenario unfolds, it will have broad implications for the development of Chinese cities. E-tailing is fast becoming an area in which China could lead the world in innovation rather than relying on its historical labor cost advantage. China may have largely sat out the 19th-century Industrial Revolution, but today it is poised to become one of the leaders of the 21st-century Internet revolution.

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