

# EMBRACING THE E-COMMERCE REVOLUTION IN ASIA AND THE PACIFIC

## Online Appendix: Country Cases

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# E-commerce in Cambodia

## Introduction

Cambodia's online population is growing rapidly. In 2000, only 6,000 Cambodians were online (Luedi 2017). According to the International Telecommunication Union (ITU), about 26% of Cambodian (or over 4 million) were using the Internet by 2016. According to the Cambodian Ministry of Posts and Telecommunications, about 9.5 million Cambodians, or 60% of the population, will have internet access by 2020 (United Nations Conference on Trade and Development or UNCTAD 2017a).

As in other developing economies, most Cambodians access the internet using smartphones. In early 2017, 94% of Cambodians had access to a mobile phone, 40% of which were smartphones (Luedi 2017).

The rapidly growing Cambodian e-commerce market is attracting e-commerce companies. *Xinhua*, quoting a marketing officer of the Cambodian shopping website Shop168, reported there were about 20 business-to-customer (B2C) sites in Cambodia in 2015 (Sovan 2015).

Nonetheless, only a small proportion of Cambodians with access to the internet use it to make purchases. According to market and social research company Kantar TNS's *Connected Life* report, as of 2016, only 8% of Cambodians shopped online (Hale 2016). This was about the same proportion as observed in Myanmar, which lags Cambodia in most other information and communication technology (ICT) indicators.

Biggest barriers to the development of e-commerce market in the economies of the Association of Southeast Asian Nations (ASEAN) include limited broadband access, financial exclusion of a large societal group, mistrust in online transactions, and a lack of harmonization of regulatory frameworks among the

member states (Caraballo 2017). These problems are more prevalent among consumers and businesses in low or lower middle-income economies. According to the UNCTAD *Information Economy Report 2015*, Cambodia has one of the lowest e-commerce indexes in the region. With an index value of 30.8, the country ranked 92 out of 130 economies.

## Overview of the Cambodian E-commerce Industry and Market

Cambodia's rapidly growing e-commerce market has attracted diverse players. Table 1 presents some of the key ones. It is important to note that value, convenience, and wide product range are important success factors for attracting online consumers. Cambodia has yet to see a local high profile e-commerce player that performs reasonably satisfactory across these criteria.

Kantar TNS (2016) identified three key factors affecting consumers' tendency to buy online: (i) the value consumers derive from online shopping, (ii) convenience, and (iii) the ability to access a wider product range than available from alternative channels. The last benefit on the list is often a unique selling proposition for Cambodian e-commerce players. In an interview, Eelco Dijkhuizen, general manager of Kantar TNS Cambodia, noted that the real value proposition of e-commerce in Cambodia is that consumers can buy products that are often not available in regular retail outlets. This is because the Cambodian retail market is small.

Domestic players are adapting to local conditions. Items are delivered through local couriers (Hale 2016). For instance, a cash-on-delivery service is available for Shop168 customers in Phnom Penh, while Customers outside the capital city are required to pay through the mobile payment company WING. Products are delivered by the logistic company Viettel Post (Sovan 2015).

**Table 1: Some Key E-commerce Participants in Cambodia**

Company	Explanation	Remarks
Little Fashion	Started Facebook commerce in 2010, selling apparel, footwear, bags, accessories and beauty products—also sold in brick-and-mortar stores. October 2017: about 1.5 million Facebook ‘likes’.	Offers its own delivery-by-moto service. 2014: up to 50 deliveries a day
Khmer24	Created in 2009, biggest online market in Cambodia.	July 2013: more than 70,000 users, 9,000,000 pages viewed per month.
Cambo Quick	Began operations in mid-2014. It processes orders on Amazon via an address in the United States. Handles logistics and applicable duties for delivery to Cambodia.	2017: handled about 300 orders per month; more during the holiday season.
Fado168	Operates a web portal and Facebook page, delivering products ordered from Amazon’s full catalogue. Normal delivery time is 10–20 days.	August 2017: handled over 200,000 transactions.
MAIO Mall	April 2015: Worldbridge International and ACLEDA Bank’s MAIO Mall began selling clothes, jewelry, groceries, accessories, electronic products and other items online.	September 2017: Web.horde.org reported that MAIO Mall websites received about 15,000 visitors monthly. 46.1% of the visitors were Cambodian and 99% females ( <a href="http://web.horde.to/maiomall.com">http://web.horde.to/maiomall.com</a> )
Shop168	Shop168 helps established stores place products onto its web portal.	August 2015: the company teamed up with 30 stores.
Mall 855	A C2C website that allows consumers to sell goods to one another. Consumers use Mall 855 to sell items such as washing machines, cars and houses.	Currently makes money from advertisements. Buyers and sellers need to make their own arrangements for payment and delivery. September 2017: Mall 855 exploring partnership with a Malaysian company to provide payment solutions. Also looking for logistics companies for delivery solutions.
Roserb	Started in December 2013 as a website for cosmetics and skincare products, with 50 types of cosmetics items from the Republic of Korea, and offering about 2,000 items by July 2015.	July 2015: shipped 170 to 220 packages per month, average value of \$37.50 each.

C2C = consumer-to-consumer.

Sources: Benang Merah Komunikasi (2017), GeeksinCambodia (2013), Freischlad (2015a), McGrath (2017).

A similar arrangement has been adopted by Roserb (Freischald 2015a).

B2C players such as Roserb focus on narrow niches. At the opposite end are companies such as My All-In-One (MAIO) that offer diverse products. In April 2015, MAIO Mall launched online stores selling clothes, groceries, accessories, and electronic products. MAIO also allows people to pay bills, make online bookings, and borrow money. Shop168 helps established stores to put the products into its web portal. As of August 2015, the company had teamed up with 30 stores (Raksmey and Kossov 2015). Meanwhile, C2C e-commerce transactions involving a wide range of products are made possible through companies such as Khmer24.

Some key developments are also taking place in the business-to-business (B2B) e-commerce arena. In February 2017, Kiu—a multicurrency and multilingual e-commerce platform for small and medium-sized enterprises (SMEs)—was launched with the support

of the Asian Development Bank (ADB) and the Mekong Business Initiative. Kiu aims to help SMEs in the lower Mekong region and initially covers Viet Nam and Cambodia (Nguyen 2017). A goal is to allow local producers and SMEs to access developed markets and help overseas buyers to source goods from suppliers from Cambodia and Viet Nam (Luedi 2017). Kiu platform’s components include: (i) Kiu Marketplace, which lists products such as baby clothing, home décor, art and crafts and school supplies that consumers and wholesale importers can source to sellers in the Mekong region; (ii) Kiu enterprise resource planning, a management tool for SMEs; and (iii) Kiu Shipping, which helps buyers to ship products they buy in the Mekong region. As of February 2017, Kiu was reported to be working with about 250 SMEs. At that time, it was also attracting five new suppliers every week (Nguyen 2017).

Cambodia has also shown impressive achievements in some areas of government-to-consumer (G2C) e-commerce. In 2006, the Cambodian Ministry of

Foreign Affairs and International Cooperation launched an e-Visa program. Visitors can apply for a Cambodia travel visa online. Cambodia was arguably the first in the region to do so (UNCTAD 2007).

The private sector, industry associations, the government, and international organizations have taken initiatives to stimulate e-commerce adoption by companies in industries that are viewed as engines of economic growth. During 1994–2015, Cambodia's economy experienced average annual growth of 7.6% and ranked sixth among the fastest-growing economies in the world, based on World Bank data. The World Bank attributed this impressive performance to garment exports and tourism. The Kiu platform is likely to help companies in garment makers adopt e-commerce.

As early as 2007, 63% of Cambodian Hotel Association (CHA) members in Phnom Penh and Siem Reap had their own websites (UNCTAD 2007). All organizations in the travel and tourism sector are reported to have homepages, which provide information and services such as for reservation and tickets.

As in neighboring countries such as Thailand and Myanmar, social commerce is a key feature of the Cambodian e-commerce market (Krutaine 2016). Some small Cambodian businesses have used Facebook as the main storefront and a tool for increasing market reach. This is understandable since 90% of the online population in Cambodia is estimated to use Facebook (UNCTAD 2017a). As of October 2017, 4.8 million Cambodians used Facebook (Spiess 2017). Typically, customers can order through Facebook Messenger and pay for and pick up orders from the store (Seeking Alpha 2016). As an example, Little Fashion started selling on Facebook in 2010. Orders can be placed on Facebook or on the phone for cash-on-delivery. Little Fashion also offers face-to-face customer service in its retail premises. It also offers its own delivery-by-moto service. As of 2014, the company was reported to be making as many as 50 deliveries a day (Eng and Pisey 2014).

## Business Models

Key e-commerce business models used in Cambodia include: internet portals, bundlers of services, and manufacturers' agents.

### INTERNET PORTALS

Two of the most popular models for an internet portal are: (i) a free model, in which some products and services are given away to create high traffic and therefore advertising opportunities (e.g., FreeStuff.com gives samples of household items such as coffee and moisturizer); and (ii) a content sponsorship model, which entails the creation of useful content, links, and services to attract visitors to generate advertising revenue. In these models, users visit the website for free products or useful content (a relational objective). Khmer24 and Mall 855 follow the content sponsorship model. As mentioned, portals such as Mall 855 currently make money from ads (a value-based objective).

### BUNDLERS OF SERVICES

In this model, an e-commerce company provides products and/or services together to attract buyers (relational objective). Bundling relates to product or channel enrichment as a value-based objective. E-commerce players such as Cambo Quick and Fado168 act as bundlers of services. For instance, Cambo Quick does a number of things such as processing orders on Amazon, receiving goods to a US address and handling logistics and applicable duties. The company makes money from such bundling (value-based objective).

### MANUFACTURERS' AGENTS

Shop168 acts as a manufacturers' agent. A manufacturers' agent represents multiple sellers of specific types of products and sometimes an entire industry. Buyers are attracted because they can buy products from multiple manufacturers (relational objective). Shop168 helps established stores to put the products on its portal.

In this business model, financial improvement is the value-based objective, which means that the agent's monetary benefits arise from user fees, advertising, and so on. The agent's revenues are either user-paid (e.g., for Web content, products, or services) or provider-paid (for example, advertising revenues, commissions provided by sponsors, and the like). Shop168 is a provider-paid agent.

# Facilitators of and Barriers to E-commerce in Cambodia

As discussed in Chapter 2 of the main report, e-commerce facilitators and barriers can be analyzed according to three dimensions of feedback systems: economic, legal and institutional, and social acceptance and awareness (Kshetri 2007). Table 2 presents key barriers in Cambodia and some measures to overcome them.

## Economic Factors and Conditions

### INFORMATION AND COMMUNICATION TECHNOLOGY INFRASTRUCTURE

As in other developing countries, many poor households in Cambodia are not in a position to buy hardware and software and subscribe to internet services. Cambodia ranked 128 out of 176 economies in the ITU's ICT Development Index for 2017. While it did better than

some other ASEAN members such as Myanmar (135) and the Lao People's Democratic Republic or Lao PDR (139), Cambodia is far behind more advanced ASEAN economies such as Singapore (18), Brunei Darussalam (53), and Malaysia (63).

The most important barrier to developing the e-commerce market and industry in most developing countries centers on low bandwidth availability. The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) estimated Cambodia's international internet bandwidth at 30 gigabits per second (GBPS) in 2014 (Ruddy 2016). This translates to 1.90 megabits per second (MBPS) per 1,000 people, and is in line with Indonesia (2.01 MBPS per 1,000 people) and the Lao PDR (1.92 MBPS per 1,000 people). A lower bandwidth means that a longer time is needed to transfer data and hence the advantage of using the Internet is undermined.

### E-PAYMENT

Unavailability of credit cards is also a major hurdle to realizing the economic benefits of e-commerce in developing countries. As of 2017, the number of credit

**Table 2: Barriers to E-commerce in Cambodia and Measures to Overcome**

Dimension	Examples	Possible ways to overcome barriers
Economic	<ul style="list-style-type: none"> <li>• Low credit card penetration</li> <li>• Lack of electricity supply</li> <li>• Low telecommunication density</li> <li>• Low purchasing power</li> <li>• Underdeveloped financial systems</li> <li>• Internet less attractive for traditional sectors such as agriculture</li> <li>• Lack of economies of scale</li> <li>• Limited access to ICT and other supporting infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Plan to develop blockchain-based payment system</li> <li>• Acceptance of diverse payment solutions—such as cash on-delivery, m-payment systems and credit cards</li> <li>• Development of m-payment systems with low transaction costs</li> </ul>
Legal and Institutional	<ul style="list-style-type: none"> <li>• Inadequate legal protection for internet purchases</li> <li>• Nonexistent or limited initiatives from industry bodies and trade/professional associations to promote e-commerce</li> </ul>	<ul style="list-style-type: none"> <li>• Cybercrime laws expected to be enacted soon</li> <li>• Policy advisory and advocacy from organizations such as Mekong Business Initiative</li> <li>• E-commerce among the most important current policy priorities</li> </ul>
Social Acceptance and Awareness	<ul style="list-style-type: none"> <li>• General and computer illiteracy and lack of English language skills</li> <li>• Few local language websites</li> <li>• Lack of awareness and knowledge of e-commerce benefits</li> <li>• Low confidence in service providers</li> <li>• Lack of knowledge to use ICT profitably</li> <li>• High degree of risk aversion</li> <li>• Low degree of business confidence in e-commerce</li> <li>• Limited workforce with e-commerce expertise</li> <li>• Creating content in Khmer is complicated</li> </ul>	<ul style="list-style-type: none"> <li>• Cambodia Post eSolution expected to help local businesses adopt e-commerce.</li> <li>• Business models of key players (e.g., WING) geared toward low-end and technologically less sophisticated customers</li> </ul>

ICT = information and communication technology.

Source: ADB compilation based on Benang Merah Komunikasi (2017), Freischlad (2015a, 2015b), Hoffman and McVay (2013), Kshetri (2007), Luedi (2017), Ly et al. (2016), McGrath (2017), Schmitt and Orlov (2016), Sokhoring (2017), Sokunthea (2017), Ruddy (2016), Sovan (2015).

card users in Cambodia was about 60,000, or 0.6% of the adult population, according to World Bank's Global Findex Database 2017. This is symptomatic of a broader problem of financial exclusion. Also, only 17.8% of adults in Cambodia have a bank account, lower than the 25.6% average among ASEAN's smaller economies (Cambodia, the Lao PDR, Myanmar, and Viet Nam).

Some developments are encouraging. The void in online payment is now being rapidly filled and new business models are emerging. Sites such as BookMeBus.com allow both mobile payment systems and credit cards (Hale 2016). Cambodian mobile-phone-based payment system WING deserves discussion. Since starting in 2009, WING has developed a network of agents through partnerships with microfinance institutions such as VisionFund and AMK, which have a presence throughout the country. In early 2017, WING handled a monthly volume of transactions equivalent to 50% of Cambodia's GDP (Sokunthea 2017). The number of WING Xpress points reached 5,000 by the early 2018 and over 8,000 merchants accepted WING payments (*Khmer Times* 2018). WING allows cellphone owners to send funds to another cellphone number for deposit into the receiver's WING account, or cash can be picked up at a physical WING station (Freischlad 2015a).

WING has lower transaction costs than alternatives. For instance, whereas WING charges only \$0.50 to transfer \$100, customers pay between \$1 and \$5 for using informal money-transfer services (Mylenko 2010). In 2012, WING started a service allowing customers not registered with the company to send money to another unregistered customer. An agent receives the cash and transfers by phone. The cash is paid out at the other end. In this way, a customer can transfer money without having a digital wallet (Hoffman and McVay 2013).

### LOGISTICS

Logistics challenges due to the lack of well-developed delivery infrastructure are prominent barriers for developing countries such as Cambodia. Indeed, according to *Cambodia Rapid eTrade Readiness* (UNCTAD 2017b), problems mainly related to last mile deliveries (from transportation hubs to homes), has hindered e-commerce growth. The report also noted that "an ineffective and antiquated national postal system and a lack of a systemised address system" severely increase costs and time in delivering products bought online. For instance, if an item is to be delivered

from a foreign country, it may take many weeks. The recipients often need to go to the post office to find the package. The country's post offices were reported to arrange package with handwritten notebooks based on the country of origin (UNCTAD 2017b).

Cambodian companies are gearing up to respond to the underdeveloped logistical infrastructure and services. Experiences from other developing countries suggest that cheap labor is important to achieving low-cost distribution (Kantar TNS 2016). For instance, Alibaba relies on freelance motorcycle couriers for delivery. CamboTicket, which was started in 2014 as an online bus-ticketing service, relies on similar solutions to sell to customers who cannot pay online. To collect payment, CamboTicket has partnered with a local food delivery company in Phnom Penh, which picks up cash from customers' homes (Moules 2016).

Some local companies are filling the logistics gap left by global e-commerce companies, making it possible for online shoppers there to order from Amazon website (McGrath 2017). One such company, Cambo Quick, processes orders on Amazon that need to be delivered to Cambodia. The company orders the goods to be delivered to an address in the US. It handles next stage in the logistics and applicable duties (which are not levied on most goods valued at under \$200 if for personal use). Orders collected over one week are consolidated and shipped to Viet Nam. From Viet Nam, the goods are delivered to Cambodia by bus. The total paid by a shopper equals Amazon's invoiced cost to deliver to the US address plus international shipping costs (about \$13 per kg) plus a 5% handling fee. The handling fee covers customs clearance, management and insurance, as well other costs. Orders of at least \$25 are delivered without additional costs in Phnom Penh. As of August 2017, Cambo Quick was reported to handle about 300 orders per month, with increased demand during the holiday season (McGrath 2017).

Another company Fado168 operates a web portal and Facebook page, which delivers products ordered from Amazon's full catalog. An internet shopper can choose items from the Fado168 website, or copy and paste a product's link from Amazon. Fado168 then sends a quote to the shopper for a delivery to a Cambodian address. The normal delivery time is 10 to 20 days. As of August 2017, Fado168 was reported to have handled over 200,000 transactions. It accepts payments by WING,

credit card, bank transfer, or cash at its Phnom Penh office (McGrath 2017).

In light of concerns about the poor quality of the postal system, it is notable that Cambodia Post has teamed up with Alibaba to deliver the People's Republic of China (PRC) e-commerce giant's products in Cambodia, serving as its agent since 2016 (Skyline University College 2017).

Many advanced applications on the horizon are likely to transform the Cambodian e-commerce landscape. A March 2017 article at Global Risk Insights (GRI), a publication for political risk news and analysis, reported that Australian start-up Yojee was partnering with Post Media and Cambodian delivery companies to offer advanced delivery solutions (Luedi 2017). Yojee utilizes a crowdsourced platform to tackle delivery and logistical issues. Post Media is Cambodia's largest print media and news organization, which reaches over 1.5 million people. Post Media has warehouses a fleet of trucks and other assets required for delivery and logistics solutions (Proactive Investors 2017). Yojee's plan is to implement blockchain tracking technologies to offer same-day and next-day delivery. Artificial intelligence would assign drivers, routes, and workflow (Luedi 2017).

### **LACK OF ECONOMIES OF SCALE**

Barriers associated with the absence of economies of scale in small developing countries are widely recognized. Kantar TNS Cambodia estimates the potential market size of most current e-commerce ventures is in the range of 5,000 to 10,000 people (Gaudemar 2016). One way to overcome this difficulty is to integrate with the broader ASEAN Economic Community (Benang Merah Komunikasi 2017). However, the lack of resources, experience, and expertise will hamper most Cambodian e-commerce players' attempts to internationalize their businesses.

## **Legal and Institutional Environment**

### **LEGAL AND REGULATORY ENVIRONMENT**

The e-ASEAN Framework Agreement 2000, which was signed by member States at the Fourth ASEAN Informal Summit held in Singapore, requires member countries to enact e-commerce regulations. As of the mid-2014, Cambodia, the Lao PDR, and the Philippines were the only ASEAN members lacking laws to govern

e-commerce (Reaksmey 2014). Since then, the Lao PDR and the Philippines have enacted laws to govern online transactions. As of 2017, Cambodia was the only ASEAN member without a law on electronic transactions (see Appendix Table B.2 in the main report). Whereas the country's e-commerce law was first drafted in 2008, as of the mid-2017, it had not been submitted for approval (Gaudemar 2017).

On the regulatory front, the country's e-commerce is governed by a 1996 law dealing with postal services. Unclear laws on e-commerce and consumer protection are also among key barriers to the growth of e-commerce (Sokunthea 2017). Some measures have been taken to reduce these barriers and e-commerce is among the Cambodian government's most important policy priorities. For instance, the country's ICT Masterplan for 2020 envisions building an "ICTopia Cambodia" (Paro 2014) and puts e-commerce among the priority actions (International Data Corporation 2016).

## **Social Acceptance and Awareness**

As was discussed in Chapter 2 of the main report, factors such as awareness, knowledge, skills, and confidence can serve as social acceptance and awareness feedback, depending on nature of online buyers and sellers. Among the key challenges in Cambodia are web illiteracy and a general climate of suspicion toward the Internet and online vendors (Eng and Pisey 2014). Low confidence in e-commerce among businesses generally is also a challenge.

### **ORGANIZATIONS' CONFIDENCE AND KNOWLEDGE ABOUT E-COMMERCE**

In an organization, senior management's confidence influences the social acceptance and awareness of e-business. In developing countries, organizations' human, business, and technological resources, and lack of awareness and understanding of potential opportunities can lead to a negative assessment of e-commerce. Many Cambodian businesses have been reported to have little confidence in e-commerce (Benang Merah Komunikasi 2017).

Some recent initiatives and actions on this front are encouraging. Coder Studio, start up in Battambang City, provides computer and mobile applications for small businesses. The company was founded in 2016 and

employed eight people by early 2017 (Luedi 2017). As of March 2017, it was expanding to Phnom Penh and Siem Reap (Luedi 2017).

Likewise, in November 2017, the governments of Cambodia and the PRC signed a memorandum of understanding to stimulate the development of the Cambodian e-commerce industry and market. Its key provisions included capacity building and personnel training in Cambodia (*The Phnom Penh Post* 2017).

### **CONSUMERS' LACK OF AWARENESS AND KNOWLEDGE OF E-COMMERCE BENEFITS**

On the demand side, slow diffusion of e-commerce in developing countries can be attributed to lack of awareness and knowledge of e-commerce benefits among consumers and their lack of confidence in service providers. As is the case of most developing countries, many people in Cambodia are unaware of the benefits of the Internet and e-commerce. Further, according to the 2016 *Human Development Report*, the adult literacy rate of Cambodia was 77.2%. The illiterate population is far from able to benefit from e-commerce.

It has been argued that the entry of big players will help increase public awareness and improve customers' perception of the e-commerce market (Kimsay 2017). An example of an encouraging development is Cambodia Post having teamed up with the PRC company ZVS Investment and the local technology company Paxxa Mobile Solutions to start Cambodia Post eSolution. The new venture will develop a platform for e-commerce and provide e-banking and online courier services. The platform will also help people make payments to government organizations such as the Tax Department (Sokhorng 2017).

### **COMPUTER ILLITERACY AND LACK OF ENGLISH-LANGUAGE SKILLS**

Another consideration with social acceptance and awareness barriers is related to general and computer illiteracy and lack of English-language skills, which increase the perceived complexity of ICT uses in developing countries. In Cambodia, a key barrier is that creating content in the Khmer language is complicated (Freischlad 2015b).

Encouraging initiatives and efforts to address barriers related to the lack of Khmer content do exist, however. In October 2014, Khmer Smart Keyboard was launched as a free app that makes text input in Khmer faster (Vorajee 2015). The digital media company Khmerload, which received a \$200,000 investment from a Silicon Valley-based venture capital firm and became the first Cambodian company to receive such funding, is gaining prominence among high-profile companies to provide content in Khmer. Contents on Khmerload website include those related to sports, fashion, music, and lifestyle news (Goh and Jegarajah 2017). Khmerload website was reported to receive 4.2 million unique visitors per month.

Some businesses have created effective solutions that meet the needs of customers that are technologically less savvy. For instance, WING's business models are geared toward low-income customers who lack experience with technology. These customers have been able to access mobile money and payments services through agents who deal with the technology and receive money for them (Hoffman and McVay 2013).

### **TRUST AND CONFIDENCE IN PROVIDERS OF E-COMMERCE AND SUPPORT SERVICES**

Another key barrier is that many Cambodians have a low level of trust in online outlets due to concerns that products provided by online companies may not be what are shown on their websites (Sovan 2015). Due primarily to Cambodia's cash-based culture, many potential online buyers are reported to be suspicious of making payments online (Sokunthea 2017).

The problems of trust in online businesses are further highlighted when considering the wide availability of fake goods in Cambodia. Cambodian consumers are therefore highly skeptical and suspicious of the quality of products sold both online and offline. One way to overcome these challenges would be to offer product guarantees or exchange services.





# E-commerce in the People's Republic of China

## Introduction

The e-commerce market of the People's Republic of China (PRC) has enjoyed a phenomenal growth over the past 15 years or so. In 2017, the PRC accounted for 40% of global retail e-commerce (Marinova 2017). The PRC e-commerce market is already the biggest in the world. By 2020, the PRC e-commerce market is expected to be bigger than those of France, Germany, Japan, the United Kingdom, and the United States combined (Pilon 2017). For instance, total sales from the PRC's e-commerce market grew more than seven times to CNY23.0 trillion (\$3.6 trillion) in 2016 from CNY3.2 trillion in 2008.<sup>1</sup> E-commerce retail sales rose even more in the same period—by more than 40 times to CNY5.3 trillion, from CNY130 billion.

The huge size and rapid growth of the PRC e-commerce market can be attributed to the country having the world's biggest online population. As of 2017, 772 million people were internet users in the PRC, accounting for 21.6% of internet users globally.<sup>2</sup> Close to 70% of PRC's internet users are online shoppers; this rate is as high as 90% in top-tier cities (Wang 2016).

The economic and social impacts of e-commerce have been widely reported. By the end of 2017, more than 9.8 million online shops were based in rural areas of the PRC—up 20.7% from the previous year—and had created over 28 million jobs (Xinhua 2018).

<sup>1</sup> Refers to total sales from the PRC's e-commerce market, which includes business-to-business transactions, retail sales, and group sales. Based on data from China e-Business Research Center (accessed through CEIC Data China Premium).

<sup>2</sup> Based on data from China Internet Network Information Center (accessed through CEIC Data China Premium) and International Telecommunication Union (ITU) estimate for 2017 global internet users. India is the second-largest with a share of 12% out of the total internet users worldwide, based on ITU's 2016 figures.

## Overview of the PRC E-commerce Industry and Market

E-commerce has helped consumers deal with problems associated with rapid urbanization. For instance, for consumers who want to avoid traffic jams and parking fees, e-commerce is a reliable alternative. More and more consumers in the PRC order food online (Marinova 2017). The country's online grocery penetration was around 4% in 2017 (Enterprise Innovation 2017).

M-commerce has been the main growth driver of e-commerce in the PRC (Marinova 2017). However, multidevice owners (e.g., those with smartphones, tablets, and computers) have been reported to spend 17% more on e-commerce than people who own only mobile devices. Multidevice owners also shop online 29% more. They also interact 14% more with businesses through social networks such as WeChat accounts (Wang, Lau, and Gong 2016).

E-commerce companies are trying creative solutions. Online-to-offline (O2O) commerce has been a popular business strategy in the PRC. This involves attracting customers from online channels (e.g., through e-mails and internet advertising) to shop in conventional stores. One estimate suggests that about 71% of internet users in the PRC purchased O2O services in 2016. In 2018, O2O services are expected to reach \$100.5 billion in annual sales (eMarketer 2016). O2O businesses tend to attract price sensitive customers. Some companies have also implemented self-pick-up strategies that shift more of the last-mile delivery costs to online buyers (Su 2016).

## Major Players

Table 3 presents major e-commerce players in the PRC, Alibaba Group and JD.com. In 2016, Alibaba's Tmall platform and JD.com captured about 84% of the market share in the PRC's B2C e-commerce.

**Table 3: Major E-commerce Players—PRC**

Company	User-related Data and Statistics	Finance-related Data and Statistics
Alibaba Group	<p>Early 2015: over 300 million registered users and 37 million small businesses on Alibaba Group marketplaces, including Taobao and Tmall.com</p> <p>Early 2015: Taobao had over 500 million registered accounts and over 7 million merchants, which sold 4,800 items per minute</p> <p>2016: Tmall platform 57.5% market share in B2C e-commerce</p>	<p>Fourth quarter 2014 revenue: \$4.2 billion</p> <p>2016 revenue: \$22.96 billion</p>
Tencent	<p>Early 2015: QQ had over 800 million users</p> <p>Operates the PRC's dominant social messaging platform WeChat</p> <p>Mid-2015: 550 million active users</p> <p>September 2016: 768 million active users</p> <p>Mid-2017: more than 937 million users</p> <p>October 2017: 963 million users</p>	<p>2015 revenue: \$15.85 billion</p> <p>2016 revenue: \$21.9 billion</p>
JD.com	<p>Mid-2015: 100 million active customers</p> <p>2016: &gt;120,000 merchants on e-marketplace</p> <p>2016: 26.2% market share in B2C e-commerce</p>	<p>Annual revenue: \$20 billion</p> <p>2016 net revenues: \$37.5 billion</p>

B2C = business-to-consumer, PRC = People's Republic of China.

Source: ADB compilation based on Alibaba Group (2015), Chao (2017), JD.com (2017), Lohr (2015), Russel (2017), Soo (2017a, 2017b), Steimle (2015), Tencent Holdings Limited (2016), and Zhang (2017).

## Rural E-commerce

As in other developing countries, e-commerce in the PRC is notable for its urban bias. Table 4 presents rural–urban divide in e-commerce. The country's rural area accounts for 41.5% of the country's population but only 36.1% internet users. An even higher rural–urban disparity is seen in online spending. In the first quarter of 2015, less than 10% of purchases made on Alibaba's e-marketplaces were shipped to rural areas.

In the 36th China Internet Development Statistics Report, the China Internet Network Information Center (CINIC 2015)—the administrative agency responsible for internet affairs under the Ministry of Information Industry—identified two main challenges to developing e-commerce in rural areas: a small target market and logistics difficulties. The first problem was largely due to migration of young people to urban areas. It is often the case that the elders and children that are left in the rural areas tend not to purchase online. Low incomes are an obvious factor that may explain the lower likelihood of rural communities to spend online.

Estimates have put logistic costs in rural areas at five times those in urban areas. Due to high logistics costs, products from rural areas lose their price competitiveness when transported to big cities such as Beijing and Shanghai (Cui 2017).

**Table 4: Rural–Urban Divide in E-commerce—People's Republic of China**

	Rural area	Urban area
Population, 2017 (% of national total)	576.6 million (41.5%)	813.5 million (58.5%)
Internet users, 2017 (% of population) [% of national total]	208.4 million (36.1%) [27.0%]	563.5 million (69.3%) [73.0%]
Online spending, 2016 (% of the nation's total)	\$131 billion (17.4%)	\$756 billion (82.6%)

Sources: CEIC Data China Premium Database (accessed 27 April 2018) and State Council, The People's Republic of China (2017).

Despite these challenges, in recent years, rural communities in the PRC have increased their participation in e-commerce. An encouraging trend is the narrowing rural–urban gaps in business and individuals' participation in e-commerce. E-commerce activities are expanding from tier 1 cities to smaller cities and villages.

According to the PRC Ministry of Commerce, for the first time, in the second quarter of 2016, online spending by the PRC's rural population, while still a small proportion of the national total increased by 13.5%, faster than that among the urban population (see Table 4). Even more encouraging was the 25% growth rate in some impoverished central and western regions (Xinhua 2016b). According to the Ministry of Commerce's more

recent data, in the first eight months of 2017, online retail spending in all impoverished regions increased by 55%, which was 17 percentage points higher than the average of all rural areas (State Council, PRC 2017).

Mobile payment is reported to be more popular in the economically less-developed western region (Kuo 2017). Among factors encouraging e-commerce in rural areas are improvements in rural broadband coverage, an increased rural focus of e-commerce platforms and partnerships with villagers, improved rural logistics, and policy that encourages e-commerce (Cui 2017).

In an attempt to stimulate the rural e-commerce market, e-commerce companies are putting more effort into developing e-commerce and logistics infrastructure in rural areas. In October 2014, Alibaba announced a plan to invest CNY10 billion (\$1.53 billion) in logistics, hardware, and training to develop e-commerce in the country's 100,000 villages by 2019 (Teo 2015). Rural service centers are a key element in this model. Their number increased from three in 2009 to 780 in 2016. The plan is to build 100,000 such centers and 1,000 county-level stations by 2019 (Xinhua 2016a). Such centers are usually located in villages' main convenience stores and are staffed by Alibaba representatives and equipped with computers (Cui 2017).

A Taobao village consists of a cluster of rural e-retailers that sell products through Alibaba's Taobao marketplace. Annual online sales in these villages exceed CNY10 million (\$1.5 million). Over 10% of families in the village have online shops (Cui 2017). According to Ali Research, one active Taobao village shop creates about 2.8 jobs. By August 2016, there were 1,311 Taobao villages in 18 provinces and Taobao village shops had created over 840,000 jobs (Cui 2017).

## Social Commerce

Social media websites are playing a key role in the e-commerce ecosystem. With about 1 billion users in its WeChat social messaging platform, Tencent has emerged as a powerful e-commerce player (see Table 3). For instance, the e-marketplace JD.com is reported to now get 30% of its new mobile shoppers from WeChat after teaming up with Tencent in 2014 (Tong 2017). The proportion of WeChat users who shopped using the platform doubled from 15% to 31% in 2016 (Mandel 2017).

A user's social and payment information is connected through Tencent's unified user login. This allows retailers to better understand consumer behavior online and offline and to make personalized offers more effective.

When a user downloads WeChat app on a cellphone, an embedded quick response (QR) code reader is also downloaded. This can facilitate many O2O (offline-to-online) services, such as scanning posters in subway stations, joining social networks, and making payments. By scanning a business's QR code from a website or a physical location, users can follow the business without having to fill a registration form (Lewis 2017).

Businesses can register official WeChat accounts. By early 2017, there were more than 8 million such accounts. Using a WeChat official account, businesses can reach their followers. A businesses can send up to four promotional messages per month. In this way, WeChat has become a CRM platform. By managing user profiles, it acts as an intermediary between businesses and consumers (Lewis 2017). A WeChat Pay plus account allows a business to accept payment from customers through the use of QR codes. This allows small retailers or even street vendors to accept payments through WeChat QR code reader on cell phones without needing a dedicated point-of-sale terminal (Lewis 2017).

## Cross-border E-commerce

According to the Ministry of Commerce, the PRC's cross-border e-commerce network reached 220 countries in 2016. The PRC-based e-commerce companies are taking initiatives to improve logistical processes in e-commerce exports. In 2016, Alibaba's logistics arm Cainiao teamed up with Lazada, Singapore Post, and cross-border e-commerce solutions provider 4PX Express to develop a logistics network to link the PRC and Southeast Asia. By November 2017, Cainiao had established over 16 warehouses in Southeast Asia, reducing delivery time from 2 months to 2 weeks (Wenyu 2017).

About one-fifth of the online consumers bought goods from overseas vendors in 2016 (Wang, Lau, and Gong 2016), rising to an estimated 23% in 2017 (eMarketer 2017). Average e-commerce spending per cross-border e-commerce buyer was estimated at \$882 in 2017 (eMarketer 2017). Cross-border shoppers tend to buy items that are expensive or difficult to find in the PRC.

Some geographical differences exist in the PRC online consumers' shopping from foreign websites. For instance, shoppers in tier 1 cities often buy premium healthcare products such as dietary supplements, medicines, and medical instruments. These products often supplement local retailers' offerings. Consumers in tier 2 cities are reported to buy more luxury goods than other category of items from foreign vendors (Wang, Lau, and Gong 2016).

One estimate suggests that about two-thirds of the PRC's cross-border online consumers order through major PRC e-commerce websites' import channels such as Tmall Global and JD Worldwide (Research and Markets 2017). Shopping sites such as Tmall Global, JD Worldwide, and Kaola are offering an increasing number of brands on their websites and improving cross-border logistics and processing times (eMarketer 2017).

Some foreign companies, in collaboration with local e-commerce platforms, have created remarkably sophisticated business models to reach online consumers in the PRC. In December 2017, US carmaker Ford Motor announced a plan to sign a deal with Alibaba to test selling cars to PRC consumers through Tmall (Shirouzu 2017). Ford could also use Tmall's so called "Automotive Vending Machine" model to sell cars. This model involves a multistory parking garage resembling a big vending machine. Consumers can browse through the cars in store and test drive before buying. Consumer with good credit can purchase a car with a 10% downpayment and make monthly payments through Alipay (Shirouzu 2017).

## Facilitators of and Barriers to E-commerce in the PRC

### Economic Factors and Conditions

#### INFORMATION AND COMMUNICATION TECHNOLOGY INFRASTRUCTURE

In August 2013, the State Council released the "Broadband China" initiative, which aims to expand full broadband coverage across the country by 2020. In that year, urban broadband speeds are expected to reach 50 MBPS, while rural areas can expect speeds

of 12 MBPS and broadband coverage in administrative villages is expected to reach 98%.

The PRC government budgeted CNY1.2 trillion (around \$170 billion) for internet-related projects, mainly broadband and mobile network improvement for 2017–2020 (*Xinhua* 2017). According to the ITU, the country's fixed broadband subscribers per 100 people reached about 23 in 2016. It is estimated that 92% of PRC mobile subscribers will be converted to 3G/4G services by 2018 (Perez 2016).

#### E-PAYMENT

Development in the fintech industry arguably has been the key driver of e-commerce growth in the PRC (Hornbliss 2016). At the end of 2017, the PRC m-payment market was 11 times as big as the US market (Marinova 2017). In the PRC e-commerce market, e-wallets accounted for 62% of payments in late 2017. Most consumers use digital platform such as Alipay, Tenpay, and WeChat Pay. Credit cards were used in 10% of transactions (Yu 2017). Alipay was used by 68% of shoppers (He 2017). Alipay and WeChat Pay together account for around 94% of the mobile wallet ecosystem in the country (iResearch 2017).

At a broader level, the evolution of m-payment culture deserves mention. Online as well as offline buyers and sellers benefit from simple and efficient processes through all phases of e-commerce activity. For instance, Ant Financial and Tencent provide smaller vendors with a simple printout of a QR code or provide it on their phones so that they do not need an expensive card reader. A back-end system stores a record of user accounts. That mean, there is no need to communicate with a bank, which keeps costs down (Mozur 2017).

Since QR codes are free, they are a no-cost alternative to point-of-sale terminals for small vendors. For instance, with a few swipes of a phone, a customer can use an e-wallet to pay for groceries. The customer simply scans a stallholder's QR code, enters the amount to pay, and shows the "payment confirmed" screen to the seller.

General consumer and business finance companies in the PRC have had limited success in serving the needs of economically active low-income families and micro-enterprises cost-effectively and sustainably. However, recent advances in computing and telecommunication technology are transforming this landscape by

changing the way the financial industry operates. A key mechanism concerns the use of big data in assessing, evaluating, and refining the creditworthiness of potential borrowers and reducing the transaction costs. Major companies in the e-commerce value chain are using different categories of personal financial and nonfinancial information as proxies for a potential borrower's identity, ability to repay, and willingness to repay.

Tencent's key strategy has been to make credits available to regular WeChat users to encourage them to shop at selected retailers. In 2013, WeChat introduced mobile pay. In 2014, WeChat launched a system to exchange money electronically, based on the Chinese custom of giving red envelopes filled with money at special occasions such as weddings and holidays (Chao 2017). This dramatically increased the adoption of the WeChat Wallet. By the end of 2014, over 100 million users' bank cards had been linked with Tencent's payment system through WeChat and QQ, the online messaging software developed by Tencent (Yining 2015). That number increased to 300 million by early 2017 (Chao 2017).

Alibaba adopts a similar strategy. Its "unified identification" has all the information users generate in their multiple businesses and platforms (*The Economist* 2017a). Alibaba uses big data to improve risk management and control. Alibaba has developed its own credit ratings and risk control models based on information about payments and e-commerce transactions. It mainly utilizes its huge online ecosystem, which consisted of over 300 million registered users and 37 million small businesses on Alibaba Group marketplaces, including Taobao and Tmall.com, early in 2015 (Alibaba Group 2015).

The low usage rate of e-payments is as much a problem of trust as of a lack of e-payment methods. In an attempt to fill the trust Alibaba launched Alipay in 2004 as a PayPal-type service (Lucas 2017). Alipay was originally developed for consumers to be protected when making payments on the Taobao e-commerce platform. During Taobao's early stage, widespread availability of poor quality products on its platform made it important to mitigate consumer concerns about fraud. An online shopper's money will not be transferred to the seller's account until the consumer informs Alipay to do so. It guarantees that a customer will pay only when satisfied with the product (Zhu 2014).

An upshot of these developments is that online consumers make far less use of cash-on-delivery payments. As Figure 1 makes clear, the share of cash-on-delivery in the PRC e-commerce market is falling rapidly.

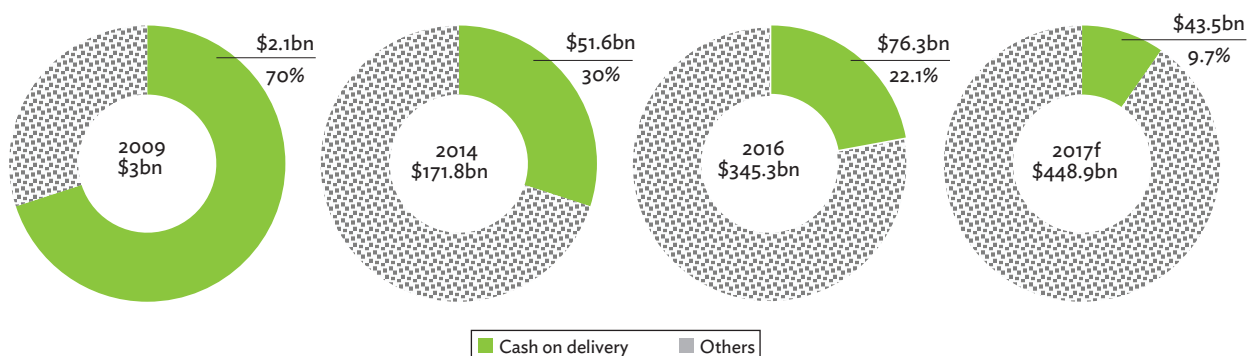
#### LOGISTICS

The logistics sector has achieved dramatic improvements in recent years. For instance, the delivery of 100 million packages for the PRC's Singles Day took nine days in 2013 and fell to 3.5 days in 2016 (Woetzel 2017).

A key factor in this respect is the role of the PRC's major e-commerce players. E-commerce accounts for more than 70% of business for third-party logistics (3PLs). Players such as Alibaba can therefore set industry standards. They have also helped to stimulate price competition among last-mile providers (Ho 2017).

PRC-based e-commerce players have also made heavy investments in logistics technologies and companies. A new big-data platform backed by Alibaba is connected

**Figure 1: Share of Cash-on-delivery Transactions in E-commerce Market—People's Republic of China (%)**



Source: eCommerce Worldwide (2017) for 2015 and 2016 data and Rauf (2014) for 2009 and 2014 data.

to express-delivery companies which can process 9 trillion lines of information every day and mobilize 1.7 million drivers (Woetzel 2017).

Alibaba holds a 51% stake in the delivery company Cainiao, which shipped 55 million packages a day in 2017 (Handley 2017). Based on real-time traffic information, Cainiao's technology provides delivery drivers with the most efficient delivery routes. Drivers can use the voice-activated system to plan their deliveries. Cainiao's IT platform integrates with Alipay and feeds logistics details to consumers and other parties (Hornbliss 2016).

Similarly, JD.com has been building a logistics network to cover the entire country. By 2017, JD.com's 500 logistics centers were expected to reach 600,000 villages (Wenjian 2017). JD.com is also exploring advanced solutions such as automated warehouses and unmanned aerial vehicles to cut logistics costs and increase efficiency in rural areas. The company was reported to be building two large drone delivery systems in Shanxi and Sichuan provinces (Wenjian 2017). In June 2017, JD.com deployed robots to deliver items for the first time. Delivery costs can be reduced from CNY7.0 (\$1.0) per human delivery to CNY1.5 (\$0.2) per robot delivery, according to JD.com (Huang 2017).

## Legal and Institutional Environment

### LEGISLATIVE FRAMEWORKS

Various legislative measures related to e-commerce have been taken. In November 2017, a second discussion draft of the PRC E-Commerce Law was promulgated by the National People's Congress. The second draft states that e-commerce companies must comply with the cybersecurity law that took effect on June 1, 2017. The draft legislation classifies e-commerce companies into three categories: (i) companies that engage in online

transactions on their own websites, (ii) e-commerce platform operators, and (iii) stores that operate on e-commerce platforms. E-commerce platform operators would be required to protect intellectual property rights (IPR).

## Social Acceptance and Awareness

Government initiatives have been implemented with the intention of improving social acceptance and awareness of e-commerce among businesses and consumers. Private companies are taking similar measures. For instance, Alibaba's Rural Taobao Program recruits Taobao partners and helpers. Taobao partners are paid a service fee to help farmers buy and sell products online. Taobao helpers provide assistants to Taobao partners. By the mid-2016, Rural Taobao had 18,000 partners and 8,000 helpers (Zhang 2016).

A 2013 survey of Alibaba indicated that 59% of online merchants considered trust the largest barrier to the growth of online business in the PRC (Tong 2013). Three ways to produce trust are: (i) process-based trust from engagement in trustworthy relationships; (ii) characteristic-based trust generated by identifiable attributes that are linked with trustworthy behavior; and (iii) institution-based trust, which is linked to institutions such as trade associations, professions, and governments, and includes other formal mechanisms (Zucker 1986).

One way to develop strong characteristic-based trust would be to demonstrate positive consumer reviews and higher sales volumes. Online vendors that do so are likely to be regarded as trustworthy. An Alizila blog noted that online shoppers in the PRC are more likely than others to rely on buyer ratings and word of mouth to make purchase decisions (Tong 2013).



# E-commerce in the Republic of Korea

## Introduction

The Republic of Korea is Asia and the Pacific's third-largest (after the PRC and Japan) and the world's seventh-largest retail e-commerce market (eMarketer 2015). Government statistics suggest the country's online shopping transactions were worth KRW18.2 trillion (\$16.7 billion) in the first quarter of 2017 (Retail Asia 2017). According to the Bank of Korea, the country's B2C e-commerce amounted KRW5.5 trillion (\$4.84 billion) in May 2017, the largest monthly figure since the central bank started tracking e-commerce in 2009 (S.W. Yoon 2017).

The Republic of Korea e-commerce landscape pattern broadly matches the global picture. For instance, as in other major economies, the most popular categories of items purchased online in the Republic of Korea are related to travel, clothes, and electronics. A unique feature of the Republic of Korea e-commerce market is that the share of fast-moving consumer goods (FMCG), most notably grocery products, is much higher than in more mature markets such as France, the United Kingdom, and the United States (Business Wire 2017a). In the first quarter of 2017, consumers in the Republic of Korea bought KRW2.18 trillion (\$1.92 billion) worth of fresh produce online, which was 35.6% higher than in the first quarter of 2016 (Retail Asia 2017). In March 2017, grocery shopping accounted for 11.7% of online purchases (Retail Asia 2017).

## Overview of the Republic of Korea E-commerce Industry and Market

The market research company eMarketer predicted that retail e-commerce, excluding travel, would account for 15.3% of total retail sales in 2017 (Chadha 2017). An Economist article published quoted research company Euromonitor as saying the Republic of Korea's online

retail sales were 18% of total retail sales, the highest in the world and significantly beyond the global average of 8.5% (*The Economist* 2017b). A study released in October 2017 reported that online retail sales accounted for 20% of the total retail sales (*Business Wire* 2017b).

As of 2016, 65% of internet users in the Republic of Korea shopped online. This proportion was the second highest in Asia and the Pacific (Frederick 2016) only behind Japan (66.9%) (Cohen 2017).

## Key E-commerce Players and their Business Models

Table 5 shows some prominent e-commerce players in the Republic of Korea and key aspects of their business models. Among the most notable features in the table are that the Republic of Korea e-commerce providers' business models emphasizes fast delivery times, especially for popular items. As of October 2016, WeMakePrice delivered 85% of goods in its "direct-buy" category free of charge (Lee 2016).

The quest for faster delivery has prompted the development of several innovative business models. In particular, it has led to drastic changes in roles and responsibilities of different players in value delivery networks (VDNs). For instance, not long ago, WeMakePrice and other e-commerce vendors served as a platform linking businesses and consumers. The goods were delivered to consumers directly from manufacturers. In recent years, these sites have started buying goods from vendors and storing them in their own warehouses. To realize larger margins, they sell and deliver products in the direct-buy category (Lee 2016).

To speed up deliveries, e-commerce vendors have developed their own delivery systems. Coupang became the first vendor to do so (see Table 5), offering what it calls "Rocket Delivery" in 2014. In this way, the company

**Table 5: Some Key E-commerce Players in the Republic of Korea**

Company	Explanation	Remarks
11Street	Local hybrid of Amazon and eBay: offers clothing, jewelry, groceries, electronics Offers points/mileage system Offers international shipping and payments by Paypal	November 2016: 11.3 million unique desktop visitors February 2017: second most visited website by desktop users (Nielsen KoreanClick): 10.9 million visitors, 34.2% reach. 2016: transactions about KRW8 trillion (\$7.1 billion).
G-Market (Gmarket.co.kr)	Founded in 1999 as online auction website, sold to eBay in 2009 for \$1.2 billion. Website available in English, Korean, and Chinese (viewed as a global yard sale/auction site)	February 2017: most desktop e-commerce traffic in the the Republic of Korea (Nielsen KoreanClick), 11.1 million unique visitors, 34.8% reach. Ranks first in average time spent per month
TicketMonster (TMON)	The Republic of Korea's first "social" e-commerce provider, launched in 2010. Distribution of revenues: products (60%), travel (27%), groceries (10%), local deals (3%) Dedicated Hyundai Logistics team for deliveries.	April 2017: 8.5 million consumers, 17% of the population. September 2016: Super Delivery covered 8,000 daily-use items sold directly. Same day delivery for orders placed before 5 AM.
Coupage	Began as daily deal website in 2010 Launched first mobile application in 2011. 2014: 75% traffic from smartphones. 2017: about 70% of sales through smartphones No. 243 in the Internet Retailer 2016 Global 1000; sells wide range of products (700,000 retail items in 2016 ranging from baby products to event tickets) September 2017: 14 warehouses, plans to grow to 21% by 2017	November 2015: 3,500 Coupang men (deliverymen), 3,600 in September 2016, plan to increase to 15,000.
WeMakePrice	Sells a wide range of products	January 2016: 7.16 million weekly number of visitors
Auction.co.kr	Price comparison site, covering over 3,000 e-commerce websites—those with cheapest price listed at the top. Receives commissions for referrals.	February 2017: 9.3 million visits, 29.1% reach.

Source: ADB compilation based on Clague (2017a), Chadha (2017), Hyo-sik (2016, 2017), Jang (2016), Lunden (2017), Ramirez (2017), The Economist (2014), We Are Pentagon (2017), and J. Yoon (2017).

shifted from the traditional practice of shipping orders using a parcel delivery service (Jang 2016).

By April 2016, Coupang had built a last-mile delivery network of customized trucks, algorithm-controlled warehouses, and 3,600 "Coupangmen" to deliver goods. The company introduced a next-day delivery service by setting up its own logistic system. Coupang delivers most of the orders in a day or less at no extra charge. It also made it possible to cancel an order that is already out for delivery. It is also possible to change a package's destination (Mac 2016).

Competitors such as WeMakePrice and Ticket Monster (TMON) have followed Coupang's model (Hong and Peterle 2017). For instance, TMON deliveries are met by a dedicated Hyundai Logistics team (Jang 2016).

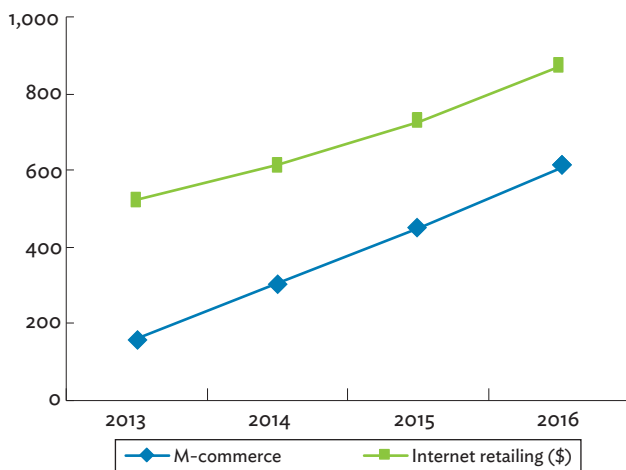
Finally, the questionable sustainability of e-commerce companies' business models deserves mention. Most of the e-commerce sites in the Republic of Korea are making losses. As of 2016, G Market and Auction (both owned by eBay Korea) were the only big online vendors to make profit. The 11Street's operating losses in 2016 was KRW180 billion (\$157 million), according to Yonhap (2017a).

## M-commerce

A clear trend has developed in the past few years toward an increasing share of m-commerce in the Republic of Korea e-commerce market. About 60% of online shoppers in the Republic of Korea use mobile phones to get online (Howland 2017). It is clear from



**Figure 2: M-commerce and Internet Retail Spending Per Capita—Republic of Korea (\$)**



Source: Kshetri (2018) using data from Euromonitor International. Passport database.

the Euromonitor International data shown in Figure 2 that the ratio of per capita m-commerce to per capita internet retailing has increased.

The government organization for statistics, Statistics Korea (KOSTAT), noted that the annual value of online transactions in 2014 reached \$42 billion in 2014, of which mobile shopping was \$13.7 billion (Mamou 2015). This translated to an m-commerce to total e-commerce transactions ratio of 32.6%. In December 2016, m-commerce sales were KRW3.487 trillion (\$3.08 billion), while total B2C e-commerce was KRW6.188 trillion (\$5.47 billion) in the month (Clague 2017b). This means that m-commerce was 56.3% of all B2C e-commerce in December 2016. In the first quarter of 2017, m-commerce as a proportion of total e-commerce reached 58.6% (Retail Asia 2017).

In the fresh produce category, m-commerce accounted for 71.1% of total online sales (KRW1.55 trillion) in the first quarter of 2017 (Retail Asia 2017). The Republic of Korea's consumers are more likely to buy food using mobile phones than they are any other product category. Women in the country are more likely to use mobile phones to shop online than men. In 2015, 60% of all mobile-channel buyers were women (Hwang, McInerney, and Shin 2015). A study found that more than 60% of the Republic of Korea's mobile shoppers reported convenience as the biggest reason for shopping online. The proportion was 44% for online shoppers who did not use their mobile phones to shop (Hwang, McInerney, and Shin 2015).

A number of e-commerce vendors have responded to this trend by starting mobile-centric business models. GS Shop was reported to have a mobile-dedicated warehouse and a mobile-specific call center to provide specialized assistance with a single click. Many m-commerce players offer same of the next-day delivery for most items (Hwang, McInerney, and Shin 2015).

## Online Groceries

The fast growth of the world's biggest online market for grocery items is facilitated by the rapid and aggressive expansion of fresh food delivery services by prominent Republic of Korea e-commerce companies (see Table 5). Consumers can order online from a range of fresh food suppliers. This factor, combined with the superfast delivery, has brought increased convenience for consumers (Retail Asia 2017).

Due to the increasing popularity of buying grocery online, fresh food represents some large e-commerce players have created strategic business units to satisfy demand. SK Planet, the parent company of 11st (see Table 5), owns Hello Nature, which offers superfast grocery deliveries.

Woowa Brothers launched Baemin Fresh in February, 2017. Less than six months later the grocery store had over 240,000 users. Ticket Monster and WeMakePrice also offer delivery services of fresh food items, which are supplied by their partners (Retail Asia 2017). Some attribute the demand for fresh food deliveries to the rapid rise in the number of one-person households in the country (Retail Asia 2017).

## Increasing Market Maturity

As a sign of the maturity of the Republic of Korea e-commerce market, consumers are demanding and asking for more information from e-retailers. At cosmetics stores, most consumers check the manufacture dates of products. The Republic of Korea law requires manufacturers to provide production information on the package. Since consumers could not check such information when buying online, the Fair Trade Commission regulations were revised in 2012 to require online retailers to disclose details such as the production date, shelf life, original manufacturer, and the country where the product is manufactured (*The Korea Times* 2013).

An outcome of e-commerce market maturity has seen that players in the value chains have also displayed increasingly cooperative behaviors. Some companies have revised their business strategies based on feedback from partners. Some e-commerce companies are taking measures to increase the involvement of value chain partners. For example, TMON teamed up with 12 travel agencies to make flights available through its search engine (Ramirez 2017).

## Cross-border E-commerce

The Republic of Korea is well-positioned to benefit from cross-border e-commerce. According to the Economist Intelligence Unit's (EIU) "G20 e-trade readiness index" report published in 2014, the Republic of Korea ranked the third most-prepared G20 economy to capitalize on global e-trade opportunities (EPROAD 2014).

The Republic of Korea e-commerce industry has achieved substantial export growth. In 2016, foreign online shoppers bought products worth \$6.22 billion from the Republic of Korea (*China Internet Watch* 2017). Over that year, PRC online shoppers alone purchased \$5 billion worth of goods from the Republic of Korea (Minter 2017). The most popular categories were luxury items such as cosmetics, clothing and accessories. Indeed, France and the Republic of Korea are the most popular countries from which PRC consumers buy beauty and skincare products (The Nielsen Company 2015).

Strong foreign demand for products from the Republic of Korea, especially in Asia, can be attributed to the country's growing influence in several areas, such as popular culture (pop stars, actors, and so on), beauty products, and music (Choudhury 2016). About 8,000 cosmetic brands are made in the Republic of Korea, and frequently launches of new products keep up with consumer preferences and stay ahead of demand. Producers also offer attractive pricing.

The PRC is a significant e-commerce export market for the Republic of Korea. Many companies based in the Republic of Korea are utilizing Tmall Global's Korea Pavilion, which offers the Republic of Korea-based online vendors a dedicated platform to sell to PRC consumers (Weigand 2016b). Tmall Global is Taobao Tmall's international division, which provides products from international vendors to PRC consumers. Tmall Global has different pavilions for different countries. The Republic of Korea was the first country to launch a Tmall Global pavilion (Wang 2015). As of 2016, over 600 brands from the Republic of Korea had established online stores on Tmall Global's Korean Pavilion (Weigand 2016b).

In 2016, the Republic of Korea's total e-commerce imports were worth \$1.6 billion (International Trade Administration, US Department of Commerce). Other Asian countries supplied 38% of online cross-border purchases in the Republic of Korea in 2015, while about half of the Republic of Korea online shoppers brought from abroad (Nothlichs 2017, Research and Markets 2017). Clothing is the most popular category for cross-border online consumers from the Republic of Korea (Research and Markets 2017).

According to a 2014 report by New York-based e-commerce solutions provider Borderfree, the Republic of Korea was considered to have a "desirable market" status. The status was based in the Borderfree Index (BFI), which uses quantitative and qualitative measures to assess a market's cross-border B2C e-commerce attractiveness (*Business Wire* 2014). The country performed well in its consumers' desire to buy from sources outside the country, and for income and purchasing power, the relative strength of its currency, and the ease of importing (GDS Link 2014).

# Facilitators of and Barriers to E-commerce in the Republic of Korea

## Economic Factors and Conditions

### INFORMATION AND COMMUNICATION TECHNOLOGY INFRASTRUCTURE

The Republic of Korea has some of the world's best-developed ICT infrastructure. According to the World Bank, there were 2,201 secure internet servers per 1 million people in 2016, which was the highest in Asia and the Pacific region. According to Euromonitor International, 78.7% of households had at least one smartphone in 2016. The nation's smartphone penetration rate has reached 85% (Yonhap 2017b).

The first LTE (also often called 4G) network was launched in 2011. As of 2016, more than half of all mobile connections were on LTE (World Economic Forum 2017). A study of Akamai suggested that the Republic of Korea's mobile networks averaged 11.2 MBPS by the third quarter of 2016 (Clague 2017b). In terms of OpenSignal's availability metric, which tracked the proportion of time LTE users had access to a network, the Republic of Korea led the world with an availability score of 96.4%. The average download connection speed was 45.9 MBPS and ranked second only to Singapore (46.6 MBPS) (OpenSignal 2017). In 2016, smartphone users in the Republic of Korea consumed an average of 4.38 GB of mobile data per month, fourth in the world after Finland, Austria, and Sweden (McCarthy 2017).

The Republic of Korea government's policy priority has been to establish an Ultra Broadband convergence Network (UBcN) with 1 GBPS speeds on fixed lines and 10 MBPS on wireless. In the ITU's ICT Development Index (IDI) for 2016, the Republic of Korea ranked first out of the 175 economies. According to the ITU, 92.84% of the population used the Internet in 2016, which was the highest proportion among all ADB regional members except Japan (93.18%).

### LOGISTICS

Rapid growth of e-commerce in the United States can be attributed to infrastructure developed by the catalog business and an easy availability of delivery system. While the Republic of Korea has a relatively developed

delivery system, the existing system may not fully meet the delivery speeds that e-commerce vendors and consumers want. In the Republic of Korea, the average package takes two to three days to arrive at a customer's home (Mac 2016).

The existing delivery system has been unable to meet the needs of consumers who want superfast delivery. As a result, many e-commerce players have their own delivery systems and are developing competitive advantages based on fast delivery.

### E-PAYMENT

According to a study by Payvision and DHL, the preferred online payment method in the Republic of Korea is credit card (preferred by 73.6%), followed by advance payment and debit cards (Mamou 2015). Consumers' frequency of use and value of purchases with credit cards in the Republic of Korea are among the highest in the world. This can be attributed partly to government efforts to encourage credit card usage to reduce the size of the informal economy (*Asian Banking and Finance* 2017). According to Euromonitor International, per capital credit card transactions in the Republic of Korea totaled \$10,413 in 2016, an amount exceeded only by Canada.

By mid-2017, the share of mobile payment services such as Samsung Pay was 1.7% of the entire payment service market (Choi 2017). This is likely to increase as m-commerce gains popularity.

Some e-commerce players have adopted social-media-based payment solutions such as KakaoPay, offered by messaging and communications app Kakao (Hwang, McInerney, and Shin 2015). Kakao provides users access to a wide range of day-to-day transactions, which is gradually eliminating the need for credit card (Wang 2017). As early as in 2014, 35 million people the Republic of Korea were reported to be using KakaoTalk (*Singapore Post* 2015).

Some payment providers have focused specifically on the Republic of Korea's cross-border transactions. In 2016, PayEase partnered with the KG Incis to process cross-border transactions between PRC and the Republic of Korea (Baziad 2016). Likewise, in November 2016, Althea collaborated with the Dutch payments company Adyen to offer more than 250 payment options for merchants such as Indonesia's Mandiri

Clickpay and the Philippines' GCash (Choudhury 2016). Adyen's payment processing platform uses machine learning that customizes payment methods based on the buyer's location (Bullock 2017).

## Legal and Institutional Environment

### LEGAL AND REGULATORY ENVIRONMENT

The Republic of Korea's cybersecurity laws are among the most strict in the world. Following foreign hackers' alleged cyber-attacks in 2004, the Republic of Korea made it mandatory for internet-related companies to report hacking incidents (Ho 2009). The Republic of Korea enacted Electronic Transactions Act in December 1998. The purpose of the act was to give electronic and paper documents the same legal validity. The government enacted the law to create a legally predictable electronic environment while protecting consumer rights and implementing policies to promote e-commerce (Ministry of Information and Communication, Republic of Korea 1999).

The Consumer Protection in Electronic Commerce (E-commerce Act) is the country's main law regulating e-commerce. This law requires e-retailers to comply with various requirements in dealing with customers and fulfilling online transactions. For example, the initial landing page must disclose a number mandatory items related to contact information, tax registration, the trade name of the hosting service provider, and a privacy policy. In addition, product pages are required to have relevant information under the Republic of Korea's E-Commerce Act, such as information on the goods and services being offered, and the terms and conditions of contract (Choi et al. 2015).

The Network Act requires online retailers to make disclosures to customers and obtain their consent when personal information is collected, used, or transferred to other parties (Choi et al. 2015).

The Personal Information Protection Act requires organizations to obtain data subjects' prior consent to export personal data. Data subjects also need to be told who receives their data, what the recipient will do with the information, for how long it will be retained, and the specific personal information being exported (Cory 2017).

In June 2017, the government joined the Asia-Pacific Economic Cooperation's voluntary cross-border privacy rules (CBPR) system. The system was developed in 2011 to facilitate e-commerce and protect the transfer of personal information. Participation can strengthen the protection of consumers' personal information. This is especially important given the increasing tendency of consumers in the Republic of Korea to engage in cross-border e-commerce. Taking part in the CBPR means that if Republic of Korea consumers' data are leaked in other participating countries, the organization responsible for the leakage may face a penalty. The punitive aspects of damage remedies can force companies dealing with consumer data to take measures to protect privacy and to strengthen security. Foreign companies and consumers are therefore likely to have more confidence in Republic of Korea companies' handling and protection of personal data (Trader 2017).

### SOME GOVERNMENT MEASURES THAT COULD SPUR E-COMMERCE GROWTH

Various government measures of the government could directly or indirectly encourage e-commerce growth. The government already promotes awareness of cybersecurity risks among small and medium-sized enterprises and encourages cybersecurity-related investments. For instance, it provides tax incentives for companies that invest in cybersecurity-related products and services (OECD 2017).

Government initiatives have also been significant factors in the growth of SMEs' engagement in e-commerce export initiatives. During the 2016H2, about 250 the Republic of Korea small and medium-sized enterprises gained access to global markets through SK Planet's e-commerce platform 11st. This was possible thanks to SK Planet's partnership with the state-run Small and Medium Business Administration and the Large and Small Business Cooperation Foundation. SK Planet operates its e-commerce platform 11st under different names in foreign markets, such as elevenia in Indonesia and 11Street in Malaysia. It ran a Korean zone on the e-commerce website in each market and a zone for small and medium-sized enterprises on its overseas e-commerce platform, which offered global delivery services and other support services (BusinessKorea 2016).

## **MEASURES BY TRADE ASSOCIATIONS AND INDUSTRY BODIES**

Trade associations and industry bodies such as the Korea International Trade Association have taken initiatives to spur e-commerce growth. For instance, Tmall Global's Korea Pavilion was established in partnership with the association and the Korea Agro-Fisheries and Food Trade Corporation (Weigand 2016b). In 2016, Tmall Global and KITA ran a one-day business workshop in Seoul in which more than 1,000 small and medium-sized enterprises participated (Weigand 2016a).

## **Social Acceptance and Awareness**

### **ORGANIZATIONAL READINESS**

The sophisticated business models and practices of e-commerce companies discussed above are not representative of all companies in the Republic of Korea. The challenges the Republic of Korea-based companies face are organizational and relating to social acceptance and awareness, rather than technical according to the Organisation for Economic Cooperation and Development (OECD) although there is still room for improvement for companies to use advanced digital tools to take advantage of business opportunities. Although nearly all companies in the Republic of Korea have a broadband connection, their advanced and productivity enhancing technologies are far from fully utilized, the OECD noted. The OECD recommended that companies in the Republic of Korea make a deeper and wider use of customer relationship management and big data analytic tools (OECD 2017).

Strong cybersecurity and the ability to protect consumer information are tightly linked to organizational readiness to benefit from the digital economy. In this regard, companies in the Republic of Korea have performed well. According to a 2016 survey, 90% of businesses in the Republic of Korea used information security products and 41% used information security services (Ministry of Science, ICT, and Future Planning 2016, Korea Internet and Security Agency 2016). These measures

have resulted in Republic of Korea enterprises having the lowest incidence of cybersecurity breaches among OECD countries, with 4% of companies experiencing breaches (OECD 2017).

However, the Republic of Korea enterprises have performed relatively poorly in protecting the privacy of consumer data. The proportion of individuals experiencing privacy violations was 7% in 2015, which was higher than most other OECD countries (Yonhap 2017c). Unsurprisingly, in a 2017 survey commissioned by Veritas Technologies, the Republic of Korea was among the least-prepared countries to adopt the GDPR standards (Veritas 2017). Compliance with the GDPR, requires that organizations have greater oversight and control over where and how personal data is stored and transferred. Access to personal data also needs to be rigorously policed and audited.

### **CONSUMER PERCEPTION, EXPERIENCE, AND EXPECTATIONS**

Most consumers in the Republic of Korea value convenience over cost. It has been argued that the rapid growth in online grocery shopping is associated with growth in single-person households and double-income families. In September 2016, one-person households in the Republic of Korea accounted for about 35% of the population. These people often face time constraints for shopping at a supermarket and are willing to spend more if they order grocery products online (Retail Asia 2017).

Social acceptance and awareness factors are also linked to the consumers' strong tendency to purchase products online from foreign vendors. Republic of Korea consumers are reported to have a more positive attitude toward buying products online from foreign countries than consumers in some other economies. For instance, a survey conducted by DHL Global Mail indicated that only a third of the country's consumers expressed negative attitudes about placing orders with a foreign supplier (DHL Global Mail 2013).

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