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Advancing Free Trade
for Asia-Pacific **Prosperity**

Promoting E-commerce to Globalize MSMEs

APEC Policy Support Unit
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INTRODUCTION

The development of MSMEs and their increased direct participation in regional and global trade is one of the keys to making growth more inclusive. In many economies, SMEs have a critical role, taking 50 to 80 percent of employment and at least 40 percent of GDP (Accenture 2016). Their empowerment in global trade should therefore be a boost for economic growth.

In recent years, much attention has been put to helping SMEs participate in trade through access to global value chains. GVCs, after all, are where most international trade take place – roughly 80 percent of global trade (UNCTAD 2013). SMEs are, however, stymied by, among others, certification hurdles and lack of capacity to supply the scale and quality needed by multinational operations. There is, however, another promising avenue for SMEs' internationalization, i.e. through e-commerce.

E-commerce is fueling growth in retail trade. Its global total sales is expected to increase threefold to USD3.6 trillion in 2019, and Asia-Pacific is where most of the growth will be. E-commerce share in global retail sales will double and reach 12.8 percent in 2019 (eMarketer 2015). While for now, most of e-commerce sale is domestic, more buyers are increasingly shopping across the border. Nielsen (2016) survey shows that among APEC economies, the percentage of online shoppers who purchase from overseas sellers (within the preceding 6 months of the survey period) range between 29 percent (US) to 69 percent (Chile). This shows increasing direct exporting possibility for all firms, including SMEs, using e-commerce.

Few anecdotal evidence attest to the potential of e-commerce as a path to business success. A Malaysian shoe designer who started by posting her designed shoes on Facebook became a successful exporter through eBay. Today, her online store is complemented by physical shops in five locations. A photographer helped fishermen sell beautiful and unique seashells from the Philippines get buyers from abroad, bypassing middlemen and increasing rural income. A Singaporean designer of ecofriendly maternity dresses now has physical and online presence across the globe. And so on and so forth.

Why are successes like the above examples not widely shared among SMEs? Considering the number of SMEs in each economy, success stories facilitated by e-commerce are way too few. This study tries to understand the constraints faced by SMEs to participate in e-commerce, particularly cross-border e-commerce (CBEC). The methodology used is focused group discussions¹ with major stakeholders in e-commerce including SMEs, technology-enabled marketplace platform operators, payment providers, traders or aggregators, logistics services

¹ The inherent limitation of focused group discussions is that the extent of the problem among SMEs may be imprecise. 'Many' or 'few' SMEs which experience specific difficulties like the ones cited in the case studies are figures that are difficult to ascertain but would have to be taken at its face value. Surveys would help in supplying numbers but earlier survey efforts by the APEC Committee on Trade and Investment failed to get sufficient number of respondents to be considered useful.

providers, and concerned government agencies. The aim of the interviews and discussions was to identify barriers and difficulties, including legal and regulatory ones that hamper MSMEs CBEC participation. The discussions show that governments and private sector are aware of SMEs difficulties and that various efforts are actually in place to improve their capacity, although more can still be done.

The five case studies discussed below is the product of focused group discussions conducted in five economies: Brunei Darussalam; China; Malaysia; Korea; and Chinese Taipei. The discussions were supplemented by desk research and further interviews of major stakeholders located outside of these five economies.

A. KOREA

1. E-COMMERCE MARKET IN KOREA

1.1 Dynamic domestic e-commerce

Korea is one of the largest e-commerce markets in the world. A.T. Kearney's 2015 Global Retail E-Commerce Index ranked the economy as the 7th most attractive market in a list of top 30 economies globally². Within Asia, the same index indicates that Korea; China; and Japan are the top 3 economies in e-commerce.

Data from Statistics Korea showed that online shopping transaction value reached KRW64.9 trillion in 2016 (approximately USD60 billion), 19.4 times higher than the value in 2001 (KRW3.3 trillion)³, and about 17 percent of total retail sales⁴. By 2019, retail e-commerce sales in Korea is forecasted to reach USD54.14 billion.

Shopping using mobile device has also accelerated and now takes more than half of online transactions. From 2015 to 2016, its share of online shopping increased from 45 percent to 53 percent. While online shopping increased by 20.5 percent between 2015 and 2016, mobile shopping increased by more than twice at 41.7 percent over the same period.

The top five goods and services transacted online in 2016 in terms of value were: 1) travel arrangement and reservation services; 2) clothes, fashion and related goods; 3) household goods, motor vehicle parts and accessories; 4) home electric appliances, electronic and telecommunication equipment; and 5) food and beverages. Transactions involving these groups of goods and services had grown exponentially by between 923.4 and 6,185.7 percent from 2001 to 2016 (Table 1).

²<http://www.prnewswire.com/news-releases/the-united-states-tops-at-kearney-global-retail-e-commerce-index-for-market-opportunity-300061868.html>.

³<http://kostat.go.kr/portal/eng/pressReleases/3/5/index.board>.

⁴ Based on E-marketer (2015) estimated retail sale in 2016 at USD356 billion.

Table 1. Online shopping transaction value and growth rate for top 5 goods and services

Type of goods and services	Online shopping transaction value (in trillion KRW)		Growth rate from 2001 to 2016 (%)
	2001	2016	
Travel arrangement and reservation services	0.2	11.4	5,588.9
Clothes, fashion and related goods	0.2	10.2	5,008.4
Household goods, motor vehicle parts and accessories	0.2	6.7	3,225.4
Home electric appliances, electronic and telecommunication equipment	0.7	7.2	923.4
Food and beverages	0.1	6.3	6,185.7

Source: Statistics Korea and APEC Policy Support Unit (PSU) calculations.

Growth of e-commerce in Korea can be attributed to several factors, including high internet penetration as well as high number of ownership of devices such as smartphones and computers among its population (Table 2). The International Telecommunication Union (ITU) reports that more than 92 percent of Korea's population have access to the internet in 2016. Fixed-broadband subscriptions in the same year were 41.13 per 100 inhabitants, the highest in the APEC region. Furthermore, Korea's average connection speed of 26.1 Mbps as of 4Q 2016 is the highest globally (Akamai, 2016). Google's Connected Consumer Survey 2016 noted that the average number of connected devices per person is 2.8, with more persons indicating the use of smartphones (91 percent) than computers (desktop, laptop, netbook) (73 percent).

These factors collectively facilitate e-commerce in the economy. Data from Statista on e-commerce penetration as of 4Q 2016 in selected Asia-Pacific economies shows that at 72 percent, Korea's rate is the highest among surveyed economies⁵. eMarketer put Korea's digital buyer penetration (as a percentage of internet users) at 68 percent in 2016⁶.

⁵The penetration rate is defined as the percentage of population which had purchased a good or service online within the 30 days preceding the survey.

⁶Digital buyer penetration is defined as internet users ages 14+ who have made at least one purchase via any digital channel during the calendar year, including online, mobile and tablet purchases.

Table 2. Korea e-commerce at a glance, 2016

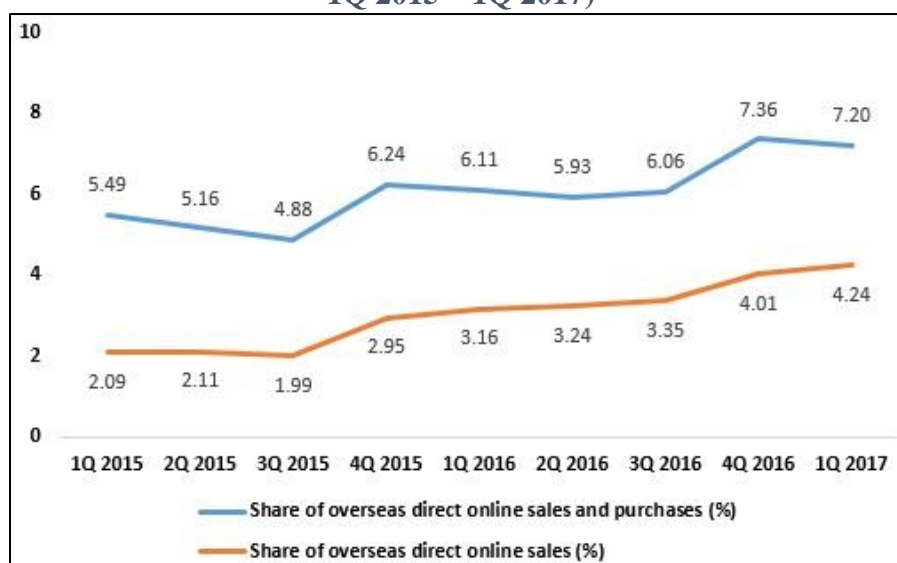
User base and infrastructure	
Percentage of individuals using the internet	92.72
Average connection speed (Mbps, 4Q)	26.1
Fixed broadband subscriptions per 100 inhabitants	41.13
Mobile cellular subscriptions per 100 inhabitants	122.65
E-commerce penetration rate (4Q)	72
E-commerce market size, (KRW trillion)	
Online shopping	64.9
Mobile shopping	34.7
Overseas direct online sales	2.2
Overseas direct online purchases	1.9

Source: ITU, Akamai, Google and Statistics Korea.

1.2 Cross-border e-commerce

Despite the growth of domestic e-commerce, Korea's cross-border e-commerce trade remains relatively low. Figure 1 shows that the highest attainable share of overseas direct online sales and purchases (as a percentage of online shopping) between 1Q 2015 and 1Q 2017 was 7.36 percent, although it has been increasing steadily over the period. Looking solely at overseas direct online sales (i.e. exports from Korea) shows a lower share but with steady increase since the third quarter of 2015. Since the first quarter of 2016, e-commerce exports from Korea have steadily exceeded online imports. Moreover, more businesses are discovering e-commerce as a new way of doing trade evidenced by a recent survey by Korea Trade Network (KTNET) which shows that 73 percent of surveyed domestic sellers are interested in selling overseas.

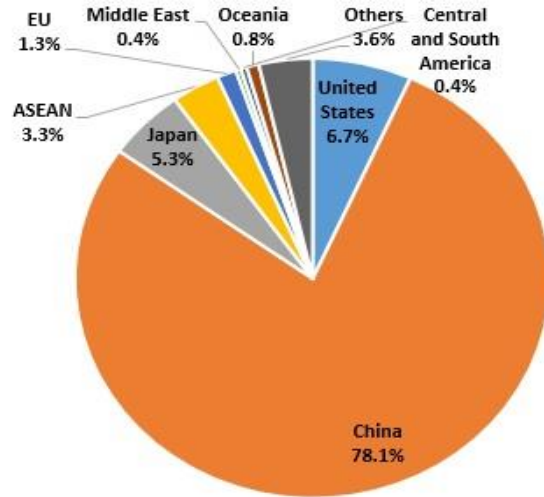
Figure 1. Share of overseas direct online sales and purchases (percent of online shopping, 1Q 2015 – 1Q 2017)



Source: PSU calculations from data provided by Statistics Korea.

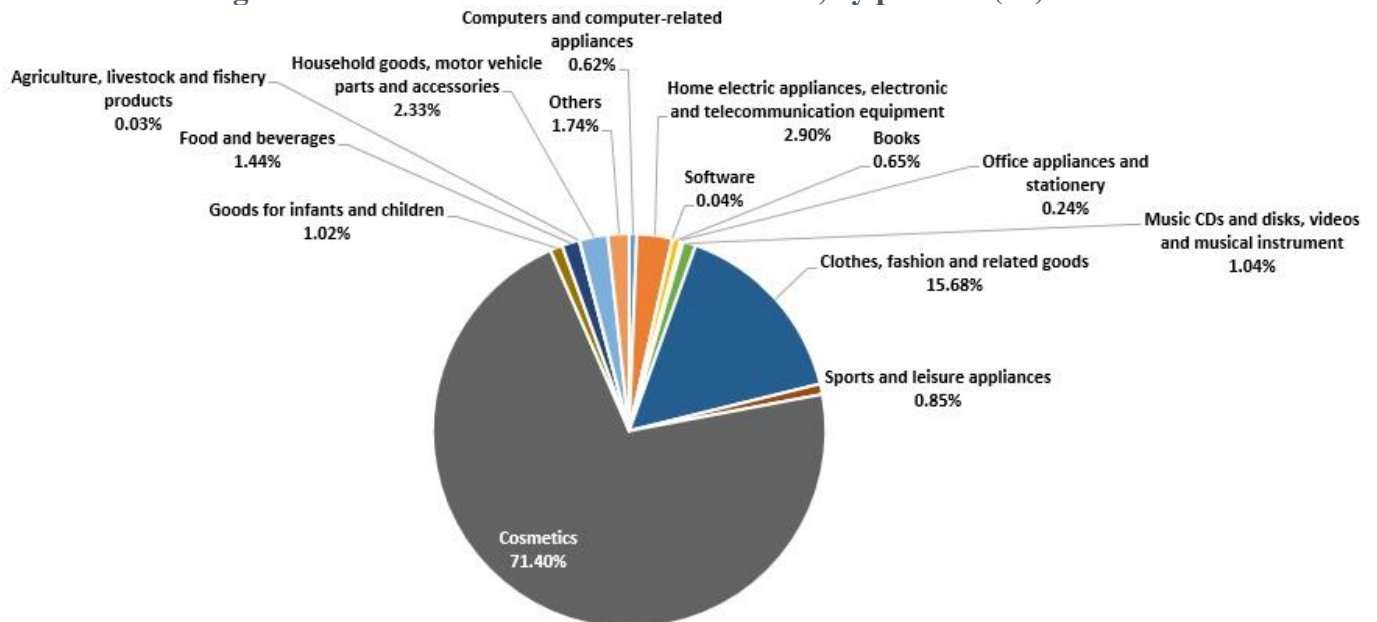
Korea's main e-commerce exports destination are China, followed by the United States; Japan; and ASEAN economies (Figure 2). Cosmetics made up more than 70 percent of Korea's exports in 2016, while clothes, fashion and related goods made up about 16 percent (Figure 3). Korean SMEs are highly dependent on third-party marketplace platforms to sell their products overseas. Top platforms identified in the KTNET survey include Amazon, eBay, Taobao, Tmall and Rakuten.

Figure 2. Overseas direct online sales in 2016, by economy/continent (%)



Source: PSU calculations from data provided by Statistics Korea.

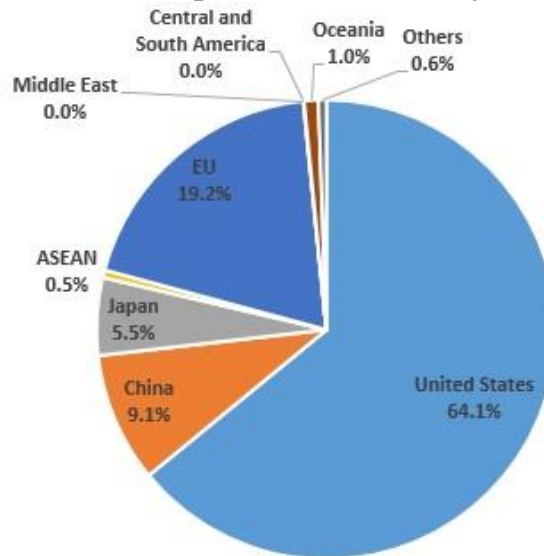
Figure 3. Overseas direct online sales in 2016, by product (%)



Source: PSU calculations from data provided by Statistics Korea.

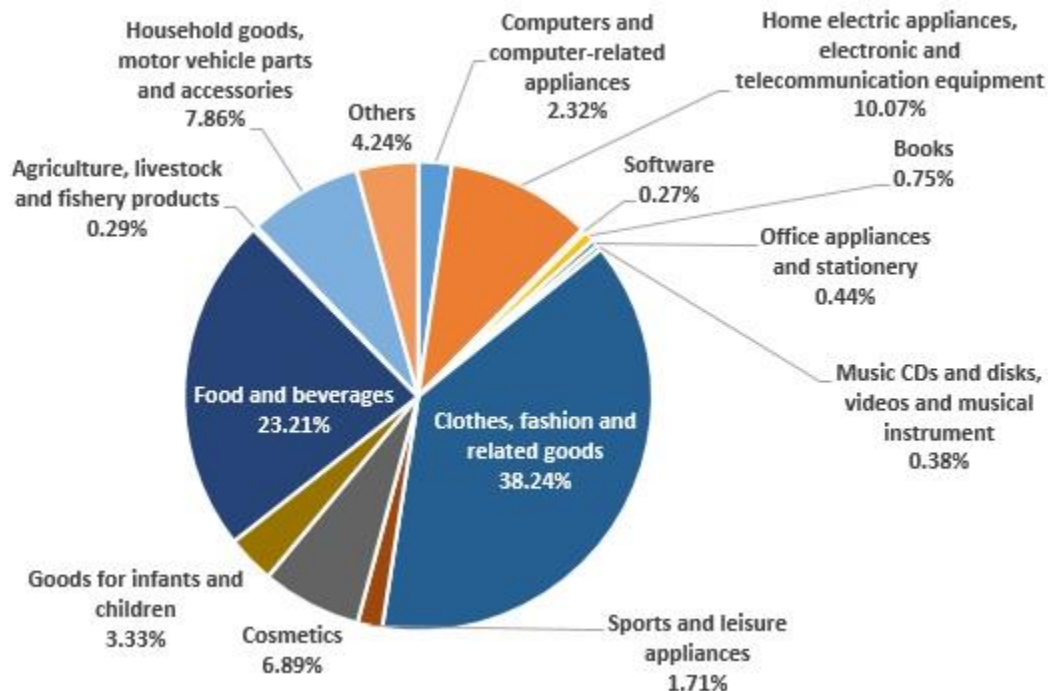
On overseas direct online purchases (i.e. imports to Korea), the main sources are the United States, followed by the EU; China; and Japan (Figure 4). Clothes, fashion and related goods made up close to 40 percent of Korea's imports, while food and beverages made up about a quarter (Figure 5).

Figure 4. Overseas direct online purchases in 2016, by economy/continent (%)



Source: PSU calculations from data provided by Statistics Korea.

Figure 5. Overseas direct online purchases in 2016, by product (%)

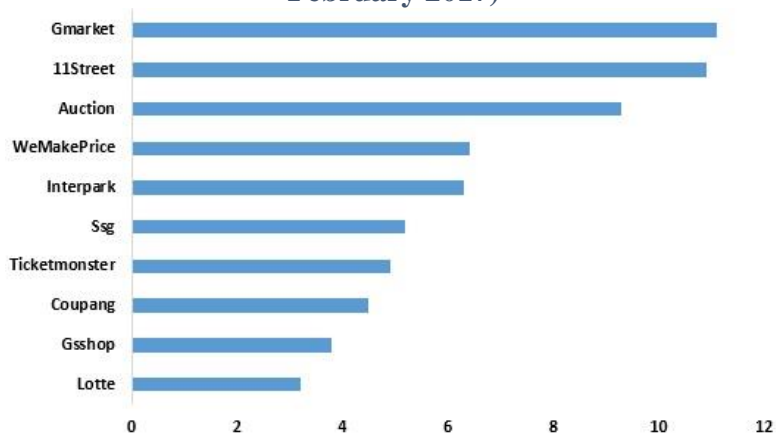


Source: PSU calculations from data provided by Statistics Korea.

1.3 Major e-commerce platform operators⁷

Data from Nielsen KoreanClick indicated that the top retail e-commerce sites by unique visitors in Korea is Gmarket, followed by 11Street, Auction, WeMakePrice and Interpark (Figure 6).

Figure 6. Top retail e-commerce sites in Korea by number of unique visitors (millions, February 2017)



Source: eMarketer and Nielsen KoreanClick.

Gmarket

Founded in 2000, Gmarket is one of the leading e-commerce platforms in Korea with more than 11 million of unique visitors. It was acquired by eBay in 2009 for a total price of approximately USD1.2 billion⁸. It began its global operations with the launch of its English language service in 2006, followed shortly by the launch of its Chinese language website. In 2015, Gmarket Global launched its mobile app to further facilitate shopping.

All products sold in Gmarket Global are shipped out from Korea. Its logistics center located in Incheon airport is able to ship to more than 100 economies. It partners with major logistics service providers all over the world. Gmarket accepts various payment methods including Alipay, Unionpay, PayPal, Visa and Mastercard among others.



11Street originated in Korea but has since expanded into other economies such as Malaysia and Indonesia. Its Korean operations launched its English website in 2012 and offers a range of

⁷Information in this section are obtained from various sources including <http://www.emarketer.com/Chart/Top-10-Retail-Ecommerce-Sites-South-Korea-Ranked-by-Unique-Visitors-Feb-2017-millions-reach/206047>;

<http://seoulspace.co.kr/2017/09/16/top-5-e-commerce-sites-in-south-korea/>;

<http://www.globalinterpark.com/customer/company>;

<http://english.11st.co.kr/en/commons/CommonAbout.tmall?method=getIntro11st>;

https://web.archive.org/web/20120306003136/http://www.ebayinc.com/content/press_release/20100506007289;

⁸https://web.archive.org/web/20120306003136/http://www.ebayinc.com/content/press_release/20100506007289.

products including clothes, electronics and groceries. It now provides services in English and Chinese in addition to Korean.

11Street Korea ships internationally via EMS to more than 90 economies. Subject to how a buyer subscribed to its services (i.e. via email or Alien Registration Number) and his/her IP address (i.e. domestic or overseas), it accepts various payment methods such as major credit cards issued in Korea and overseas, bank deposit, wire transfer and PayPal.



Auction is an e-commerce auction company acquired by eBay in 2001. Its platform serves more as a price comparison site. When a potential buyer looks for a particular item, Auction will compare the prices offered by the more than 3,000 e-commerce sites and list the cheapest one at the top. It earns from referral commission.



Founded in 2010, WeMakePrice is a site which focuses on daily deals, a model whereby the website offers specific products on sale for a period of time (e.g. 24 hours). Despite facing setbacks including being sued by rival Coupang for negative advertising⁹, it is still valued fairly significantly in Korea. Similar to the other sites, it offers a wide range of products from different categories such as clothes and cosmetics.



Started in 1996, Interpark is arguably the first e-commerce firm in Korea. It commenced its international service in 2014 and now provides services in different languages including Chinese, English and Japanese. By partnering with e-Post Korea and EMS, Interpark is able to ship to more than 220 economies. It launched its global shopping mobile website in 2015. Like other sites, it accepts various payment methods including credit cards, PayPal, Alipay and Tenpay.

1.4 SMEs and e-commerce

SMEs have a critical role in the Korean economy. According to the data collected by the National Statistical Office in 2014, numbering more than 3.5 million firms, SMEs made up approximately 99.9 percent of all firms in Korea. In terms of employment, SMEs collectively provide jobs to 87.9 percent of all employees. Furthermore, their contribution to Korea's GDP in 2013 as well as exports in 2016 stood at 51 percent and 38 percent, respectively¹⁰.

⁹<http://www.koreaherald.com/view.php?ud=20150424000862>

¹⁰<http://www.mss.go.kr/site/eng/02/1020200000002016111504.jsp>

Despite the significant contributions of SMEs to the Korean economy, their participation in e-commerce appears to be low. A report by OECD (2015) indicated that only 14.9 percent of smaller firms in Korea (i.e. 10-49 employees) were engaged in online sales via e-commerce in 2013. In contrast, 33.8 percent of larger firms (i.e. more than 250 employees) were engaged in e-commerce.

SMEs' participation in cross-border e-commerce is likely to be low considering the small percentage of SMEs engaged in e-commerce. Data from Korea International Trade Association show that only 2.6 percent of SMEs in Korea are engaged in exporting (Korea Herald, 2017). In value terms, considering that Korea's exports via e-commerce is only around 0.03 percent of the economy's total commercial exports in 2016, the contribution originating solely from SMEs are likely to be low as well¹¹. The recent survey by KTNET, however, shows 45 percent of the SME respondents have cross-border e-commerce experience, even as more firms show income from overseas sales. The survey shows that 40 percent have both domestic and overseas sales, while 14 percent have income only from overseas sales. This possibly means that some SMEs have overseas sales though not through their own experience of cross-border e-commerce but rather through 'aggregators' or 'sales agents' whom they supply (discussed below).

2. CROSS-BORDER E-COMMERCE VALUE CHAINS AND RELATED CHALLENGES

This section discusses the different steps that SMEs take to sell via e-commerce and the challenges they face at each stage.

2.1 Exploring possible participation in e-commerce

That e-commerce is a new way of doing trade has slowly permeated into more SMEs. As indicated earlier, 73 percent of domestic sellers in the KTNET survey are interested in overseas sales. However, successful participation in e-commerce comes with many pre-requisites which may not be easily met by SMEs.

Challenge #1. Need for a unique value proposition

For buyers, one main reason for the attractiveness of e-commerce as a shopping channel is the relatively lower price of listed products when compared to those sold in brick and mortar shops. The size of SMEs means that they generally lack the economies of scale to produce more competitively-priced products relative to large firms. SMEs must have a unique value proposition, besides price, to succeed in e-commerce.

¹¹ http://www.kita.org/kStat/overview_TradeZones.do

Challenge #2. Branding and marketing

While marketplace platform such as Gmarket or Amazon and others help in accessing more buyers, sellers have to learn the ‘tricks of the trade’ – i.e. to make their products stand out and be found among a whole lot of competitors. Increasing the visibility of their products requires engaging in branding and marketing activities. For example, adapting Korean products to the target markets through re-packaging because the same product that is popular in Korea may not be attractive to Japanese or Chinese consumers. Many SMEs often lack the capacity to undertake market research and adapt products to different markets. Indeed, marketing cost is identified as the main difficulty for SMEs to engage in cross-border e-commerce by almost half of the respondents in the KTNET survey.

Solution: increased awareness and training

To overcome some of these challenges, marketplace platform operators facilitate branding and marketing activities by holding promotional events. They also increase product exposure via social media channels such as Weibo and WeChat.

Furthermore, there are intermediary firms (value added services (VAS) providers) that train SMEs on almost everything related to e-commerce. For SMEs that are already familiar with e-commerce, the training focuses on marketing in specific economies. For others that have no or little knowledge, training covers the basics of e-commerce, including familiarizing them with the commonly used technical terms.

Specifically on raising the visibility/exposure of products in the virtual world, intermediary firms employ different strategies to do so. An example is to link business-to-consumer (B2C) and business-to-business (B2B) operations. Buyers in B2B tend to be firms and use more aggressive keyword search than the average consumer. Prior to making bulk purchase, B2B buyers like to make a sample order. Rather than asking them to order via the B2B platform, intermediary firms prefer to give them the URL for the same product listed in the B2C platform and ask buyers to purchase samples there. This way, the visibility of products can be raised in both B2B and B2C platforms.

2.2 Registering with marketplace platform operators and listing products on platforms

Marketplace platform operators have distinct advantages in different economies. For example, Gmarket is more well-known in Korea than in Singapore; Taobao is probably the number one choice among Chinese buyers, but may not be so elsewhere. The fact that specific platforms are well-known in a domestic market means that cross-border sellers would want to list their products with them. For example, to target Chinese buyers, online sellers would want to list in one of the Chinese marketplace platforms.

Specific e-commerce marketplace platforms have also become the go-to place to look for something that is economy-specific. For instance, overseas buyers visit Gmarket if they are interested to buy Korean cosmetics. This is, in part, a consequence of the branding and marketing activities undertaken by platform operators. Gmarket, for example, advertise in offline shopping malls and also piggyback on the Korean Wave phenomenon. In order to tap on this business potential, marketplace platforms interested in capturing foreign buyers have websites in English, Chinese and other languages besides their native language. Additionally, some provide online chat services in different languages.

To capitalize on the business advantages from joining marketplace platforms, SMEs register and create an account with platforms to be able to sell their products. Some SMEs do so by themselves while others need the help of intermediary firms or ‘aggregators’.

Challenge #1. Need for domestic registration to sell through marketplace platforms

Many SMEs are not familiar with the registration requirements. In Korea, businesses are required to comply with a list of requirements indicated in various laws and regulations including the Act on Consumer Protection in Electronic Commerce (E-Commerce Act) and the Act on the Promotion of Information and Telecommunications Network Use and Information Protection (Network Act). Fulfilling these requirements implies that the online seller has a local business presence¹². The same requirement is required for cross-posting in cross-border e-commerce platforms such as in Japan and China. While registration requirements may be less of an issue if both sellers and platform operators are based in the same economy, it is a challenge if they are located in different economies. For instance, it would be difficult for Korean-based sellers which is not registered as a business in Japan to open an account with a Japanese-based platform operator.

Challenge #2. Language translation and information search difficulty

For cross-border e-commerce, it is imperative that information are translated accurately to the buyers’ preferred language. Many Korean SMEs face difficulties translating product descriptions from Korean to other languages such as English, Chinese and Japanese. Moreover, SMEs often lack the ability to price their products correctly, taking into account the logistics costs, taxes and duties in the destination markets partly because this entails significant efforts to gather information in these different economies.

Current answers to SME challenges

One solution to the challenges faced by SMEs is the use of value added services (VAS) providers or intermediary firms or aggregators. These firms already have sellers’ accounts in various marketplace platforms, have experience in traditional trade and cross-border e-commerce, as well as network relationships with logistics service providers. In Korea, many SMEs engage their

¹² [https://ca.practicallaw.thomsonreuters.com/6-618-1666?transitionType=Default&contextData=\(sc.Default\)&_lrTS=20170616015242505&firstPage=true&bhcp=1](https://ca.practicallaw.thomsonreuters.com/6-618-1666?transitionType=Default&contextData=(sc.Default)&_lrTS=20170616015242505&firstPage=true&bhcp=1)

services and have their products listed using these firms' accounts, instead of creating their own. The KTNET survey noted that 43 percent of respondents engage the services of sales agency which these intermediary firms can be referred to as well. Intermediary firms take care of all the necessary arrangements including repackaging, pricing, translations, and logistics arrangements. Often, these intermediaries proactively recruit SMEs with high product potential as suppliers; other times, SMEs themselves seek out their services. This arrangement eases the 'learning' burden by SMEs; while it puts them one step away from the marketplace platforms, it enables them to concentrate on what they do best, i.e. producing a good product. It is a service that marketplace platform operators themselves can also provide, but perhaps at a higher cost.

2.3 Processing orders, logistics and customs

Once part of a marketplace platform, sellers need to comply with its terms and conditions with respect to shipping and delivery options. Different logistics options are often included in the platform; but in some cases, platform operators give sufficient leeway for sellers to use their own preferred alternative.

Sellers can ship parcels directly to buyers, particularly if the demand for the product is relatively low. If demand for the products is relatively high, sellers are likely to ship in volume and stock them up in warehouses inside the destination markets to save on shipping cost. Some intermediary firms rent warehouse spaces within the destination economy.

Alternatively, sellers can use the logistics and fulfillment centers of platform operators who then take care of delivery. The platform's fulfillment centers may be located within the economy of origin, typically close to international airports, as well as in destination economies. Depending on where the logistics centers and warehouses are located, customs clearance and associated cross-border logistics would take place either before or after products leave these locations.



Source: Authors

Challenge #1. Compliance with marketplace platform conditions

Listing with a platform means abiding with its conditions. In some cases, a platform may have different commission rates for international sellers on their platform – usually higher – from domestic ones. In terms of service delivery, platforms require the same level for both domestic and international sellers for example on timeliness, notwithstanding the different time zones between buyers and sellers. For instance, a US-based platform operator may require same-day shipping from receipt of payment. Differences in time zone between Korea and the US means that it may be a weekend in Korea when the order is received and shipping cannot be done because post offices are closed. To comply, Korean e-commerce sellers often have to place inventories in the US either on rented warehouse spaces or directly with the platform operator's fulfillment centers.

Challenge #2. Logistics limitations

Products such as electronics or battery-powered products can only be shipped through few logistics providers that have the proper security and safety measures. However, these providers do not operate in all economies, or if they do, their cost is prohibitive for SMEs thus limiting the potential global reach of e-commerce trade.

Moreover, some marketplace platform operators specify their accredited logistics providers, hence limiting shipping options. If platform operators allow the use of unaccredited logistics providers in some cases, its downside is typically a delayed receipt of payment from platform operators to sellers.

Should platform operators request sellers to move inventories from one fulfillment center in one location to another location, the inland logistics cost for such goods transport is borne by the seller, not by the platform operator. This often unanticipated expense adds to the seller's cost, making the proper estimate of shipping cost to charge buyers challenging. For SMEs that do not have information of local regulations, the difficulty is compounded.

Challenge #3. Customs-related difficulties

Relative to e-commerce websites which cater to domestic buyers, websites designed for international buyers usually have fewer product listings primarily because of cross-border product restrictions. These restrictions can come in the form of sanitary-phytosanitary regulations or technical barriers to trade and the complex procedures for obtaining product certification, approval, and registration. Such restrictions particularly affect food products, cosmetics, medical or organic products. SMEs selling cross-border must invest time and effort to understand these regulations in different economies. Even then, the differing interpretations of regulations by customs officers or its inconsistencies can lead to the products being denied entry. In some cases, payment of additional duties and taxes resolves the issue if the buyer agrees to pay for the additional cost. Otherwise, sellers are stuck with an undelivered product abroad which they can either ship back or dispose of.

Low de-minimis value for tariff exemptions is another issue that hampers the growth of cross-border e-commerce. Each economy has its own de-minimis level. In APEC, this ranges between USD0.33 to 800¹³. Very low de-minimis value practically subjects all e-commerce trade to import duties.

Political issues between economies also contribute to slower clearance of products even if these had been allowed entry into the territory many times previously.

Current solutions to SMEs challenges

The Korean government has rolled out several initiatives to facilitate cross-border e-commerce. For example, it operates overseas logistics centers in 22 locations across 12 economies which exporting SMEs can use. Furthermore, Korea Trade Investment Promotion Agency rents logistics facility overseas and helps SMEs with customs clearance, inventory management and cargo collection among others. However, the recent KTNET survey shows low awareness by SMEs of various government support and programs.

2.4 Making payment to sellers and handling refunds

Marketplace platform operators usually make the payment to sellers through payment processing service providers like PayPal. If the platform sellers are intermediary firms, they in turn make the payment to their SME suppliers through domestic bank transfers. The frequency of payment differs among platform operators as well as intermediary firms. Some make daily payments to sellers; others consolidate payments once or twice a month. SMEs that are typically short of working capital face challenges in payment delays.

Challenge #1. Exchange rate losses and banking regulations

Payment system operators set the foreign exchange rates when it transfers payment to sellers in its domestic currency. This arrangement leaves sellers at a disadvantage if they have no other options. First, the foreign exchange rates used may be lower. Second, they may prefer to keep the sales in internationally traded currencies like the US dollar, euro, yen, or Chinese yuan in order to facilitate purchase of production inputs. Third, they may want to time when and how much to withdraw from their foreign exchange accounts to take advantage of more favorable exchange rates. However, not all SMEs have the capability to open different foreign exchange accounts.

In addition, some marketplace platforms like Taobao that uses Alipay as a payment service provider, require sellers to have a local bank account in China¹⁴. While this is not an issue for

¹³ http://www.global-express.org/assets/files/Customs%20Committee/de-minimis/GEA-overview-on-de-minimis_April-2016.pdf. Data is not available for Hong Kong, China and Papua New Guinea.

¹⁴ https://cshall.alipay.com/lab/help_detail.htm?help_id=214379.

domestic sellers, cross-border sellers from Korea find this burdensome, making the services of intermediary firms who, in addition to registering locally, do the opening of local bank account even more indispensable. For foreign remittances, limits on the amount that can be transferred out of China can be another hurdle.

Challenge #2. Returns policy and refunds of commissions

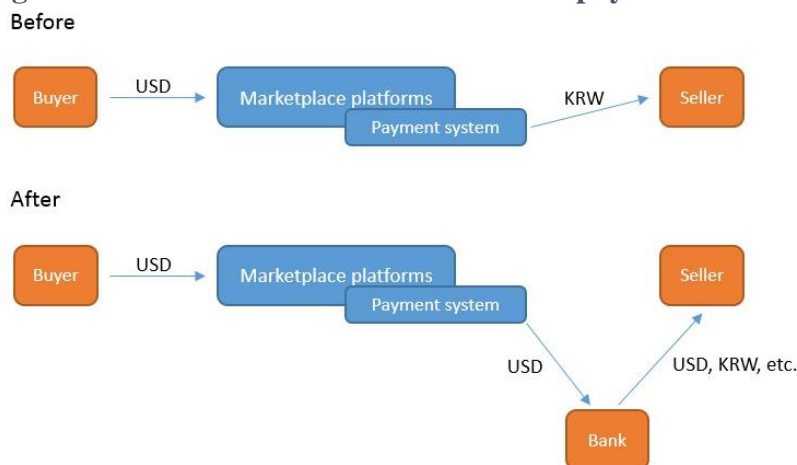
To add to the challenges, platform and payment system operators may also have different policies on various matters. In the case of refunds, for example, payment services provider may return a portion of their charged commission to the seller if the latter has to give partial refund to buyer; in contrast, the platform operator keeps their commission. Furthermore, the period where customers could request for refund may be longer than expected by sellers due to the more liberal return period policy of payment service providers. Similarly, platform operators, despite purportedly allowing sellers to set their own returns policy, usually apply their own returns policy across the board.

Current solutions to SMEs challenges

In Korea, banks have partnered with payment service providers to facilitate payment to sellers in the currency of their choice (Figure 8). In this arrangement, sellers can receive payment in foreign currencies instead of it being automatically changed to domestic currency by the payment service provider. This system alone, along with lower commission by banks, helps sellers to save up to 3 percent of the product's final selling price.

The added bonus is that such an arrangement with payment service providers gives banks better data on sellers which facilitates their know-your-customer (KYC) process if the seller applies for a loan. In the process, banks get first-hand and verified information on the seller's e-commerce transactions and sales without going through the otherwise tedious procedure of verifying all submitted loan documents.

Figure 8. How banks facilitate e-commerce payment to sellers



Source: Authors' understanding based on interviews.

B. CHINESE TAIPEI

1. E-COMMERCE MARKET IN CHINESE TAIPEI

1.1 Vibrant domestic e-commerce

Chinese Taipei is among the more mature e-commerce markets globally. According to an estimate by the Institute for Information Industry, its e-commerce market size had hit the NTD1 trillion (approximately, USD33 billion) mark in 2015. Business-to-consumer (B2C) e-commerce was estimated to be worth NTD613.8 billion, while consumer-to-consumer (C2C) was worth NTD393.1 billion. Between 2014 and 2015, the former had grown by 16 percent, the latter by 11 percent.¹⁵ Another source (U.S. Department of Commerce, 2017) put the e-commerce market size in Chinese Taipei at USD37.6 billion in 2016 and noted that growth rate over the last five years hovered between 10 and 20 percent.

Nielsen's 2015 Virtual Shopping study found that 5.9 million people (which made up about 32.2 percent of consumers aged 12-65) shopped online in the last three months in Chinese Taipei. This is a fairly significant increase compared to that in 2012 when 4.2 million people (about 23.3 percent of adult consumers) did so. Consumers also appear to be spending more online. In 2015, an average consumer was estimated to spend NTD7200 (about USD240), an increase of almost 30 percent relative to spending in 2013 of NTD5,600. Another source, the Market Intelligence & Consulting Institute (MIC), put the average expenditure at a much higher value in 2016, that is, consumers spent an average of NTD27,715 on online shopping, an increase of 28 percent from NTD21,681 in 2014. Share of an average shopper's online expenses (as a percentage of total expenses) has increased from 12 percent in 2014 to about 18 percent in 2016.¹⁶

Worth mentioning is the role of mobile device in facilitating e-commerce. The same Nielsen study indicated that 13.2 percent of consumers aged 12-65 had placed orders in 2015 using mobile devices. The share was only 9.2 percent in 2014, implying that more consumers are making their purchases using mobile devices. However, mobile payment adoption of 26 percent (of total electronic payments in the economy) is relatively lower in Chinese Taipei than in its neighboring economies such as Korea (77 percent); Hong Kong, China (65 percent); and China (56 percent)¹⁷.

Consumers in Chinese Taipei buy a wide range of items online. Categories of items transacted online include clothing and accessories, food products, beauty and skin care, computers and electronics, as well as furniture and household products (U.S. Department of Commerce, 2017). Nielsen noted that different segments of the population have varied online shopping habits which extends to the categories of products they purchase. For example, female in their 20's category

¹⁵<https://info.taiwantrade.com/biznews/%E8%B7%A8%E5%A2%83%E9%9B%BB%E5%95%86%E5%85%A8%E7%90%83%E6%A6%82%E6%B3%81-%E4%B8%8A-1101939.html>

¹⁶ https://mic.iii.org.tw/IndustryObservations_PressRelease02.aspx?sqno=464

¹⁷ <http://www.straitstimes.com/asia/east-asia/taiwan-consumers-still-wary-of-mobile-payments>

buy (in decreasing order) apparel, shoes and bags, cosmetics and skin care, tourism and transportation services, and accessories. Male in their 30's, on the other hand, purchase tourism/leisure/transportation services, PC hardware, mobile phone/accessories, apparel, and film/expo/game ticketing.

The level of growth in e-commerce in Chinese Taipei can be attributed to numerous factors including the strong internet user base and infrastructure in the economy (Table 3). Data from the International Telecommunication Union (ITU) indicated that close to 80 percent of Chinese Taipei's population in 2016 have access to the internet. Its average connection speed of 15.6 Mbps as of 4Q 2016 is, as defined in a report by Akamai, among the top 5 in the Asia-Pacific region. Google's Connected Consumer Survey 2016 revealed that the average number of connected devices per person is 2.7, and more use smartphones than computers (desktop, laptop, netbook).

Regulations certainly have a role in stimulating e-commerce growth too. Over the past years, the government has implemented a series of new regulations and reformed existing laws to ensure its relevance to e-commerce. For instance, the consumer protection law, amended in 2015, states mandatory regulations which businesses should adhere to when conducting e-commerce transactions, such as consumers' entitlement to a 7-day trial period; and requirement that businesses refund the purchase price within 15 days after consumers have returned the goods.¹⁸ The Personal Information Protection Act, in effect since 2010, imposes specific data protection requirements. Relevant government agencies have also adopted sectoral specific regulations governing personal data security in the e-commerce sector.¹⁹

1.2 Cross-border e-commerce

Cross-border activities are an integral part of e-commerce in Chinese Taipei. Indeed, while convenience is one of the main motivations for purchasing via e-commerce, other motivations for making online purchase include access to foreign products that are not available in Chinese Taipei.

According to information compiled by the U.S. Department of Commerce, in a consumer survey conducted by Google in 2016, 17 percent of consumers in Chinese Taipei indicated that they had made online purchase of goods internationally. Of these, about 73 percent have made purchases from China while other top markets include Japan (40 percent), the United States (23 percent) and Korea (13 percent). The Market Intelligence and Consulting Institute (MIC) noted that products bought most frequently from overseas sellers were apparel and accessories (51 percent), electronics (43.2 percent), and daily commodities (29 percent). In terms of cross-border websites, the top websites visited were Taobao and Tmall (79.2 percent), Lotte (29.7 percent), Amazon (17.4 percent), and eBay (13.3 percent).²⁰

¹⁸ http://www.tiplo.com.tw/en/tn_in.aspx?mnuid=1284&nid=45731

¹⁹ [https://uk.practicallaw.thomsonreuters.com/5-578-3485?lrTS=20170608140701286&transitionType=Default&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/5-578-3485?lrTS=20170608140701286&transitionType=Default&contextData=(sc.Default))

²⁰ https://mic.iii.org.tw/IndustryObservations_PressRelease02.aspx?sqno=463

Several initiatives are ongoing to enable products from Chinese Taipei to reach a wider foreign consumer base. For instance, Yahoo Hong Kong-Chinese Taipei cross-border e-commerce platform was launched in 2015. The first stage of this arrangement allows 100 brands in various categories such as food, fashion, beauty and cosmetics to enter the Hong Kong, China market²¹. More recently, the Taiwan External Trade Development Council (TAITRA) sent a delegation to Dubai to assist Chinese Taipei's e-commerce firms in tapping the Middle Eastern market.²²

However, cross-border e-commerce can grow further. The 2016 Yearbook released by the Chinese Taipei government reports that cross-border online retail transactions only made up 3.6 percent of the economy's total e-commerce transactions. The government aims to increase cross-border online retail transactions from the current NTD18 billion (approximately USD600 million) to NTD45 billion (USD1.5 billion) by 2020, making up 5 percent of its total e-commerce transactions.

Table 3. Chinese Taipei e-commerce at a glance, 2016

User base and infrastructure	
Percentage of individuals using the internet	79.75
Average connection speed (Mbps, 4Q)	15.6
Fixed broadband subscriptions per 100 inhabitants	24.23
Mobile cellular subscriptions per 100 inhabitants	124.62
E-commerce market size	
Online shopping (USD billion)	37.6
Cross-border online retail transactions (NTD billion)	18

Source: ITU, Akamai, Chinese Taipei's 2016 Yearbook

1.3 Key players in the e-commerce ecosystem

1.3.1 E-commerce platform operators

E-commerce market in Chinese Taipei has few major players. The B2C market, where platforms procure directly from various businesses and then sell the products to consumers, are represented by PChome, 24hr marketplace, Yahoo, and Momo. Under this model, the e-commerce platforms are usually in charge of managing the platform, marketing, providing logistics as well as post-sales service. These companies often act just like traditional importer-distributors albeit using online platforms to sell.

B2B2C market is another business model. Here, firms can set-up and manage their own stores on the platforms. Among its advantages is that it grants firms the ability and freedom to decide on their own promotion and marketing strategies online. Platforms under this model serve as a bridge


²¹ <https://insideretail.asia/2015/11/06/new-yahoo-hong-kong-taiwan-cross-border-ecommerce-platform/>




²² <http://www.asiatoday.com/pressrelease/taitra-headed-dubai-promote-2017-ecommerce-expo-asia>

between consumers and businesses, much like a shopping mall in the real world. Where and when needed, they also provide optional value-added services to store owners like improving the look of their online stores. The major platform providers in this space are PChome Store, Yahoo, Rakuten Marketplace, and Momo.

C2C market, normally a second-hand or auction market between individuals, is dominated by Ruten Auction, Shopee Auction, and Yahoo Auction.

Table 4. Major E-commerce Platforms in Chinese Taipei

B2C	
PChome Shopping mall  	<ul style="list-style-type: none"> Established in 2000. Has more than 5 million products listed online. Its 24hr marketplace guarantees 24 hours delivery service (6 hour delivery in Taipei city) for more than 1.7 million products. PChome Global, established in 2010, provides Chinese Taipei products to 104 economies globally. PChome USA and PChome Thailand were established in 2014 and 2015, respectively.
Yahoo Shopping Center 	<ul style="list-style-type: none"> Established in 2008. Has over 400,000 products on offer. More than 700,000 website visits every day.
Momo 	<ul style="list-style-type: none"> Established in 2008. Expanded rapidly by taking advantage of its TV shopping businesses. Has 1.76 million products listed.
B2B2C	
PChome Store 	<ul style="list-style-type: none"> Established in 2005. Has more than 36,000 online stores, selling 161 million products.
Rakuten 	<ul style="list-style-type: none"> Entered Chinese Taipei market in 2008. Has more than 4,900 online stores.
Yahoo marketplace 	<ul style="list-style-type: none"> Founded in 2009. Has more than 6,500 online stores. Over 1,800 of its stores have annual revenue which exceeds NTD1 million each, while 360 of its stores have annual revenue exceeding NTD10 million each. Clocked over 37 million transactions in 2015.
Momo 	<ul style="list-style-type: none"> Established in 2014. Has more than 1,900 online stores.

C2C	
Yahoo Qimo Auction 	<ul style="list-style-type: none"> • Founded in 2001. • Collaborated with CTBC Bank in providing a third-party payment Yapee in 2016.
Ruten Auction 	<ul style="list-style-type: none"> • Founded in 2006, a joint venture between PChome Online and eBay. • Has over 8.8 million buyers and 1 million sellers. • Has more than 139 million products listed online, with 1 billion monthly page views. • Total transaction value reached NTD143.9 billion in 2015.
Shopee Auction 	<ul style="list-style-type: none"> • Entered Chinese Taipei market in 2015. • Has presence in Singapore, Malaysia, Indonesia, Viet Nam, the Philippines, and Thailand. • Has 25 million users globally. • Generates USD1.8 billion in annual sales globally.

Source: Various corporate websites.

B2B e-commerce in Chinese Taipei is dominated by TaiwanTrade, which is run by TAITRA. Founded in 2002, TaiwanTrade is the official B2B e-commerce portal dedicated to helping worldwide businesses identify quality suppliers and products from Chinese Taipei. It connects 1.8 million buyers and 70,000 suppliers, providing access to approximately 390,000 products.²³ In 2012, TAITRA launched iDealEZ, a platform that allows businesses to acquire small quantity or sample items directly from suppliers across 25 industries.

1.3.2 Payment platforms

Compared with the e-commerce platforms, the mobile payment market in Chinese Taipei is relatively decentralized and has many players. Chinatrust Commercial Bank (CTBC) was an early adopter of mobile payments. It collaborated with various platforms like PChome Online, Yahoo and LINE Pay to give consumers the option of using their CTBC mobile wallets to pay for purchases. LINE Pay, which was launched in Chinese Taipei in 2015, correspondingly tied up with CTBC to introduce a CTBC LINE Pay Card towards the end of 2016. It has almost 1.5 million users in Chinese Taipei and is engaging and liaising with 11,000 merchants.²⁴

As of June 2017, there were 4,930 third-party payment companies registered in Chinese Taipei.²⁵ However, many are only able to provide escrow service (i.e. retaining customer's payment until the product has been received by the customer). After the Act Governing Electronic Payment Institutions passed in 2015, non-bank entities are now authorized to provide additional functions

²³ <https://www.thaitrade.com/stocks/extra/000fe5.pdf>

²⁴ <http://www.straitstimes.com/asia/east-asia/taiwan-consumers-still-wary-of-mobile-payments>

²⁵ <http://data.gov.tw/node/22184>

such as to keep and transfer funds between users. Since then, five electronic-payment operators have been licensed, namely AllPay, GAMA Pay, PChome Pay, Pay2go, and ezPay. All five have since launched their new mobile payment products.

At the same time, overseas mobile payment giants have also begun to carve up the market. Wechat Pay and Alipay are increasingly accepted at various malls and stores to facilitate the shopping experience particularly of mainland China tourists. Within a year, WeChat Pay has established itself as a mode of payment in over 30,000 stores across Chinese Taipei.²⁶

1.3.3 Logistics service providers

The logistics industry in Chinese Taipei is well developed and mature. With a densely populated island as well as sound infrastructure, same-day delivery spanning most areas has long been realized. For city areas like Taipei, mails and parcels can be delivered within just a few hours. Unlike other economies, the logistics market in Chinese Taipei is fairly competitive and is made up of a few large giants such as Pelican, T-cat, HCT Logistics, Kerry TJ Logistics and Chunghwa Post, and many other small and medium enterprises. According to the Commerce Development Research Institute (CDRI), more than 97% of the logistics enterprises are small and medium sized.²⁷

A wide range of services based on client's needs are provided, for instance devanning, warehousing, sorting, retrieving, disposal, and other customized value-added services. Cold-chain logistics have been developing rapidly as of late and cold storage and temperature controlled distribution has become an advanced and featured service on the Chinese Taipei's market. For instance, T-cat provides two variations of (0°C-7°C, -15°C) temperature controlled parcel delivery services, while Kerry TJ Logistics offers multi-temperature controlled storage: chilled (4°C), frozen (-18°C) and deep frozen (-25°C).²⁸ The technology provides more convenient and quality services as well as boosts the business of processed foods and agricultural and fishery products.²⁹

The development of e-commerce showcases great potential as well as profound challenges for the logistics industry. Chinese Taipei's e-commerce sector now has a daily order volume of more than two million units, which requires stronger capacity and additional innovations from the logistics providers.³⁰ For instance, a new startup, Palm Box Digital, has set up 1,246 self-pickup and delivery "smart locker" stations across the island, in collaboration with leading logistics and payment platforms. Customers can request a delivery or pick-up simply by downloading their app and filling in required information, and subsequently collect or drop off the parcel at the locker

²⁶ <http://en.yibada.com/articles/184709/20170112/mobile-payments-is-becoming-widely-accepted-on-taiwan.htm>

²⁷ <http://www.cdri.org.tw/cdrien/xcdoc/cont?xsmsid=0H171377078511104126&sid=0H171619226172799113>

²⁸ https://www.kerrytj.com/en/about/company_intro.html

²⁹ http://english.ey.gov.tw/News_Content2.aspx?n=8262ED7A25916ABF&sms=DD07AA2ECD4290A6&s=26B623A71F606A94

³⁰ <http://economists-pick-research.hktdc.com/business-news/article/International-Market-News/Smart-Locker-Service-Set-to-Transform-Taiwan-s-E-commerce-Sector/imm/en/1/1X000000/1X0A9CHJ.htm>

station. The service aims to solve the last-mile delivery problem by reducing the labor cost and provide greater flexibility and privacy for the customers.³¹

1.4 SMEs and e-commerce

SMEs constitute 98 percent of enterprises in Chinese Taipei and 78 percent of all employment. Together they take about a third of total sales by firms based in Chinese Taipei (Table 5)³². Thanks to advanced internet infrastructure, SMEs are able to utilize e-commerce as a sales/revenue channel for their products. Indeed, the vast majority of the 36,600 shops on PChome Store are SMEs. Some also list their products in platforms which cater to overseas customers such as Taobao, Lazada, and Amazon.

However, cross-border e-commerce does not appear to be a major source of SME sales yet. General sales data from Chinese Taipei's Ministry of Economic Affairs shows that despite the attempt to go global, SMEs' focus has been mainly domestic. Of the approximately NTD12 trillion sales made by SMEs in 2015, only 13 percent are from exports while it is 30 percent for large firms. Furthermore, only 15 percent of Chinese Taipei's total export sales are contributed by SMEs. Though this data is not specific to e-commerce, it can be indicative of the still unfulfilled potential of cross-border e-commerce for SMEs, hence to the need to facilitate their export participation via online channels.

³¹ Ibid.

³² Chinese Taipei defines an SME in terms of paid-in capital, sales revenue and number of regular employees. In the manufacturing, construction, mining and quarrying industries, a firm is defined as an SME if it has a paid-in capital of NTD80 million or less. A firm in the same industry can also be defined as an SME if its number of regular employees is less than 200. In the agriculture, forestry and fisheries, water, electricity and gas, commercial, transportation, warehousing and communications, finance, insurance and real estate, industrial and commercial services or social and personal services industries, a firm is defined as an SME if it has sales revenue of NTD100 million. A firm in the same industry can also be defined as an SME if it has less than 100 regular employees.

Table 5. SME Landscape in Chinese Taipei, 2015

	SMEs	Large Firms
No. of enterprises	1,383,981	32,757
Share of total (%)	97.69	2.31
Annual growth rate* (%)	2.29	-0.97
Total sales (million NTD)	11,803,115	27,072,225
Share of total (%)	30.36	69.64
Annual growth rate (%)	-0.31	-4.68
Domestic sales (million NTD)	10,325,260	18,833,593
Share of total (%)	35.41	64.59
Annual growth rate (%)	-0.19	-4.27
Export sales (million NTD)	1,477,855	8,238,632
Share of total (%)	15.21	84.79
Annual growth rate (%)	-1.13	-5.59
No. of employed persons (thousand)	8,759	1,415
Share of total* (%)	78.22	12.64
Annual growth rate (%)	1.03	2.04

Note: The annual growth rate is the current year rate of change compared to the previous one

Total employment also includes government employment

Source: *Small and Medium Enterprise Administration, Ministry of Economic Affairs, 2016*

2. CROSS-BORDER E-COMMERCE CHALLENGES FOR SMES

How and in which aspect of cross-border e-commerce can help for SMEs be provided? This section discusses some of the challenges that SMEs face in selling via e-commerce. E-commerce is an additional channel that businesses, including SMEs, can use to boost sales. However, firms need to get many things right in order to fully benefit.

2.1 Branding and marketing, packaging, pricing, advertising and other challenges

Branding and marketing activities are key to success in sales. Such activities are even more important for e-commerce because of the greater intensity of competition and the number of product varieties that compete for the attention of online buyers. At a minimum, for Chinese Taipei sellers, their products' packaging needs to be translated to the language in the target markets. While this is not a problem for the China market due to their common language, it is a challenge for Chinese Taipei SMEs in markets such as the US, Japan and those in the Southeast Asia region.

SMEs also need help in properly pricing their product, taking into account other costs related to online selling. If they are part of platforms, the price should incorporate the platform fees, whether they are subscription or membership fees or per product sales commission. If sellers utilize the

services provided by fulfillment centers, product price needs to cover the storage fee and other logistics cost. The variety of fees charged by platforms means that sellers need to get their price right in order to make profit. SMEs need to be better aware of these sales-related cost.

SMEs lack resources and skills for networking activities. For example, platform operators sometimes arrange product bundles to boost sales of groups of products together. However, to be part of a product bundle requires the ability to identify and network with other sellers including their own competitors to come to an agreement. However, not all SMEs have the time and skills for networking activities.

2.2 Online advertising, data sharing, and fake traffic

Regulations and other ‘aberrations’ online that affect e-commerce in general also affect SMEs that rely on an efficiently functioning ecosystem. Stakeholders in the focused group discussion raised a few specific regulatory issues. One is on advertising and the use of customers browsing behavior data, data sharing, as well as the prevalence of fake traffic. Online sales rely on targeted advertising which in turn rely on big data analysis. Among other uses, big data helps predict the interest of potential buyers which aids sellers to pitch the appropriate product advertisement. This should thereby potentially increase the shopping conversion rates (i.e. percentage of website visitors who actually buy). In some economies, however, access to customer browsing data for analysis is highly restrictive.

Likewise, in certain economies, the use of bots and the fake traffic they create nullify advertising efforts. Success of advertising campaigns are usually measured by page views and click-throughs. Page views count the number of visits to the website where the ad is displayed, while click-throughs tally the number of times that a particular ad is clicked. In theory, the higher the number of page views and click-throughs, the more successful is the advertising campaign. However, the prevalence of bots, particularly in several markets, and the fake traffic they create cloud the usefulness of such measures. This explains why high number of page views and click-throughs do not often yield increased sales of the advertised product.

Marketplace platform operators do not share customer information to sellers, partly for data privacy reason and partly for strategic purpose. In the online world, data has become a precious asset and a strategic advantage. Thus, along with joining third party marketplace platforms, some firms also try to set up their own online platform to be able to engage better with customers. However, to do this cross-border is not simple because many economies require local business registration for e-commerce platforms. Neither is cross-posting products with third party marketplace platforms in another economy straightforward because, except for a few platforms like Tmall Global that is catered to foreign sellers, domestic platforms often require that sellers are locally registered.

2.3 Regulatory challenges

Some stakeholders also mention the asymmetric benefits that derive from geo-blocking in some economies. Chinese Taipei SMEs are unable to sell to consumers in economies that block Chinese Taipei websites or marketplace platforms, whereas online sellers from those economies are able to sell to buyers in Chinese Taipei.

Customs regulations also vary between economies. For example, different custom authorities require different set of certifications for the same product. These regulations significantly increase the landed cost of products not to mention the mark up from taxes and duties³³.

Another challenge dealing with customs is discretionary decision-making and variation in de-minimis level. Businesses, in general, hate the lack of predictability which typically results from such discretionary decisions. While larger firms are able to minimize such results by gathering as much necessary information from different custom authorities in different destination markets, SMEs do not have the same manpower and financial resources to spend on such data gathering. While there are efforts in several economies to expedite clearance of e-commerce goods, in one economy the special channel applies only to specific list of products; moreover, the list is frequently changed and not based on harmonized system (HS) classification hence giving room for customs discretion.

3. EXISTING SUPPORT FOR SMES

Recognizing the challenges, the government, business associations, as well as major platforms are providing various kinds of assistance to help SMEs overcome obstacles and increase their competitiveness. For one, the Small and Medium Enterprise Administration (SMEA) as well as TAITRA provide financial and management assistance as well as ICT guidance services to SMEs, particularly on how they can appear more frequently in online searches. They are also focusing resources to help aggregators (traders who work with SMEs) and marketplace platform operators who have stakes in seeing SMEs succeed in e-commerce. Furthermore, events (both physical and online) are organized where SMEs and various players in the e-commerce system (e.g. logistics, payment operators and advertising providers) are brought together to network. For instance, in a forum aimed to share about e-commerce business opportunities in Southeast Asia in August 2016, SMEA invited marketplace platforms such as eBay, Amazon and Lazada, as well as payment service providers such as PayPal and Quantum to share their outlook and thoughts with the more than 250 firms that attended the event.³⁴

³³ For example, according to data provided by aCommerce (2016), total landed cost in six ASEAN economies (Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam) may be marked up by up to 56.3 percent of the product value due to taxes and duties.

³⁴ <http://www.moeasmea.gov.tw/ct.asp?xItem=13704&ctNode=751&mp=3>

Box 1. Cargo Clearance Automation Planning and Promotion Task Force

Chinese Taipei set up the Cargo Clearance Automation Planning and Promotion (CCAPP) Task Force under the Ministry of Finance in 1990. Among its responsibilities were to propose customs process simplification and to put in place required systems to automate some customs processes.

Within two years, backbone network to support cargo clearance system via air had been established. The network was then extended to facilitate cargo clearance via sea as well, making Chinese Taipei the third economy in Asia to fully implement automated clearance system besides Japan and Singapore. Its establishment managed to reduce the average air cargo clearance time from 4 to about 0.2 hours, and the sea cargo clearance operations from 6 to approximately 2 hours on average. Customs clearance without document or physical inspection can be completed in less than 10 minutes. Other additional benefits of the systems include improved administrative efficiency of the customs authorities and enhanced cargo flow.

The success of the task force led to the decision to privatize it in 1996 under the name of Trade-Van Information Services Co.. Strengthening customs clearance process of its clients remains one of its core service offerings.

Source: Burn, J.M. et al and TradeVan

In order to better understand the regulatory conditions in other economies, the government also collects information about destination markets through its network of overseas offices. Trade missions are also organized to help SMEs tap into other markets, for example, the Middle East. As for customs facilitation, Chinese Taipei's experience of creating the Cargo Clearance Automation Planning and Promotion (CCAPP) Task Force is worth giving a look (see Box 1).

Business associations are actively providing assistance to SMEs too. As an example, Cross-border E-commerce Association has been collaborating with major marketplace platforms such as Amazon and Alibaba to provide their viewpoints on where the global market trends in the industry is heading. It also provides various training courses to SMEs, particularly in e-commerce business skills development. It also actively organizes networking events for businesses intending to start or expand their e-commerce businesses.³⁵

Individual marketplace platform operators also hold their own outreach events to encourage SMEs' participation in e-commerce. For example, PChome visited different cities in Chinese

³⁵ www.crossborder-ec.org

Taipei to hold exhibition and promotional campaigns. In addition, it provided classes to SMEs to familiarize themselves with its platform. For a fee, SMEs can also attend courses which are more skills-specific such as those on marketing, translation, photo shop, and using the best keywords for their products and businesses for search purposes.

To complement SMEs' branding and marketing activities, some marketplace platform operators have periodic discounts/sales events. They also pull up the sales of other goods by facilitating product bundling or grouping together certain products for an attractive price.

Marketplace platform operators run several parallel platforms to cater to cross-border markets, where only products that are allowed to be sold in different economies are listed. In a way, this aids SMEs which do not have the resources to collect regulatory information from different economies. From the cross-border e-commerce platform, they get the information on allowed weight, packaging information and other necessary information, including whether their product can be sold or not in certain economies.

On payment, innovative payment options have been introduced to engage buyers who are not comfortable with making online payments. The role of convenience stores in facilitating e-commerce in Chinese Taipei is one good learning point that other economies, particularly those with huge unbanked population, might want to consider (see Box 2).

Box 2. Convenience stores as logistics and payment conduits in e-commerce

With more than 10,000 convenience stores in the island, Chinese Taipei has the highest density of convenience stores in the world. Two major convenience stores, 7-Eleven and Family Mart, perform a myriad of functions beyond retailing. They are, in particular, an important chain in e-commerce logistics as well as payment collection. A good portion of parcel goods ordered online are delivered to specified retail store outlets for pick up by the consumer who then pays in cash upon receipt of the product. Convenience stores offer many other services and are so intertwined with many aspect of people's lives; they have become, in particular, an integral part of the e-commerce value chain.

According to the survey by Market Intelligence and Consulting Institute (MIC), the most common payment methods for online shopping in Chinese Taipei are credit cards (75.7 percent), followed by payment at convenience stores (66.4 percent), and automated teller machine (ATM) transfer (25.2 percent). In terms of logistics, pickup at convenience stores is the top choice for a majority of locals, as indicated by 82.4 percent of surveyed consumers. Home delivery followed closely, as selected by 79.6 percent of respondents. As cash is still the safest form of payment for most customers, many choose to have their online orders delivered to the nearest convenience stores where they can easily pay for their purchase and pick up the goods. Convenience stores have positioned themselves to become a major partner and/or alternative to e-payment services providers.

Source: APEC Policy Support Unit (PSU) and MIC

Another experience on the payment landscape which Chinese Taipei can share includes the enactment of the Act Governing E-payment Institutions to relax restrictions on electronic payment services in January 2015. Essentially, it led to the opening up of its market of electronic payment to non-bank entities, allowing them to provide virtual accounts through which clients can store and transfer funds electronically. Prior to the enactment, e-payment service providers were merely authorized to accept and carry out payments at the behest of their clients for actual internet transactions and are unable to offer stored value services or expedite money transfers unconnected to actual transactions.

4. EMERGING REGULATORY LANDSCAPE: VAT LAW AND CROSS-BORDER ELECTRONIC SERVICES

In December 2016, the Legislative Yuan promulgated an amendment to the Value-added and Non-Value-added Business Tax Act, requiring foreign enterprises without a fixed place of businesses in Chinese Taipei to pay value-added tax (VAT) for selling electronic services to domestic individuals. The law came into force on May 1, 2017. The term "electronic services" was defined

in the Act as: “1) services downloaded via the Internet and saved to computers or mobile devices for further or future use; 2) services used online without being downloaded and saved into any device; and 3) other services supplied through the Internet or additional electronic tools.”³⁶ Therefore, the amendment will cover not only services like travel booking and ride-sharing, but digital goods as well as music, movies, books, mobile apps, and online games.

Under the previous regulations, consumers need only pay VAT for electronic services provided by foreign enterprises for services amounting to more than NTD3,000 (approximately USD100).³⁷ The new law repealed the low-value exemption and requires businesses whose annual sales revenue exceeds NTD480,000 (approximately USD16,000) to be registered online, self-declare its earnings from Chinese Taipei consumers for cross-border services, and pay VAT through a tax-filing agent. Penalty and fines for non-compliance is provided in the law.

The amendment was in response to OECD’s base erosion and profit shifting (BEPS) recommendations as well as a series of similar measures in economies such as Japan; Korea; New Zealand, South Africa and the EU.³⁸ Its intent was to equalize tax treatment and ensure a level playing field for both local and foreign e-commerce companies as well as providers of digital content, applications and other cross-border services.

Although the above regulation is applicable to services (not goods) and hence out of scope of this study, policymakers should take note where regulations with implications on e-commerce and digital trade may be heading.

³⁶ <https://assets.kpmg.com/content/dam/kpmg/tw/pdf/2017/04/tw-etax-alert-issue92-eng.pdf>

³⁷ <https://taxinsights.ey-vx.com/archive/archive-news/taiwan--vat-on-cross-border-supply-of-electronic-services-passed-by-legislative-yuan.aspx>

³⁸ <https://assets.kpmg.com/content/dam/kpmg/tw/pdf/2016/08/etax-alert-issue86-eng.pdf>

C. CHINA

China is now the largest e-commerce economy in the world. It has 731 million online users, of which 63.8 percent regularly purchase products, providing an annual online transactions of USD3.9 trillion³⁹. In contrast, the United States has 288 million online users, 69.4 percent of whom buy online but with a lower annual transactions of USD1.2 trillion.⁴⁰ The e-commerce industry triggered the development of related infrastructures like logistics and mobile payments, and has played a crucial role in promoting Chinese businesses, employment, and poverty alleviation. SMEs, which account for over 99 percent of the Chinese enterprises, are a major beneficiary of the e-commerce story which helped connect them with global businesses and consumers through online platforms.

This study gives an overview of China's e-commerce market which is intertwined with the flourishing of its major platform providers. It also discusses other stakeholders in the e-commerce ecosystem, particularly logistics companies and e-payment providers which support and facilitate e-commerce transactions. The report elaborates on how e-commerce and SMEs are interacting and the backing and assistance provided by major e-commerce giants in the industry. The last section examines the regulatory environment and recent policy changes in China.

1. E-COMMERCE MARKET IN CHINA

China's large user base is the fundamental reason for the flourishing of its e-commerce market. With economic development and urbanization, China has become an economy where internet has become easily accessible in major urban areas and, like other developed economies, is now digitalizing many aspects of people's life. By the end of 2016, the number of internet users in China reached 731 million, accounting for 53.2 percent of its population. Among internet users, 63.8 percent of them or 467 million are online shoppers, taking up 33.9 percent of the economy's population and showing a growth rate of 12.9 percent from 2015 (see Table 6). The figures compare favorably with those from developed economies like Japan and the United States. In Japan, there are 87 million online shoppers, accounting for 79.1 percent of all internet users and 68.5 percent of the total population, while in the United States, there are 200 million online buyers taking up 69.4 percent of all internet users and 62.7 percent of total population.⁴¹

Mobile shopping has become an alternative and prominent form of shopping for many Chinese as it provides great convenience. The number of Chinese mobile internet users grew to 695 million in 2016, and 63.4 percent, or 441 million of them use their phones for online shopping, with a 29.8

³⁹ Ministry of Commerce of China (MOFCOM) (2017).

⁴⁰ Malaysia Digital Economy Corporation and AT Kearney (2016). Forrester estimated that 2016 US B2B size was USD829 billion while the US census bureau estimated the 2016 online retail market size to be USD389.9 billion, thus our rough estimate of the total US e-commerce market of USD1,218.9 billion. Sources: <https://www.forrester.com/report/Forrester+Data+B2B+eCommerce+Forecast+2016+To+2021+US/-/E-RES136541> and https://www.census.gov/retail/mrts/www/data/pdf/ec_current.pdf.

⁴¹ Ibid.

percent growth rate from 2015. In contrast, there were 87.8 million mobile buyers in the United States in 2016, which accounted for 33.4 percent of the economy's mobile users.⁴²

Table 6. China E-commerce at a Glance

User Base		
	Number	Total population (in percent)
Internet users	731 million	53.2
Online shoppers	467 million	33.9 (63.8 of all internet users)
Mobile internet users	695 million	50.6
Mobile online shoppers	441 million	32.1 (63.4 of all mobile internet users)
E-commerce Market Size		
Domestic E-commerce	RMB26.1 trillion	
Cross-border E-commerce	RMB4.8 trillion	

Source: MOFCOM (2017).

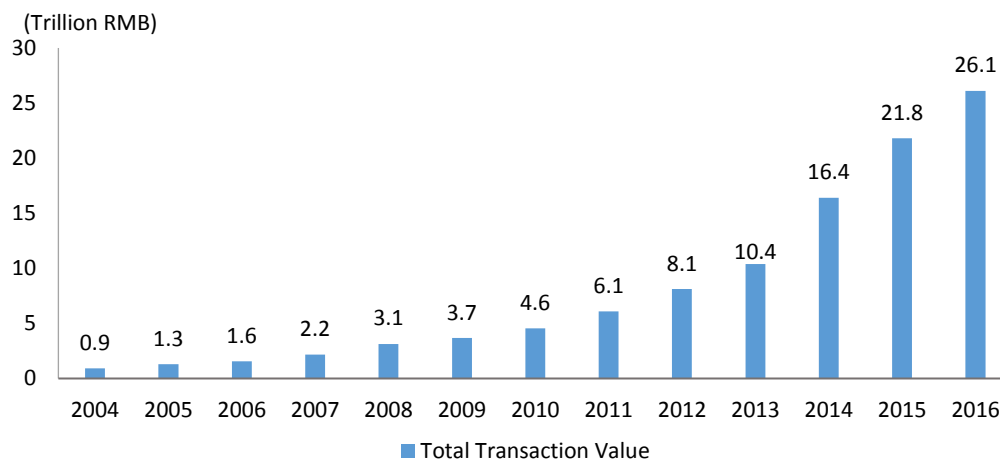
1.1 Domestic E-commerce

In 2016, the total transaction value of China's e-commerce market increased to RMB26.1 trillion (about USD3.9 trillion), showing a 19.8 percent growth rate from the previous year. It was roughly a third of China's nominal GDP.⁴³ Between 2012 and 2016, the annual compound growth rate of the e-commerce market was 34 percent (see Figure 9). Estimated by the National Engineering Laboratory for E-commerce Technologies and China Center for Internet Economy Research, the e-commerce market in 2016 had directly and indirectly created 370 million jobs across the economy.⁴⁴

⁴² Authors' calculation based on eMarketer. <https://www.emarketer.com/Article/Most-Digital-Buyers-Will-Make-Purchases-via-Smartphone-by-2017/1013590>
<https://www.emarketer.com/Article/US-Internet-Users-Rely-on-Mobile-Devices-Digital-Access/1013649>

⁴³ World Bank Database. <https://data.worldbank.org/>.

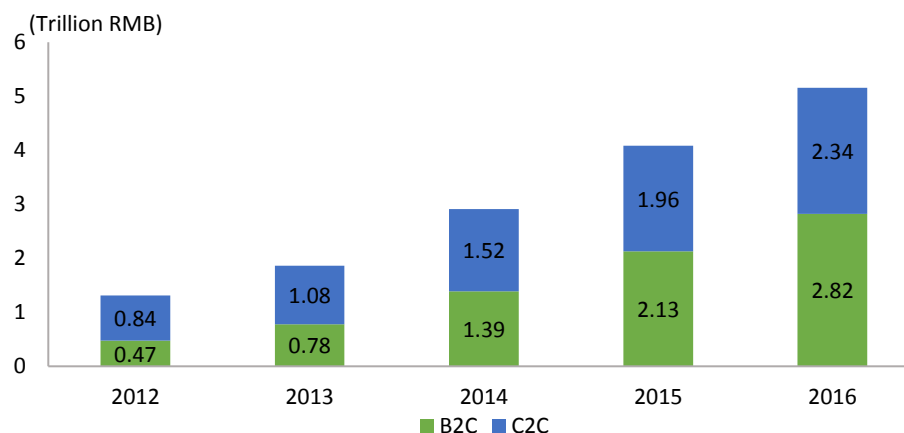
⁴⁴ MOFCOM, op.cit.

Figure 9. China's Domestic E-commerce Market, 2004-2016

Source: MOFCOM (2017).

Business to Business (B2B) remains the major mode for e-commerce. In 2016, B2B e-commerce reached around RMB20.9 trillion, showing a year-on-year growth rate of 18 percent and accounting for 80.1 percent of the e-commerce market. China, spurred by the rising middle class, is the global leader in the retail e-market and where online retail market (B2C and C2C) thrives. The transaction value of China's online retail soared to RMB5.16 trillion in 2016 (Figure 10), making up 39.2 percent of global e-commerce retail market. B2C contributed RMB2.82 trillion, while C2C constituted RMB2.34 trillion. Mobile shopping has become the major channel for online shopping, with its retail sales accounting for 70.7 percent of all online retail sales. The most popular goods sold online are apparel (20.6%), home furniture and product (16.3%), home electronic appliances (11.4%), phones and digital electronics (8.8%), food and drinks (7.9%), maternity and baby products (7.2%).⁴⁵

⁴⁵ Ibid.

Figure 10. China's Online Retail Market, 2012-2016

Source: MOFCOM (2017).

The trend of Online to Offline or vice versa, “O2O”, has developed into a new fashion and is endowed with a broader definition in China. Various O2O platforms have emerged, connecting physical stores and consumers through attracting and providing information for consumers online and thereupon providing products and services offline. For O2O in goods, setting up brick-and-mortar stores helps to build brand awareness and give more confidence to buyers who want to feel and touch the actual products before eventually purchasing them online. Most of the O2O businesses, however, are in services - hotel and transportation booking, travel booking, local services from food delivery, bicycle sharing, taxi ordering, in-home haircut and massage, helped by an enormous and dynamic user reviews and recommendations. In 2016, online food-delivery users, for example, reached 209 million, displaying an 83.7 percent growth from the previous year. Online users of hotel, flight, train and other travel booking reached 299 million. The transaction value of online travel booking amounted to RMB602.6 billion, with a year-on-year growth rate of 34.3 percent. Local services O2O market reached RMB327.1 billion, among which restaurant business reached RMB192.7 billion.⁴⁶

Rural areas remain a huge potential market for e-commerce, as rural residents are becoming both sellers and buyers. In 2016, there were 201 million rural internet users, making up 27.4 percent of the total rural residents. These users created an approximate 8 million online shops, accounting for one quarter of total online shops. Agriculture products sold through online channel rose to RMB158.9 billion in 2016, with an average growth rate of more than 50 percent. The retail sales in rural China in 2016 reached RMB894.5 billion, contributing 17.4 percent to the national total. The most popular goods sold in the areas are apparel, shoes, bags, home furniture and products.

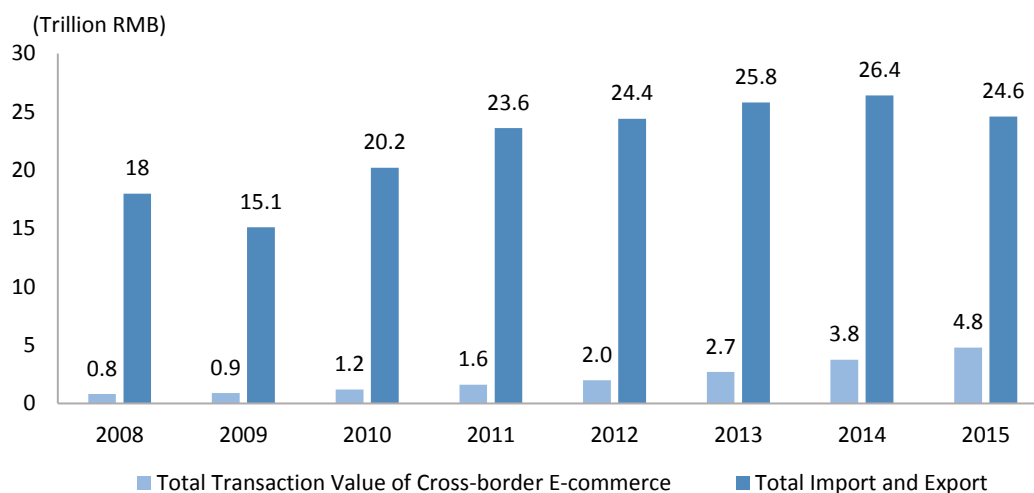
⁴⁶ Ibid. The O2O market is considered part of online retail market, and the values discussed in the paragraph are included in the total transaction value of online retail market. However, regulatory challenges in online e-commerce on services is outside the scope of this study's terms of reference. The size and dynamic growth of the O2O market is, however, useful to mention here, even if only as information to motivate possible future projects in APEC.

However, comparing to the 72.6 percent internet penetration rate in the urban areas, huge untapped potential is yet to be fully realized in the rural areas.⁴⁷

1.2 Cross-border E-commerce

Cross-border e-commerce is also flourishing. China has e-commerce cross-border business with over 200 economies globally. The cross-border e-commerce transactions reached RMB4.8 trillion in 2015, accounting for 19.5 percent of all import and export (Figure 11) (AliResearch and Alibaba's Cross-border Research Center, 2016). Export remains a major part of cross-border business. In 2015, e-commerce export took up RMB4 trillion or 83.1 percent of all cross-border e-commerce transactions, while e-commerce import amounted to only RMB0.8 trillion, taking 3.3 percent of the economy's total import and export value. B2B is a major form of cross-border e-commerce. In 2015, B2B accounted for 84.3 percent of all cross-border e-commerce transactions, while B2C, or retail, only accounted for 15.7 percent. In 2016, the top 10 cross-border B2B e-commerce export partners of China were the United States, Russia, Brazil, Spain, U.K., Canada, France, Israel, Belarus, and Chile (MOFCOM, 2017).

Figure 11. China's Cross-border E-commerce and Total Import and Export, 2008-2015



Source: AliResearch and Alibaba's Cross-border Research Center (2016)

Though retail e-commerce comprises a relatively small portion of total cross-border e-commerce, it exhibits strong growth. In 2015, retail e-commerce export reached RMB503.2 billion with a 60 percent growth from 2014, while import increased by 92 percent to RMB248 billion. The most popular export e-commerce goods were 3C (computer, communication, consumer electronics), outdoor sports products, lighting products, wedding dresses, and toys, while the most popular import e-commerce goods were maternal and baby products, cosmetics, food, health care products, apparel, and daily commodities. The top 5 economies with the largest sale in 2016 on Tmall

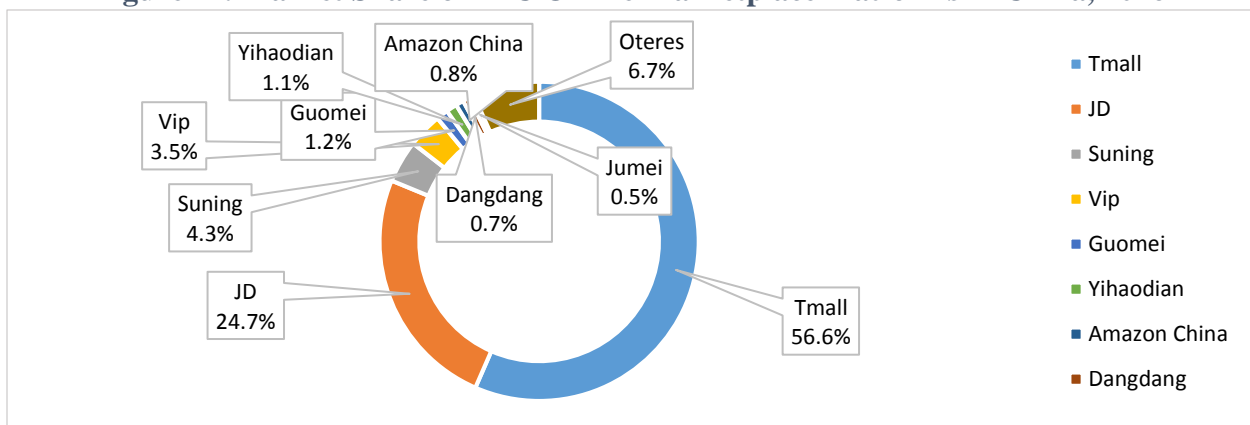
Global, one of the largest cross-border e-commerce platforms in China, were Japan (19.3%), the United States (18.3%), Korea (13.6%), Germany (8.0%), and Australia (7.9%) (CBNData and Tmall Global, 2017).

The expanding middle class offers an explanation of the rapidly growing e-commerce market, especially cross-border import, in the economy. Besides fuelling demand, the middle class, as well as the new millennials, are shaping the market trends. Unlike traditional consumers, they are enthusiastic about brands, better informed, efficient on gathering information, willing to spend money, and pay greater attention to quality. They desire authentic, quality foreign products when domestic products fail to meet their needs. The phenomenon of “Daigou”, a mandarin word for “buying on behalf of”, describing the situation whereby an overseas shopper or agent purchases products such as baby formula, cosmetics, perfumes for their Chinese clients, resulted from Chinese growing taste for foreign goods. “Daigou” became a popular part-time job for many Chinese students studying overseas in economies such as in Australia, Europe, and the United States. They would create their businesses first with family members and friends, then gradually expand through social media. This “Daigou” phenomenon shows the huge demand in the Chinese market for reliable, authentic, high-quality foreign products ranging from daily commodities to luxuries.

2. MAJOR E-COMMERCE PLATFORM PLAYERS

E-commerce market in China is dominated by a few major players. Taobao (owned by Alibaba) is a monopolist in the C2C market, after its main competitor, eBay, exited China’s market a decade ago, and JD.com shut down paipai.com, an online auction website. China’s B2C market is growing and has surpassed the C2C market in terms of transaction value; it also has a few dynamic players. As shown in Figure 12, Tmall by Alibaba takes more than half of the market, followed by JD.com which holds a quarter of the market. Suning, Vip, Guomei, and Yihaodian are smaller players in the B2C market, and are niche e-commerce websites providing selected categories of products such as electronics and fashion.

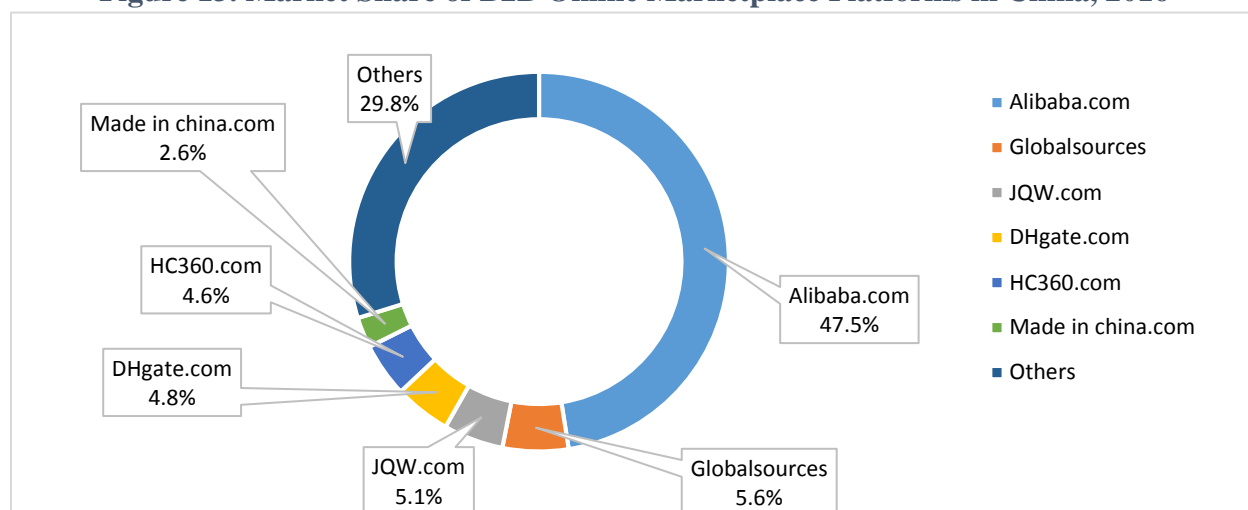
Figure 12. Market Share of B2C Online Marketplace Platforms in China, 2016



Source: MOFCOM (2017).

The B2B market is as concentrated as the B2C market, with also a few players (Figure 13). Among all the platforms for small and medium enterprises, Alibaba.com takes 47.5 percent of the market, followed by JQW.com, Globalsources, DHgate, and HC360, each with around 5 percent share of the market. Because of the major platforms' importance in China's e-commerce space, this section will discuss Alibaba and JD.com in greater detail, along with a fast-growing B2B player, DHgate.

Figure 13. Market Share of B2B Online Marketplace Platforms in China, 2016



Source: MOFCOM (2017).



Founded in 1999, Alibaba has evolved into a giant holding company that is known both domestically and internationally. It is no longer just an e-commerce company, but has entered into other businesses that support an entire e-commerce ecosystem as well as other unrelated industries. This includes the payment system – Alipay; financial services - Ant Financial; logistic data platform – Cainiao; marketing technology platform – Alimama; and cloud-computing and data management services - Alibaba Cloud. Alibaba has also established different online marketplace platforms, shown in Figure 14 below. These platforms have connected over 10 million annual active sellers and 439 million annual active buyers at the end of 2016.⁴⁸ Each caters to different markets where each owns a big market share.

⁴⁸ Based on interview with Alibaba experts.

Figure 14. E-commerce Platforms Owned by Alibaba



Source: Authors.

Launched in 1999, Alibaba.com and 1688.com are both B2B platforms. While 1688.com offers mainly wholesale trade for domestic businesses, Alibaba.com is a global B2B platform that has business ties with over 190 economies and 160 million buyers globally. Alibaba.com has more than 2 million online shops covering 40 industries. By July 2016, the top economies with the most buyers on Alibaba.com were Russia (26 million), the United States (25 million), Brazil (12 million), India (5.7 million), Canada (4.8 million), and the U.K. (4.4 million) (AliResearch and Alibaba's Cross-border Research Center, 2016). Alibaba.com charges membership fees and transactions take place offline. It does, however, provide escrow services that facilitate trust between foreign buyers and domestic sellers.⁴⁹

Taobao.com, established in 2003, is the largest C2C e-commerce platform in China. It provides a platform for small businesses and individuals to set-up online shops that primarily target domestic consumers. Tmall, launched late in 2008, is a B2C platform catering to consumers who desire high-end products and excellent sale services. In order to meet the Chinese demands for overseas products, Tmall Global was established in 2013, selling only imported goods. By the end of 2016, 14,500 new overseas brands from 63 economies were being sold on Tmall Global. The number of product categories on the site climbed by nearly 50 percent in 2016 to 3,700. For more than 80 percent of overseas brands, their venture into Tmall Global was their first break into the Chinese market (CBNData and Tmall Global, 2017). Juhuasuan.com, established in 2010, is a flash sale platform where merchants in Taobao and Tmall can conduct promotional events or provide special discounts to attract and gain more consumers and expand brand awareness.

Unlike Taobao or Tmall which target mainly domestic consumers, AliExpress, started in 2010, provides a platform for global buyers to purchase Chinese products directly. Russia, the United States, Spain, Brazil and France are all major buyers in AliExpress.

⁴⁹ Through escrow service, Alibaba keeps the payment from buyers and releases them to sellers only when products have been shipped or when buyers have received them.



JD.com, created in 1998, is another prominent company in China's e-commerce market. It is an online retail business and differentiates itself from Alibaba.com by operating an integrated system – it uses its own logistics network, unlike Alibaba which allows third party logistics service providers in its platform. JD manages 7 fulfillment centers and 256 warehouses as of end-2016, and operates 6,906 delivery stations, with its pick-up stations in 2,655 counties and districts across China.⁵⁰ Aside from its logistics, the company is forming other e-commerce infrastructure including JD finance and an array of other e-commerce platforms.

JD direct sales and marketplace are the two varied B2C modes on the JD e-commerce platform.⁵¹ On one hand, JD.com's direct sales business model makes JD the distributor of products sourced directly from various brands and suppliers and sold to customers through the company's website and logistics channels. It is open to established and reputable brands and merchants with operations in China. On the other hand, JD.com's marketplace platform which was created later, enables well-established, reliable third-party sellers to sell products directly to customers through the JD.com website and mobile channels. Approved sellers may also use JD.com's fulfillment infrastructure, marketing and customer targeting services, financing, and other value added services. By the end of 2016, there were over 120,000 merchants on JD's marketplace.

JD Worldwide and Joybuy.com are JD.com's cross-border e-commerce platforms. Similar to Tmall Global, JD Worldwide allows its Chinese customers to acquire imported products from international companies. Since its opening in April 2015, the site has attracted over 2,500 foreign brands from over 40 economies. Large companies such as Walmart, eBay, Rakuten, and Sam's Club collaborated with JD Worldwide and have since opened online stores on their platform. Joybuy.com, in contrast, allows overseas buyers to buy Chinese products and competes with AliExpress.



DHgate, founded in 2004, is one of the major B2B platforms in China that helps small and medium enterprises sell globally. It connects approximately 1.4 million sellers predominantly from China and 10 million enterprise and individual buyers from over 230 economies and regions with 40 million products listed.⁵² Aimed to provide a one-stop shopping experience, its business solutions encompass a third-party payment system – DHpay; a logistic service platform - DHlink; and a financing arm - DHfinet, which provides short-term loans to SMEs on DHgate. It partners with

⁵⁰ JD.COM. "About JD.COM". <http://ir.jd.com/phoenix.zhtml?c=253315&p=irol-homeprofile>.

⁵¹ JD marketplace is considered in other jurisdictions as B2B2C model.

⁵² Based on interview with DHgate experts.

major international logistic providers and has warehouses in the United States, Europe, and the Middle East.

In 2015, DHgate introduced a new M2B (Manufacture to Business) e-commerce website, DHport, which connects global business buyers directly to verified Chinese manufacturers. DHport sends inspectors to each manufacturer to conduct quality checks and provides a guarantee of product quality. It also helps handle customs and inspections requirements for foreign buyers.

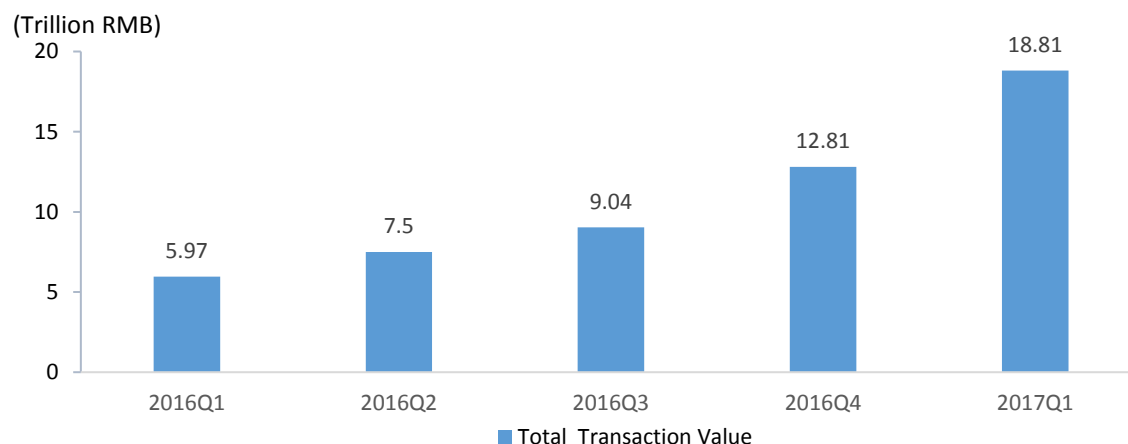
3. OTHER STAKEHOLDERS IN THE E-COMMERCE ECOSYSTEM

As China's e-commerce market continues to thrive, the e-commerce ecosystem is likewise growing fast. The e-payment and logistics industries have witnessed the rise of some market moguls in a short period of time. Although there has been fierce competition, both these markets are currently concentrated with few major players.

3.1 E-payment

E-payment has become an indispensable part of life of the Chinese people. In 2016, the number of users who use online payment reached 475 million, an increase of 58.31 million from 2015 with a year-on-year growth rate of 14 percent. The ratio of online payment users to total internet users increased from 60.5 percent to 64.9 percent. In 2016, total transaction value of third-party online payment reached RMB19.2 trillion with a growth rate of 62 percent (MOFCOM, 2017).

Mobile payment is the preferred mode of payment as a large number of transactions are done through mobile devices. Mobile payment users expanded quickly (31.2 percent growth from 2015), reaching RMB469 million, accounting for 67.5 percent of mobile internet users (compared to 57.7 percent in 2015) (MOFCOM, 2017). The total transaction value of mobile payments increased from RMB5.97 trillion for the first quarter in 2016 to RMB18.81 trillion for the first quarter in 2017 (Figure 15).

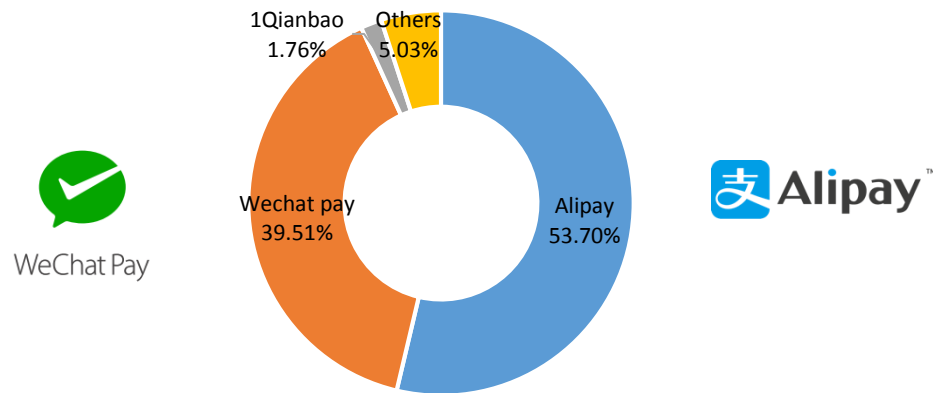
Figure 15. China's Mobile Payment Market

Source: *Analysys (2017)*.

Alipay and WeChat Pay are the two leading players in the mobile payment market. In the first quarter of 2017, Alipay, established in 2004 and owned by Alibaba's financing affiliate Ant Financial, took 53.7 percent of the market share (Figure 16). WeChat Pay, launched in 2013 by Tencent Company, is the mobile wallet inside Chinese social messaging app WeChat, and holds 39.51 percent share of the market (Analysys, 2017). Alipay, developed based on its influential e-commerce platforms like Taobao and Tmall, has remained the largest mobile payment provider in China. WeChat Pay, which had a much later start in the payment industry nevertheless quickly caught up with the market leader. It was developed based on Tencent's social network app WeChat which, with a monthly active user of 938 million globally as of first quarter 2017, has almost doubled the number of users of Alibaba's e-commerce platforms.

Both Alipay and WeChat Pay have started expanding their services outside of China, and their competition is no less fierce as they expand globally. The two companies pursue similar growth strategies such as collaborating with global partners to provide payment solutions for the increasingly large number of Chinese tourists going overseas. For example, Alipay signed a deal with payment processor First Data which provides its users access to 4 million merchants in the United States. In Europe, Alipay is working with Ingenico, an electronic payments platform that serves thousands of businesses, including Carrefour and Estee Lauder. By the end of the first quarter of 2017, Alipay reported a network of close to 110,000 brick-and-mortar retailers across 20 economies. Likewise, WeChat Pay has begun establishing its partnerships with mobile payment platforms, banks, and data providers all over the world, including in the United States, Japan, and South Korea, to enable Chinese tourists to transact using WeChat digital wallet abroad. In Thailand, one of the most popular travel destinations for Chinese tourists, WeChat Pay's number of transactions grew by 600 percent year-on-year in the first quarter of 2017.⁵³

⁵³ *TechinAsia*. "Chinese tourists are bringing their wallets – and China's tech giants – overseas". (May 2017). <https://www.techinasia.com/chinese-tourists-wechat-alipay-global-expansion>

Figure 16. China's Mobile Payment Market Share, by Transaction Value, Q1, 2017

Source: Analysys (2017).

3.2 Logistics

In the logistics market in 2016, 31.35 billion parcels were delivered in the economy, showing a 51.7 percent year-on-year growth while its generated revenue of RMB397.44 billion has resulted in a 44.6 percent year-on-year growth. Of this, postage revenue generated by local delivery (same-city) was RMB56.31 billion with a year-on-year growth rate of 40.5 percent whereas long-distance (different city) delivery generated RMB209.93 billion with a year-on-year growth of 38.8 percent. International services (including Hong Kong, China; Macau; and Chinese Taipei) generated RMB42.9 billion and a year-on-year growth rate of 16.1 percent. Other revenues, including insurance fee, overdue storage charge and remote area surcharge, amounted to RMB88.3 billion (Ministry of Transport of China, 2017).

Major players in the market are Express Mail Service (EMS), S.F. Express, YTO Express, ZTO Express, Yunda Express, STO Express; the latter five are domestic companies which have grown rapidly riding on the momentum of e-commerce growth. All went public in 2016 with a total market value that exceeds RMB300 billion (MOFCOM, 2017).

S.F. Express, the giant logistics company in China established in 1993, now has a market value of over RMB200 billion, and owns a fleet of 38 all-cargo aircrafts featuring B767, B757 and B737.⁵⁴ S.F. Express has set up 13,000 service centers as of November 2016, covering 31 provinces and regions as well as more than 300 large and medium-sized cities and over 1,900 county-level cities or districts in China. S.F. Express is now expanding its international service coverage, and has delivery services to 56 economies.⁵⁵

⁵⁴ S.F. Airlines. http://www.sf-airlines.com/sfa/en/article_245.html

⁵⁵ S.F. Express. <http://www.sf-express.com/sg/en/others/about/expanding/>

4. SMES AND E-COMMERCE

SMEs have been the backbone of China's decades' long economic growth and employment creation. In China, SMEs are defined by total employment and total asset and turnover, based on their industry (see Appendix B). Yet, official statistics on the number of SMEs are unavailable. One estimate provided by the Ministry of Industry and Technology approximates the number of SMEs in China at over 70 million.⁵⁶ These SMEs make up 99 percent of all enterprises, contribute 60 percent to national GDP, 80 percent of urban employment as well as 50 percent of tax revenue. Moreover, SMEs are the engine of innovation creation with more than 65 percent of innovation patents originating from SMEs.⁵⁷

E-commerce, since its conception, has relied on and contributed greatly to the development of SMEs. E-commerce provides a new tool for SMEs to connect to a broader market, and its derivative industries such as logistics and digital payment industries have resulted in greater convenience when conducting business. However, the flourishing of e-commerce could not have happened without SMEs. Small and medium enterprises are sellers and buyers on e-commerce platforms, and most often, are also service providers for the platforms' operation. Therefore, this interdependent relationship between e-commerce platforms and SMEs is a motivation for online platforms to help both domestic and international SMEs to get connected globally, as well as to provide them with all kinds of support, from training courses on online selling or marketing to even financial assistance to help them expand.

This section highlights some of the initiatives that major market players in China, such as Alibaba, JD.com and DHgate, are engaged with in order to bring more SMEs on board the e-commerce high-speed train. On the global front, China's fast development of e-commerce has provided promising opportunities for SMEs in other economies, and resulted in an increasing number of international companies and economies eager and ready to access the Chinese market and connect with Chinese consumers and sellers. Often, they rely on China's domestic platforms for their first foray into the Chinese market, as those platforms have a large user base and mature platform services. For the domestic market, both Alibaba and JD.com have started their competition in rural areas, an untapped market with great potential, by providing hands-on training programs as well as technical and financial support to small rural SMEs.

4.1 Alibaba: Sesame Credit and Taobao Village

Ant Financial, created in 2014 and originated from Alipay, is the financial arm of Alibaba. In 2015, Ant Financial launched its social credit score system, Sesame Credit, which generates credit scores

⁵⁶ *Sohu News*. "The number of Chinese SMEs is 70million, below US level in per capita terms". (July 2015). <http://business.sohu.com/20150713/n416677759.shtml>.

⁵⁷ *Tencent Finance*. "SMEs account for more than 99% of all enterprises in the country". (September 2010) <http://finance.qq.com/a/20100926/002348.htm>.

for individuals and small and micro enterprises on its platforms using cloud computing, data analytics and machine learning. The credit system makes up for the gap in the private credit information system in China and thus has been widely used since its formation. With Sesame Credit, Ant Financial created a “310” credit model: 3 minutes to apply for credit, 1 second to approve, and 0 people involved in the decision. This provides convenience for SMEs when applying for loans as they are only required to fill out online applications, and thereafter, the system decides in a matter of seconds whether the loan is granted or not. As of June 2017, Ant Financial has provided wealth management to 340 million users and served 6.7 million SMEs with RMB1,074 billion in loans disbursed.⁵⁸

For rural development, Alibaba has set up over 29,000 rural village service centers and 610 rural county service centers, and plans to build a total of 100,000 villages – Taobao villages – and 1,000 county service centers by 2019. The key purpose of these service centers is to spread the basic e-commerce knowledge and technologies, and to assist rural villagers or small companies with purchasing products online and selling them online by helping to set up and manage the online shops. This will increase the capacity of Alibaba’s rural online sellers and buyers to participate in e-commerce.

Alibaba establishes conditions before it steps in to support a Taobao village. This includes: 1) the village should have reached an annual e-commerce turnover of at least 10 million yuan; and 2) over 10 percent of village households are actively engaged in e-commerce, or over 100 online shops have been opened by villagers on Taobao.com. By the end of August 2016, Alibaba has over 1,300 Taobao villages (AliResearch, 2016).

Alibaba’s e-commerce platforms also provide great business opportunities for overseas SMEs by establishing online product pavilions for specific economies. For example, from January to October 2016, Thai products sold through the Thailand pavilion on Tmall Global amounted to more than RMB100 million (USD15 million). In 2015’s 11/11 shopping festival, Tmall Global collaborated with Canada’s Cold Water Lobster Association and sold more than 50,000 lobsters in a day (AliResearch, 2016). Thus far, Tmall Global has launched 17 economy and region ‘pavilions’ on its website, each pavilion highlighting products from different economy or region including the United States, Japan, Korea, U.K., and New Zealand, providing the increasingly affluent Chinese consumers a wider array of choices.

4.2 JD.com

JD.com’s finance arm, JD Finance, offers a range of financial services and products to consumers, startups, SMEs and other businesses. Its financial product ‘Jing Xiao Dai’ provides various short-term, low interest loans for its consumers in an aim to reduce their cash-flow pressures, and ‘Jing

⁵⁸ Based on interviews with Alibaba experts.

Bao Bei”, JD’s another core financial product, offers supply-chain finance solutions. In the last three years, JD Finance, has lent over RMB250 billion to more than 100,000 small businesses.⁵⁹

In terms of rural development, JD.com has also set up service centers in 1,700 counties, covering 440,000 rural villages, providing technical support as well as business guidance (MOFCOM, 2017). In 2016, JD.com and the State Council Leading Group Office of Poverty Alleviation and Development signed a partnership that applies the government's "Internet Plus" strategy to poverty alleviation in China’s rural areas by using e-commerce to boost income, generate jobs and encourage people to set up their own ventures. By the end of 2016, JD.com cooperated with 5,000 small companies in 832 national-level poor counties, and brought 2 million agricultural products with local characteristics onto their e-commerce platforms.⁶⁰

4.3 DHgate and APEC Cross-Border E-commerce Training (CBET)

DHgate has set up a financial portal, DHfinet, to offer financial solutions to listed companies in its platform and help them develop and advance their business. DHfinet supplies micro-loans to its SME users by utilizing their big data to assess risks, with no collateral or guarantees required. It also launched a program called “Hui Kuan Bao” to help DHfinet users reduce their capital turnover. Under this program, users will receive 80 percent of the amount requested from “Hui Kuan Bao”, at the earliest on the same day after the goods have been shipped. This helps solve the cash flow problems of many SME suppliers who usually need to wait for payment. The program also allows users to apply or repay all loans online through an automated process, thereby promoting efficiency and simplicity of the loan process.

On the global scale, DHgate actively supports APEC CBET e-learning platform, a collaborative project between the APEC Business Advisory Council (ABAC) and Wenzhou-Kean University, which is designed for SMEs and individuals to “obtain the most professional, practical, and localized cross-border e-commerce knowledge, skills, and entrepreneurial guidance”.⁶¹ Since 2013, the CBET program has brought in over 3,000 SMEs to the ecosystem of cross-border e-commerce and taught them how to migrate their traditional trading business to the online portal.

5. REGULATORY LANDSCAPE

With the growth of e-commerce, the government has recognized the importance of a comprehensive regulatory system. Over the last few years, China has implemented a series of new

⁵⁹ *Straits Times*. “Fintech helps Chinese SMEs get loans”. (March 2017). <http://www.straitstimes.com/asia/east-asia/fintech-helps-chinese-smes-get-loans>.

⁶⁰ The State Council Leading Group Office of Poverty Alleviation and Development. (2017). http://www.cpad.gov.cn/art/2017/1/12/art_22_58401.html

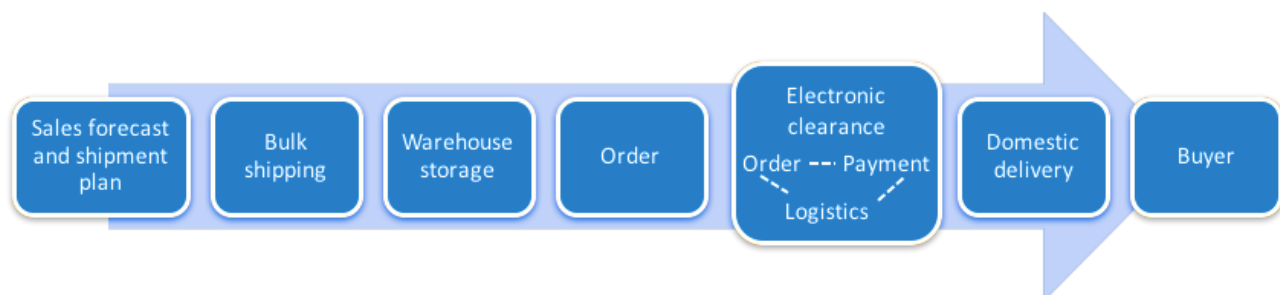
⁶¹ *PR Newswire*. “APEC Cross-border E-commerce Training Platform Launched by DHgate.com CEO”. (November 2016). <http://www.prnewswire.com/news-releases/apec-cross-border-e-commerce-training-platform-launched-by-dhgatecom-ceo-300365822.html>.

regulations and policy innovations concerning every link of the e-commerce chain. Moreover, the first e-commerce law is now under review and will soon be implemented once it is approved.

5.1 Bonded Warehouse for E-commerce

Bonded warehouse model is not a novel idea, but has been successfully and widely adopted in China's cross-border e-commerce business. Under the bonded warehouse model, businesses outside China can ship their products in bulk via sea or air and store their products in a bonded warehouse supervised by the Chinese customs. Duty and tax payments of the products are deferred until an order has been made with a cross-border e-commerce platform linked to the customs network. The e-commerce platforms will then send the particulars of the order including payment and logistics to the customs for clearance and release of the products. After the information has been checked and confirmed, products will be sent directly to Chinese consumers through domestic logistics providers. By the end of May 2017, China has established 12 bonded areas, 13 bonded port areas, 56 comprehensive bonded areas, with different functions and tax policies.⁶² Located inside the comprehensive areas are hundreds of bonded warehouses that are supervised by the customs agencies.

Figure 17. Bonded Import for Cross-border E-commerce



Source: Authors based on report by AliResearch.

Unlike traditional direct shipping model, the bonded warehouse model has many advantages. It helps to streamline customs process greatly thus reducing the delivery time of those imported products. It increases the profit margin of sellers as products can be shipped in bulk instead of one parcel at a time. This model also provides great convenience for product returns as these may be brought back to the bonded warehouses located in the territory instead of having to be physically shipped out.

⁶² General Administration of Customs, PRC. "Import and Export Value in Specific Areas in May 2017." (June 2017). <http://www.customs.gov.cn/publish/portal0/tab49667/info855019.htm>.

Bonded areas are established under customs supervision, and has three major functions: bonded warehousing, export processing, entrepot trade. Bonded port areas are special areas under customs supervision, functioning as port, logistics and processing areas set up in the state open areas and specific areas linked with the port areas. Comprehensive bonded areas are inland areas, functioning as bonded port areas. Both bonded port areas and comprehensive bonded areas enjoy the highest level of liberalization and most favorable tax policies.

5.2 Cross-border E-commerce Tax and the “Positive List”

China has implemented new tax policies on cross-border e-commerce ending the tax-free status of cross-border e-commerce goods. From April 8, 2016, consumers purchasing goods imported under both the direct shipping model and the bonded warehouse model need to pay the applicable import taxes including tariffs, value-added tax (VAT), and consumer tax based on the “*Circular on Tax Policies for Retail Import in Cross-Border E-Commerce*” issued by the Chinese authorities. Previously, imported goods that were sold online via cross border e-commerce sites were treated as personal postal articles and were subjected to different levels of parcel tax (10 percent, 20 percent, 30 percent, and 50 percent), and tax under RMB50 was exempted.

Under the new tax policy, the parcel tax scheme no longer applies to imported cross-border e-commerce retail goods which are now subjected to import tariff as well as VAT and consumption tax. Meanwhile, the new policies place a limit of RMB2,000 per transaction and RMB20,000 for yearly transactions for each person. Transactions within the limit enjoy a temporary zero percent tariff rate, and are charged favorably at 70 percent of the tax value of the VAT and consumption tax. For transactions exceeding the aforementioned limit, tax is levied in full as a general trade. The parcel tax now applies to personal postal articles with value not exceeding RMB1,000, while products with value above RMB1,000 will be taxed as normal trade. The parcel tax also applies to goods brought back into the economy for personal use by Chinese residents with a value exceeding RMB5,000, and for non-residents’ personal use goods with value exceeding RMB2,000; goods amounting to less than these amounts are tax exempted. The parcel tax brackets have been reduced (15 percent, 30 percent, and 60 percent) based on different categories, and tax is waived if the tax value is less than RMB50.

Table 7. New Parcel Tax Policy for Cross-border E-commerce

Before the Regulation		After the Regulation	
Parcel Tax <ul style="list-style-type: none"> • Applied to: Cross-border e-commerce, personal postal articles, and personal goods brought back to China • If tax value < RMB50 (around USD7), then waived 		Parcel Tax <ul style="list-style-type: none"> • Applied to: Personal postal articles, personal goods brought back to China • If tax value < RMB 50 (around USD7), then waived. 	
Categories	Tax rate	Categories	Tax rate
Books, newspapers and magazines, computers, digital and video cameras, gold and silver, furniture	10%	Books and newspapers, publications, audio and video materials for educational use; computers, video cameras, digital cameras and other IT products; food and beverages; gold and silver; furniture; toys, gaming products, and festive and other recreational products	15%
Textiles, television recorders and other such devices, watches and clocks	20%	Sporting goods (excluding golf balls and clubs), fishing tools; textiles and their manufactured goods; TV cameras and other electrical appliances; bicycles; and other items not included in Categories 15% and 60%	30%
Golf equipment, luxury watches (over RMB 10,000)	30%	Alcohol and tobacco; valuable accessories, jewelry and gemstones; golf balls and clubs; luxury watches; cosmetics	60%
Tobacco, alcohol and cosmetics	40%		
		E-commerce Tax Applied to: Cross-border E-commerce Tariff rate (currently 0) + (VAT and consumption tax)*0.7: for orders below RMB2,000 and total transactions by the individual for the year is less than RMB20,000. Else, tax is levied in full as in normal trade <ul style="list-style-type: none"> • Previous exemption of RMB50 tax value NOT applicable 	

Source: KPMG, 2016; General Administration of Customs of China.

Together with the new tax policy, the Chinese government has issued two positive lists, involving a total of 1,293 commodity categories that can be imported to China through cross-border e-commerce. Furthermore, import permits, registration or filing will be required for many products such as first-time imported cosmetics, baby formula, medical equipment and special food products (including health food products and food for special medical purposes) which were previously exempted from supervision.

In order to ensure a smooth transition of new policies, the Chinese government announced postponement of effective date of certain requirements (e.g. the special licensing and filing requirement for first-time imported products) in the “positive list” until the end of 2017 in 10 e-commerce pilot cities (Shanghai, Chongqing, Hangzhou, Ningbo, Zhengzhou, Guangzhou, Shenzhen, Tianjin, Fuzhou and Pingtan) to allow businesses, e-commerce platforms, as well as related government agencies time to adjust to the new policies. Further regulations are expected to be issued before the policies take effect from January 1, 2018.

5.3 Cross-border E-commerce Comprehensive Pilot Zones

In March 2015, China established its first cross-border e-commerce comprehensive pilot zone in Hangzhou to encourage cross-border e-commerce innovations in policy, management, and service. Then in 2016, China established another 12 pilot zones in Tianjin, Shanghai, Chongqing, Hefei, Zhengzhou, Guangzhou, Chengdu, Dalian, Ningbo, Qingdao, Shenzhen and Suzhou, as shown in Figure 18. Provincial governments where the zones are located are assigned responsibilities to conduct pilot programs such as technical standards, business processes, regulatory mode, information construction and other aspects for cross-border e-commerce, resulting in experiences which can be mirrored and reproduced in other parts of China.

Figure 18. Cross-border E-commerce Pilot Zones in China

Note: 1. Shanghai 2. Hangzhou 3. Ningbo 4. Zhengzhou 5. Chongqing 6. Guangzhou 7. Shenzhen 8. Tianjin 9. Hefei 10. Chengdu 11. Dalian 12. Qingdao 13. Suzhou

Source: *Consulate-General of the Kingdom of the Netherlands in Shanghai, 2017.*

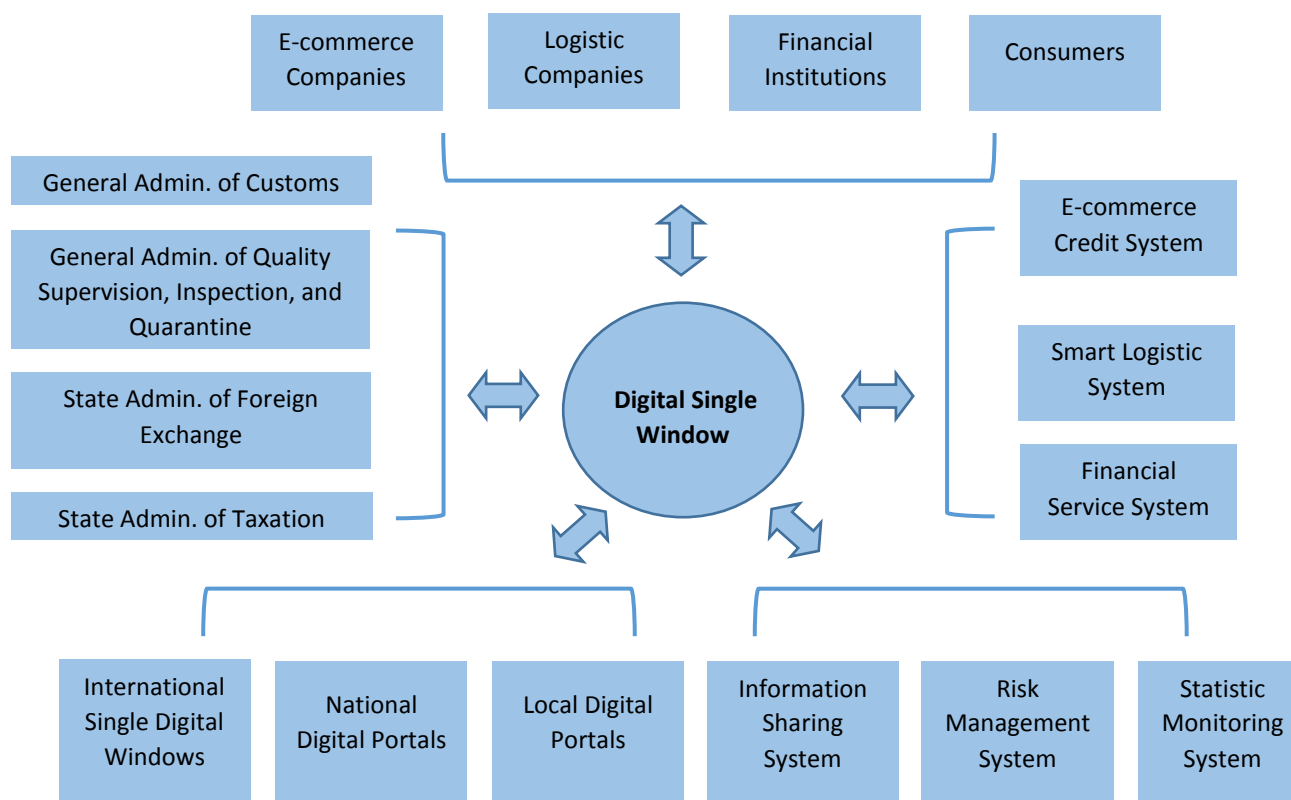
Since their establishment, the e-commerce pilot zones have started to build their own growth strategies based on their respective advantages. The Hangzhou pilot zone, for example, has been exploring the “six systems and two platforms” scheme which encompasses systems for e-commerce credit, smart logistics, financial service, statistic monitoring, risk management, and information sharing, together with the platforms for online single window and offline comprehensive service (see Figure 19). The innovative scheme attempts to connect all stakeholders of cross-border e-commerce and construct an integrated industry chain and eco-system.⁶³

Besides system innovations, the Hangzhou pilot zone is also actively partnering with industry giants as well as other economies to explore better development opportunities. In May 2016, the Hangzhou Cross-border E-commerce Comprehensive Pilot Area signed an MOU with Malaysia Digital Economy Corporation (MDEC), Malaysia's digital economy development agency, and Alibaba Group, to connect the Hangzhou pilot zone with Malaysia's Digital Free Trade Zone (DFTZ). Under the MOU, the three parties will facilitate cooperation between public and private initiatives in Hangzhou and Malaysia to enable easier access to customs clearance, inspection and permit issuance for SMEs conducting cross-border trade, by utilizing Alibaba's internet and data

⁶³ Hangzhou Cross-border E-commerce Comprehensive Pilot Zone. <http://www.china-hzgec.gov.cn/areaintroduction/summary.shtml>

technologies. Additionally, in June 2017, the Hangzhou Cross-border E-commerce Comprehensive Pilot Area signed another MOU with Google to start cooperation in several aspects, for instance digital marketing, brand promotion, cross-border e-commerce talent training, and project incubation. According to the MOU, the Hangzhou pilot zone and Google will make use of Google AdWords to help local businesses expand abroad and construct their own brands. Likewise, the two parties will partner with colleges, industrial associations, and platform operators to provide training on cross-border e-commerce, digital marketing, website building, and data analysis.

Figure 19. The Digital Single Window Model in Hangzhou Pilot Zone



Source: Hangzhou Cross-border E-commerce Comprehensive Pilot Area.

5.4 The First E-commerce Law on the Way

In December 2016, China published its draft on e-commerce law to solicit public opinions. The draft law gives clear definitions on the various legal entities of e-commerce activities, and sets out the requirements and responsibilities borne by different parties. Specifically, it includes the necessary requisites regarding electronic agreements (e.g. presumed capacity, formation of contracts, automatic transaction information systems, and electronic errors), electronic transactions (e.g. rights and obligations of payment institutions, payers, and payees, pay confirmation, wrongful payments, unauthorized payments, and excess reserves) and express

delivery services (e.g. delivery service alliances, service standards, responsibilities and liabilities, and delivery time). Regarding the safeguarding of customer interests, the draft highlights the significance of personal data protection, and stipulates the requirements when using data produced in e-commerce projects.⁶⁴ Likewise, it sets out conditions about the validity and reliability of data, quality control of goods and services, use of standard agreements, and security deposits for consumer protection. The draft provides provisions on IP protection and procedures when handling IP infringement complaints. The outline also details the restricted activities that constitute biased and discriminatory competition or manipulation of credit assessment. The draft law has passed the period of public comments, and is now under review by the legislators.⁶⁵ It is envisioned to enable a healthy and comprehensive regulatory environment for e-commerce and provide a clear and coherent legal basis and reference for numerous business activities and operation of the market, which has been, heretofore, missing or ambiguous.

⁶⁴ For example, the draft stipulates that the data shared and exchanged between e-commerce businesses shall be processed data which do not identify specific individuals or terminals. Businesses shall establish and improve internal control system to ensure data security.

⁶⁵ Draft E-commerce Law of the People's Republic of China.
http://www.ictplus.gr/files/PDF%20FILES/Draft_E_Commerce_Law.pdf.

D. BRUNEI DARUSSALAM AND MALAYSIA

This case study discusses the overall prospects for e-commerce in ASEAN and takes a deep dive on the situation of e-commerce in Brunei Darussalam and Malaysia.

1. ASEAN'S E-COMMERCE POTENTIAL

ASEAN is starting from a low base of e-commerce trade and thus has a lot of room to grow. Despite making up 3.2 percent of global GDP and 7.6 percent of global population, ASEAN accounts for less than 1 percent of global e-commerce market (Table 8). In contrast, economies such as China, Japan and the US have shares of global e-commerce market which are greater than that of their GDP and/or population. The share of the US in global population is 4.3 percent while its e-commerce share is 25 percent; China's share of global GDP is 15 percent while its e-commerce share is 25 percent. In terms of online shares to total retail sales, A.T. Kearney (2015) noted that with the exception of Singapore where online retail made up between 4 to 5 percent of all retail sales in 2014, the share in Indonesia; Malaysia; the Philippines; Thailand; and Viet Nam is around or less than 1 percent each. In contrast, the share in China is 7.2 percent while that in the US is 5.8 percent. These indicators indicate that e-commerce in ASEAN is still very much in its infancy.

Table 8. Economies' share of global GDP, population and e-commerce market

Economies	Share of world's GDP (2016, %)	Share of world's population (2016, %)	Share of world's e-commerce market (2015, %)
ASEAN	3.24	7.57	<1
Brunei Darussalam	0.02	0.01	
Indonesia	1.23	3.51	
Malaysia	0.39	0.42	
The Philippines	0.40	1.39	
Singapore	0.39	0.08	
Thailand	0.54	0.93	
Viet Nam	0.27	1.25	
China	14.82	18.53	25
Japan	6.54	1.71	7
United States	24.58	4.34	25

Note: ASEAN refers to Brunei Darussalam; Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. For share of world's e-commerce market, ASEAN excludes Brunei Darussalam.

Source: APEC PSU calculations from data provided by World Bank World Development Indicators and Malaysia's National eCommerce Strategic Roadmap.

Compared to the US' internet users' share of 76 percent of the population or Japan's 92 percent, ASEAN's share of 41 percent is relatively low (Table 9). The same can be said in terms of digital buyers' share among internet users. The US tops the list with 81 percent while the share of ASEAN digital buyers is comparatively low at about 39 percent of internet users. Collectively, these figures indicate that a significant portion of ASEAN's population have yet to use the internet, let alone participate in e-commerce.

Table 9. Total population, internet users and digital buyers in selected economies

Economies	Total population (2016, millions)	Internet users (2016, millions)	Internet users (2016, % of population)	Digital buyers (2015, millions)	Digital buyers (2015, % of 2016 internet users)
ASEAN	563.22	228.84	40.6	88	38.5
Brunei Darussalam	0.42	0.32	75.0		
Indonesia	261.12	66.24	25.4		
Malaysia	31.19	24.57	78.8		
The Philippines	103.32	57.34	55.5		
Singapore	5.61	4.54	81.0		
Thailand	68.86	32.71	47.5		
Viet Nam	92.70	43.11	46.5		
China	1,378.67	733.45	53.2	346	47.2
Japan	126.99	116.84	92.0	87	74.5
United States	323.13	246.16	76.2	200	81.2

Note: ASEAN refers to Brunei Darussalam; Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. For digital buyers, ASEAN excludes Brunei Darussalam.

Source: APEC PSU calculations from data provided by World Bank World Development Indicators, ITU and Malaysia's National eCommerce Strategic Roadmap.

The state of digital infrastructure perhaps partly explains the yet low uptake of e-commerce in the region. Speed of the internet can spell the difference between purchasing from a website and abandoning the intended purchase altogether. Lack of affordable devices and subscription means that fewer people will use the internet and potentially e-commerce. In terms of internet connection speed, for example, ASEAN economies except Singapore are behind Japan and the US (Table 10). Share of broadband mobile connections in ASEAN economies are relatively low except for Singapore and Thailand. The region also lags behind in broadband affordability. If one is to follow the definition of Broadband Commission, which defines a broadband as affordable if it is less than 5 percent of average monthly income, only Malaysia and Singapore meet the criteria in ASEAN (A.T. Kearney, 2015).

Table 10. State of e-commerce related infrastructure in selected economies

Economies	Average connection speed (Q1 2017, Mbps)	Percentage of mobile broadband (Q4 2015, %)^	Fixed broadband prices (% of gross national income)
ASEAN			
Brunei Darussalam		53	
Indonesia	7.2	36	9.1
Malaysia	8.9	69	3.1
The Philippines	5.5	46	12.4
Singapore	20.3	98	0.8
Thailand	16.0	97	5.6
Viet Nam	9.5	25	11.3
China	7.6	62	
Japan	20.2	98	
United States	18.7	88	0.4

Note: * Fewer than 25,000 unique IPv4 addresses classified as mobile observed in Q1 2017. ^ Includes 3G and 4G mobile technologies.

Source: Akamai, GSMA Intelligence (<https://www.gsmainelligence.com/>) and A.T. Kearney (2015).

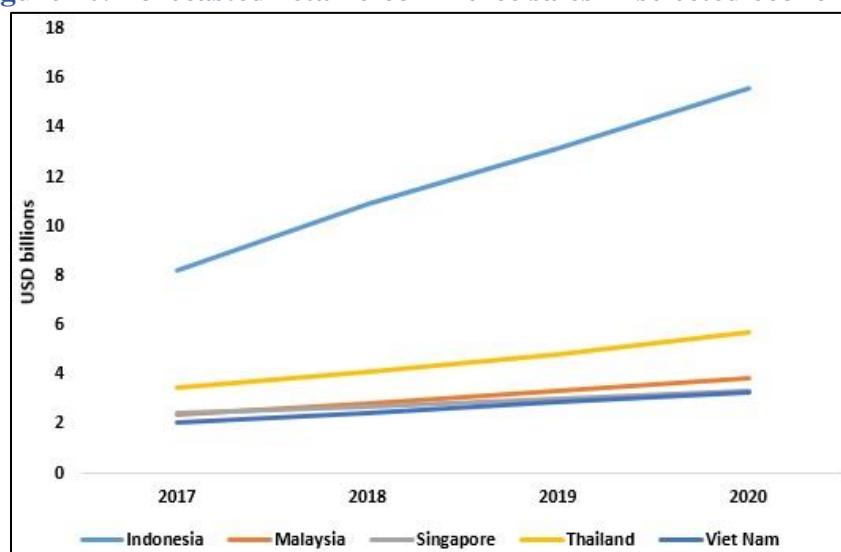
Considering that online payment is integral to e-commerce, the share of ‘banked’ population, along with credit and debit card ownerships are also indicative of why e-commerce in the region is still at a nascent stage. In terms of the percentage of adult population that have an account at a financial institution, economies such as Indonesia, the Philippines and Viet Nam at less than 50 percent are way behind China, Japan and the US (Table 11). On credit card and debit card ownership, all ASEAN economies, except Singapore, lag behind Japan and the US.

Table 11. Share of 'banked population', credit and debit card ownerships in selected economies

Economies	Account at a financial institution (2014, % age 15+)	Credit card (2014, % age 15+)	Debit card (2014, % age 15+)
ASEAN			
Brunei Darussalam			
Indonesia	35.9	1.6	25.9
Malaysia	80.7	20.2	41.2
The Philippines	28.1	3.2	20.5
Singapore	96.4	35.4	89.4
Thailand	78.1	5.7	54.8
Viet Nam	30.9	1.9	26.5
China	78.9	15.8	48.6
Japan	96.6	66.1	88.1
United States	93.6	60.1	76.2

Source: World Bank, Global Findex Database.

Still, forecast of e-commerce growth in ASEAN is rosy (Figure 20). Its low base, coupled with the high confidence that businesses have on the region's potentials explain why retail e-commerce sales in selected ASEAN economies would increase by between 37 and 90 percent over four years (from 2017 to 2020) (eMarketer, 2015).

Figure 20. Forecasted retail e-commerce sales in selected economies

Source: eMarketer (2016)

Given the variations among ASEAN economies across different e-commerce measures, there is value in trying to understand the e-commerce situation in each economy, including the motivations behind their e-commerce drive and the type of challenges that their SMEs face to participate in e-

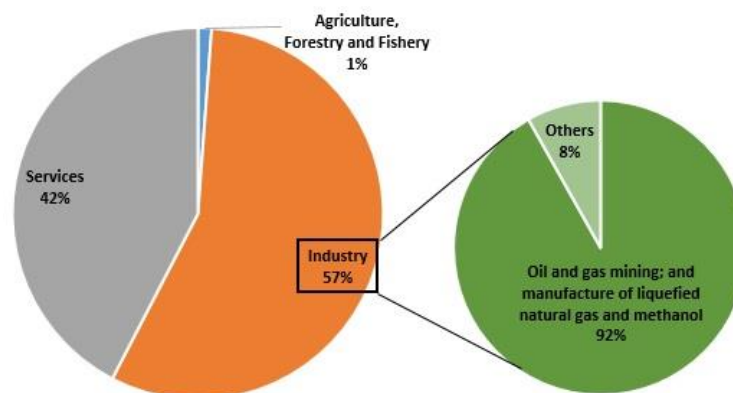
commerce. The two case studies below focus on two economies in the region, Brunei Darussalam and Malaysia.

2. BRUNEI DARUSSALAM E-COMMERCE

2.1 Economic diversification and role of e-commerce

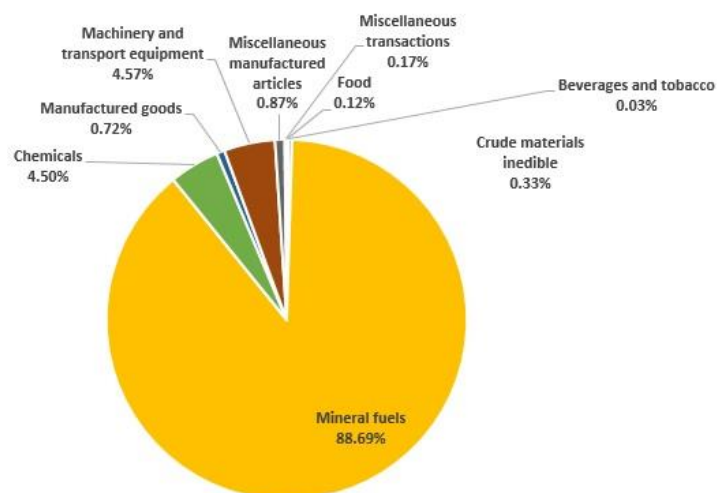
Brunei Darussalam is a high-income economy with GDP per capita of approximately USD27,000 in 2016 (World Bank, 2017)⁶⁶. It ranked second only to Singapore among ASEAN member economies and is one of the top ten APEC economies when measured in terms of GDP per capita. Latest data from Brunei Darussalam's Department of Economic Planning and Development (JPKE) show that Brunei Darussalam is an economy that is highly dependent on oil and gas. The industry sector made up close to 60 percent of the economy's gross value added in 2016 (Figure 21) and of these, oil and gas mining as well as manufacture of liquefied natural gas (LNG) and methanol make up 92 percent of the sector's output. Export data further corroborates this observation, showing that mineral fuels contribute close to 90 percent of the economy's merchandise exports (Figure 22).

Figure 21. Share in gross value added of different sector in Brunei Darussalam (2016)



Source: Department of Economic Planning and Development.

⁶⁶ High-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of \$12,236 or more in 2016.

Figure 22. Brunei Darussalam's merchandise exports by commodities (2016)

Source: Department of Economic Planning and Development.

Its high dependency on oil and gas means that its revenue fluctuates with international energy prices. Falling energy prices, for example, has led to lower proposed government spending for financial year 2017-2018⁶⁷. For the same reason, Brunei Darussalam's GDP growth rate has been negative since 2013 (World Bank WDI, 2017)⁶⁸.

The government recognizes the challenge posed by over-dependency on a single commodity and so has since embarked on diversification of its economy. According to the WTO Trade Policy Review (2014), besides downstream oil and gas and energy-intensive industries, Brunei Darussalam has identified other activities that may increase value-added, exports and jobs in its National Vision 2035. These include agri-food, information and communication technology (ICT), life sciences (i.e. pharmaceuticals, cosmetics, health food and health supplements), light manufacturing, and services.

Brunei Darussalam's diversification strategy also involves encouraging private sector participation, which has been relatively limited due to the largely public sector dominated oil and gas industry (OECD, 2013). Recognizing the potentials of e-commerce as a sales/revenue channel for its businesses, various government agencies have undertaken many initiatives to promote the use of e-commerce. These include enforcement of consumer protection laws by the Department of Economic Planning and Development, conduct of survey about consumers attitudes and behaviors towards e-commerce by the Authority for Info-communications Technology Industry (AITI), classification of packages into two categories to facilitate delivery by Royal Customs and Excise Department (RCED), offer of secure facilities to house servers by E-Government National Centre (EGNC), collaborations with other postal services to improve services by Brunei Postal Services, and the issuance of Fintech Regulatory Sandbox Guidelines by the Autoriti Monetari Brunei

⁶⁷ http://news.xinhuanet.com/english/2017-03/09/c_136113519.htm.

⁶⁸ Annual percentage growth rate of GDP at market prices are based on constant local currency.

Darussalam (AMBD). In fact, the economy is in the midst of formulating a framework/roadmap to guide its e-commerce endeavor.

Table 12. Brunei Darussalam e-commerce at a glance, 2016

User base and infrastructure	
Percentage of individuals using the internet	75 %
Mobile penetration per 100 inhabitants	125.5
Fixed broadband penetration per 100 inhabitants	8.7
Fixed broadband penetration by household	51.1 %
Mobile broadband penetration per 100 inhabitants	121.2

Source: ITU and AITI.

Available information shows that e-commerce ecosystem in Brunei Darussalam is improving (Table 12). ITU estimates that 75 percent of adult population use the internet. Latest data from AITI indicates that in 2016, mobile penetration reached 125.5 per 100 inhabitants, implying that some individuals have more than one mobile phone. Mobile broadband penetration had increased from 95 to 121 per 100 inhabitants between 2012 and 2016, while household fixed broadband penetration had increased from 30 percent in 2012 to 51 percent in 2016. To supplement this data, government officials noted the increased number of small packages going through RCED, the availability of both domestic and international e-commerce marketplace platforms, as well as the submission of applications under the Fintech guidelines.

2.2 Key e-commerce platform players

Local e-commerce scene in Brunei Darussalam is still in its infancy but is growing. There are 28 E-Commerce platform providers in Brunei Darussalam with about 100 sellers. Two well-known local marketplace platforms are Bruvera and Cube Junction.

BRUVERA

Bruvera consolidates several fashion, beauty and lifestyle brands in a single platform. The platform is targeted more to the upscale market. It accepts several payment methods including bank deposit, credit/debit cards and cash-on-delivery (COD). Bruvera ships internationally to several economies including Singapore, Malaysia and Indonesia.



Cube Junction is a marketplace platform whose objectives include helping SMEs to market and sell their products online. Products sold in its platform can be grouped into several categories including electronics, fashion, food and beverages, baby and toys, as well as health and beauty products. It accepts several payment methods including Amex, MasterCard, Visa and Discover.

To complement its online operations, Cube Junction has established online to offline (O2O) center to help market products offline.

The above instance represents only a small minority of the e-commerce landscape. Most e-commerce endeavors are facilitated over the social network apps such as Facebook and Instagram. This makes direct monitoring of the e-commerce participation and growth challenging.

2.3 Cross-border e-commerce value chains and related challenges

This section discusses specifically some of the challenges that SMEs in Brunei Darussalam face in participating in e-commerce based on interviews conducted with e-commerce stakeholders.

In Brunei Darussalam, SMEs make up about 98 percent of businesses in the economy and employ approximately 60 percent of the total workforce in the private sector (Borneo Bulletin, 2014). However, a presentation by the Ministry of Industry and Primary Resources (MIPR) to the APEC SME Working Group in 2012 noted that SMEs face many challenges in different areas such as human resources, access to finance, market access, and technology application. Collectively, these challenges act as impediments for Bruneian SMEs to participate in e-commerce. Some of these challenges are discussed below.

2.3.1 Awareness of e-commerce, branding and marketing

SMEs in Brunei Darussalam share similar problems as in other economies like the ones discussed in the Korea case study. For one, few SMEs are aware of e-commerce and related basic information such as what e-commerce exactly is, how it is different from brick and mortar shops, what the different aspects of e-commerce value chain are, and how firms can participate in and benefit from it. In Brunei Darussalam, some SMEs think of e-commerce platforms as an avenue for window shopping rather than for carrying out online transactions.

Likewise, branding and marketing skills remain to be developed among SMEs. As discussed in other case studies, SMEs need to have a unique value proposition other than low price in the online world in order to be noticed (see Box 3 for an example). At a minimum, their products' online 'look' has to be properly curated in order to attract the desired clientele. Product packaging is important, and so does the way pictures/videos are shot and uploaded in the net. In this, platform operators have an important role (see Box 4).

Box 3. 'Make-A-Book': designer books from Brunei Darussalam



Started by two cousins, Make A Book is an SME that produces handmade books. They sell customized books, albums, journals and folders. They run workshops to share their book-binding knowledge and to raise awareness about the time and effort required to produce a book. The price of each finished product varies since they are custom-made and hence personalized.

Despite the high cost of logistics for transporting books originating from Brunei Darussalam, demand for their products remains healthy. Its online orders have come from as far as Italy despite the bulkiness of the product. Their value proposition is unique – personally made books – which, along with an increasing number of satisfied customers, make them competitive.

Source: <https://www.facebook.com/MakeABookBrunei/>

2.3.2 Logistics, payment and economies of scale

Logistics services is a critical component of e-commerce. For some buyers, a compelling appeal of e-commerce is the convenience of having the products delivered to chosen location. Therefore, high cost of logistics along with delays in delivery can act as impediments to e-commerce.

The cost of logistics is highly dependent on volume. Brunei Darussalam imports about 92 percent of products consumed locally but exports a relatively lower volume of non-oil and gas products. The presence of minimum threshold volume means that per unit logistics cost of products originating from Brunei Darussalam is higher than those originating from other economies. For example, shipping product of the same weights and dimensions from Singapore is alleged to cost 30 percent lower than if shipped from Brunei Darussalam.

The gravity of this situation can be gleaned from anecdotes told during discussions that some online sellers sometimes decide to cover part of the logistics cost just to get an experience of cross-border selling and in the hope of future additional sales. While understandable, the practice is not sustainable in the long run.

Box 4. Branding, marketing and platforms

Branding and marketing are activities that are not limited to SMEs. Platform providers and even the economy itself can help develop a 'brand'. With the plethora of platforms that offer similar range of products and services, each platform has the challenge to differentiate itself from others and find a niche market. Indeed, one Bruneian platform is trying to brand itself as the go-to place for Made-in-Brunei fashion apparels and accessories, targeting especially Muslim women shoppers. It is also exploring the possibility of offering additional services such as made-to-measure clothes. Another option that one platform is pursuing is to leverage Brunei Darussalam's Syariah-compliant reputation to become an online marketplace for Halal products.

At a broader level, Brunei Darussalam as an economy also needs a branding and marketing reboot. It is a recognized name for its oil and gas industry but many are not aware of other products it can potentially offer to the world. The efforts of platforms, some of which government supported, at differentiating itself from other e-commerce sites, leveraging on its Syariah-compliance for example, are steps in the right direction. The government also has other initiatives like Darussalam Enterprises (DARE)'s Made in Brunei initiative that promotes locally made products. Unexpected Treasures, its online channel, features products such as handicrafts, handwoven fabrics and glassware¹. The Ministry of Foreign Affairs and Trade (MOFAT) and DARE also assist Brunei SMEs' participation in trade fairs and exhibitions overseas. In partnership with the government, a platform provider is opening offline shops in several locations overseas to showcase Bruneian products and at the same time, offers an online-to-offline (O2O) channel for potential buyers.

Source: Authors.

Besides costs, Bruneian products are also negatively affected by the lack of frequency of cargo flights and shipment. Brunei Darussalam's less than half a million population means small volume for logistics services providers. DHL, FedEx and UPS do not have cargo flights from and to Brunei Darussalam but divert Brunei-bound packages to neighboring economies such as Malaysia and Thailand where they are then transferred to commercial flights for follow-on journey to Brunei Darussalam. Similarly, packages originating from Brunei Darussalam have to be sent via commercial flights to these neighboring economies before being transferred to cargo flights operated by the logistics providers. No major international logistics provider has a business presence in Brunei Darussalam; they rather work with local agents as their representatives.

Like logistics, payment services are arguably also dependent on the size of the market. Lack of cheap options for payment services, hamper the competitiveness of platforms and online sellers. Most payment options require corresponding banking arrangements between local banks and payment service providers. Discussions on such arrangements is a process that has become more

tedious because of anti-money laundering and counter-terrorism financial laws in developed economies where major payment service providers are headquartered. In the case of Brunei Darussalam, considering the compliance cost to arrange correspondent relationships, the small volume of transactions acts as a non-incentive for these service providers to serve the market. As a result, popular payment options like PayPal are not available in Brunei Darussalam, causing inconvenience to Bruneian sellers who are unable to sell to a huge chunk of foreign customers who prefer to pay online using their PayPal accounts.⁶⁹

2.3.3 Support to overcome SME challenges

To help SMEs overcome some of the challenges in e-commerce, the government and the private sector provide various support programs. Darussalam Enterprise (DARe), the agency tasked to support local enterprises, has its Industry Business Academy (IBA) that provides different modules to existing and new entrepreneurs. One topic in the module is about starting and running an online shop. DARe also plans to hold bootcamps starting first quarter of 2018 focused on assisting businesses participate in e-commerce. It is expected to cover different aspects such as branding, online payment, logistics and social marketing. From the private sector, platform providers in Brunei Darussalam provide many briefing sessions as well as numerous one-on-one sessions with SMEs, from taking good photos to packaging and others.

With respect to high logistics cost, a platform provider is negotiating and committing a minimum volume of packages with several logistics providers in order to secure a more favorable and discounted shipping cost. It also reroutes packages through Limbang and Miri, towns in neighboring State of Sarawak, Malaysia, to take advantage of lower shipping cost from Malaysia.

In payment, necessity breeds creativity among SME online sellers. To entice PayPal users abroad to patronize products from Bruneian sellers, some SMEs open PayPal accounts with banks in neighboring Sarawak state in Malaysia. From their Malaysian bank account, they can then transfer revenues to their local bank in Brunei Darussalam. While this roundabout through Malaysia overcomes the difficulty of not having a local PayPal account that is connected with their e-commerce business, it nevertheless entails additional transaction costs in terms of, for example, additional fees for the Malaysia-Brunei Darussalam bank transfers as well as the double exchange rate risk that are incurred for exchanging from foreign currency to Malaysian ringgit and from ringgit to Bruneian dollars.

Another solution to the absence of payment options like PayPal is to use alternative payment options. One example is Merchant Suite, which allows buyers to make payment using any credit and debit cards. However, the cost of subscribing to Merchant Suite is relatively higher, and for some SMEs with low volume of transactions, may not make commercial sense. For SMEs that are

⁶⁹ Outbound payments using PayPal are available for buyers in Brunei Darussalam if their credit cards are linked to PayPal but not inbound PayPal payments. As a result, Bruneian companies cannot use PayPal as payment to sell their products and services.

keen to offer payment option via Merchant Suite, some platforms offer it as a payment option. Payment through bank-to-bank telegraphic transfer is yet another payment option for foreign buyers but is generally considered more cumbersome and expensive.

Unlike cross-border e-commerce, domestic e-commerce does not suffer from the lack of payment options because local banks provide various alternatives, ranging from credit or debit card payments to direct charges to the buyers' or sellers' bank accounts.

Work is currently in progress to enable various electronic payment options to be available and more accessible. The government is fostering collaboration between local banks and capable FinTech providers to come up with payment solutions that are more competitively priced, and technologically efficient. It is also taking steps to transition businesses and society to a digital culture, in line with the development of the digital economy. The steps include enabling a cashless society, and fostering the uptake of digital platforms on a wider scale by the SMEs.

3. MALAYSIA E-COMMERCE

3.1 Growing e-commerce through focused interventions

Malaysia is the second largest online retail market in ASEAN next to Singapore. Data from A.T. Kearney (2015) showed that online sales in Malaysia made up close to 20 percent of the estimated USD7 billion ASEAN e-commerce market⁷⁰. Malaysia's e-commerce contribution to its GDP has also been increasing steadily. In its National eCommerce Strategic Roadmap (NeSR), the value of e-commerce contribution to GDP was shown to have increased from RM49 billion in 2012 to RM61 billion in 2014, at a compounded annual growth rate of 12 percent. E-commerce contribution to GDP is estimated to reach RM114 billion, accounting for 6.4 percent of its GDP in 2020.

According to SP eCommerce (2014), popular products sold by local platforms in Malaysia include those under the electronics, fashion and accessories, food and beverage, health and beauty, and home categories, while popular products sold by international sites are those under the fashion and accessories, books and magazines, hobby and arts, toys and games, and electronics categories. On the sale side, eBay (2015) noted that the top 3 exports from Malaysia are auto parts; cell phones and accessories; and clothes, shoes and accessories. Top 5 destination economies of these sellers are the US; Australia; UK; Canada; and Russia.

To help Malaysia e-commerce grow, the government has opted for more focused interventions. To this end, the government has tasked the Malaysia Digital Economy Corporation (MDEC), to develop the National eCommerce Strategic Roadmap (NeSR)⁷¹.

⁷⁰ASEAN refers to Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. Data on market size refers to 2013 data.

⁷¹For the full version of the NeSR, please refer to: http://www.miti.gov.my/miti/resources/1_NeSR_Book_Final_.pdf.

Released in 2016, the NeSR has two main objectives: a) to ensure that existing businesses are future-ready; and b) to expand market access. It comprises of six thrust areas, namely: i) accelerate seller adoption of e-commerce; ii) increase adoption of eProcurement by businesses; iii) lift non-tariff barriers (e-Fulfillment, cross-border, e-Payment, consumer protection); iv) realign existing economic incentives; v) make strategic investments in select e-commerce players; and vi) promote national brand to boost cross-border e-commerce. Accompanying the thrust areas are 11 key programs that include training of SMEs, adoption of e-procurement for many government related institutions, improving last-mile delivery network, transforming Malaysia into a regional e-fulfillment hub, reduction of border clearance for parcels, and support and promotion for selected sectors. The successful implementation of these programs are expected to more than double the growth of e-commerce to 20 percent compared to 11 percent (under a do-nothing scenario); and increase its GDP contribution to more than RM170 billion compared with RM114 billion (without government intervention) by 2020.

Another key component for success in e-commerce is access to wider market. To this end, Malaysia has launched the Digital Free Trade Zone (DFTZ) which aims to help Malaysian SMEs to export and to position Malaysia as a regional hub for e-commerce logistics. The DFTZ is planned to become a mega e-fulfillment hub comprising of warehouses, logistics and customs facilitation facilities as well as satellite services (e.g. training services, FDI services, and other regional HQ services) to be provided by firms based in Kuala Lumpur Internet City. The centerpiece of the virtual component is a customs-connected platform which would connect various services for e-commerce ecosystem. China's Alibaba is heavily involved in the platform project leveraging on its own platform used in Hangzhou port⁷².

Table 13. Malaysia e-commerce at a glance

User base and infrastructure	
Percentage of individuals using the internet (2016)	78.79
Average connection speed (Mbps, 1Q 2017)	8.9
Fixed broadband subscriptions per 100 inhabitants (2016)	8.74
Mobile cellular subscriptions per 100 inhabitants (2016)	141.17
E-commerce market size	
e-commerce contribution (2015, RM billion)	68
e-commerce contribution (2015, % of GDP)	5.9
e-commerce growth (2012-2015, % CAGR)	12.8

Source: ITU, Akamai and Malaysia's National eCommerce Strategic Roadmap.

While statistics on e-commerce shows that Malaysia is relatively more advanced than other ASEAN economies, some aspects of its user base and infrastructure can be further improved

⁷² For the pilot stage in 2017, DFTZ will rely on Alibaba platform and focus on China as a destination market. An MOU has been signed between the Malaysian government and Hangzhou municipal government to facilitate cross-border e-commerce trade between the two hubs (i.e. Malaysia's DFTZ and China's Hangzhou Cross-border E-commerce Comprehensive Area). For 2018 and beyond, it plans to include other platforms and look at other destination markets.

(Table 13). The International Telecommunication Union (ITU) estimates that 79 percent of the population are internet users in 2016. Google’s Connected Consumer Survey 2016 found that the average number of connected devices per person is 1.8, with 81 percent of respondents indicating the use of smartphones. Yet, while it outperformed Indonesia and the Philippines, Malaysia’s average connection speed of 8.9 Mbps as of 1Q 2017 is lower than that of Singapore, Thailand and Viet Nam.

3.2 Key e-commerce platform players

Key platforms operating in Malaysia can generally be categorized into three groups. The first group of platforms are those that are known globally such as Amazon, eBay and Taobao. The second group are those that are more familiar regionally such as Lazada, Zalora and 11street. The third group are local players such as Lelong, Shopee and FashionValet. According to a consumer survey conducted by Bain in November 2015, 40 percent of respondents indicated either Lazada, Zalora or Lelong as their preferred platform.



11Street is a platform founded in Korea, but has since expanded into other economies such as Malaysia and Thailand. In Malaysia, 11Street’s marketplace is operated by Celcom Planet Sdn. Bhd. – a joint venture between Celcom Axiata Bhd. and SK Planet Ltd. It offers a range of products including fashion, electronics, IT products, toys and groceries. It accepts various payment methods such online banking, credit/debit card, as well as 11Street credit. While 11Street allows foreign sellers to register, it currently delivers parcels only within West and East Malaysia.

FASHIONVALET

Founded in Malaysia in 2010, FashionValet offers a wide range of clothes, handbags and other accessories from approximately 345 brands. It has a dedicated customer service team to offer styling tips as well as answer enquiries. It accepts different payment methods such as direct bank transfer, PayPal, Visa and MasterCard and cash-on-delivery (COD). Shipping services are provided within Malaysia and to 20 different economies including Brunei Darussalam, Singapore, Saudi Arabia, and China. Depending on customers’ location, FashionValet offers different methods for returns: 1) pickup (only available for Kuala Lumpur, Klang Valley, Penang, Johor and Singapore); 2) drop off (only available within Malaysia); and 3) international shipment (all destinations but shipping costs are to be borne by the customer).



Lazada’s marketplace platforms operate in six ASEAN economies, namely Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam. It also has two TechHubs in Moscow and Ho

Chi Minh City as well as a cross-border operations in Hong Kong, China. As of September 2015, its platforms had generated USD1.1 billion in terms of annual gross market value, as well as 5 million daily visits. It has approximately 10 million active SKUs (stock keeping units) and about 30,500 active sellers. It partners with 75 logistics providers and has 76 last mile distribution hubs as well as 10 fulfillment centers.



Lelong is a Malaysian homegrown online marketplace which allows buyers to access a variety of products and services from more than 10,000 sellers. It currently has over 8 million monthly visitors, over 30 million monthly transactions, and more than 7,000 webstore sellers. More than 1.3 million products across different categories are listed on its platform. These include mobile phones, computers, camera and gadgets, home appliances, fashion and accessories, beauty and personal care, toys and frozen food. Besides having interface which are accessible via desktop, mobile and tablet, Lelong provides a list of marketing tools to enhance sellers' online sales performance.

ZALORA

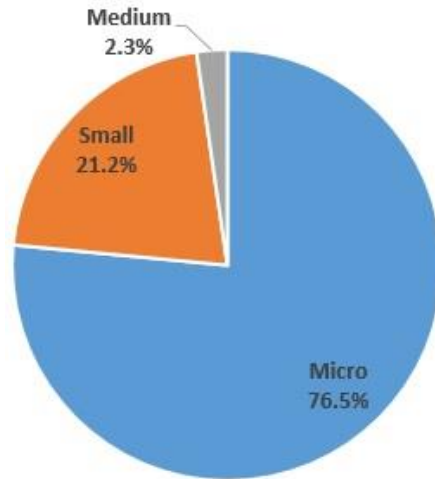
Established in 2012, Zalora has an extensive collection of over 500 top international and local brands and designers covering men's and women's fashion apparel, shoes, accessories, and beauty products. It offers multiple payment methods including COD for certain postal codes. For orders within Malaysia, Zalora facilitates returns by allowing them to be dropped off at any Poslaju counter to enjoy free return shipping.

3.3 SMEs and e-commerce

Data from SME Corporation Malaysia (SME Corp.) and Department of Statistics Malaysia (DOSM) indicate that SMEs account for 98.5 percent of firms in Malaysia, with more than three quarters of the SMEs being microenterprises (i.e. sales turnover not exceeding RM300,000 or full-time employees of less than 5) (Figure 23)⁷³.

⁷³ Malaysia uses two criteria to define SMEs, namely sales turnover and number of full-time employees, where the smaller size will be applicable. For the manufacturing sector, SMEs are defined as firms with sales turnover not exceeding RM50 million or number of full-time employees not exceeding 200. For the services and other sectors, SMEs are defined as firms with sales turnover not exceeding RM20 million or number of full-time employees not exceeding 75.

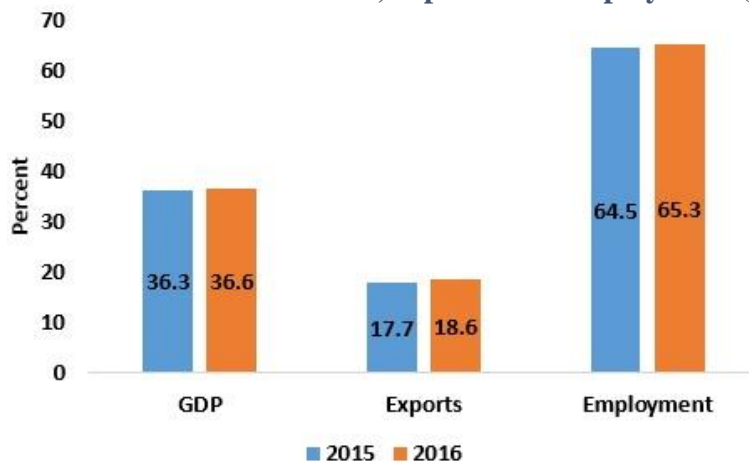
Figure 23. Breakdown of SMEs by size (2016)



Source: Economic Census 2016; SME Corp. and DOSM.

Relative to 2015, SMEs’ contribution to GDP, exports and employment have slightly increased in 2016 (Figure 24). Collectively, SMEs contributed to 36.6 percent of GDP and 18.6 percent of exports. Share of SME to total employment was 65.3 percent in 2016. Despite the significant contributions of SMEs across these measures, survey conducted by SME Corp. Malaysia in 3Q 2016 noted that less than 26 percent of SMEs are involved in selling products or services online. Another survey conducted by the Associated Chinese Chambers of Commerce and Industry of Malaysia (ACCCIM) in 2012 indicated that only 28 percent of the survey respondents, all of which are SMEs, are involved in e-commerce. Furthermore, Malaysia’s National eCommerce Strategic Roadmap (NeSR) noted that e-commerce only made up approximately 6 percent of SME’s total revenue, which is lower than the average share for developed economies (about 15 percent).

Figure 24. Contribution of SMEs to GDP, exports and employment (2015 and 2016)



Source: DOSM.

3.4 Cross-border e-commerce value chains and related challenges

Like in other case studies, Malaysia's SMEs face several challenges in selling via e-commerce. These include lack of awareness among majority of SMEs, problems of branding and marketing as well as those associated with upscaling.

3.4.1 From social media to platforms, branding and technical upgrading

Many SMEs start by selling via social media such as Facebook and Instagram. SP eCommerce (2014) noted that 74 percent of new e-commerce stores in Malaysia started on social media. As they gain visibility, they have to respond to more enquiries and handle more orders. In most cases, SMEs resort to hiring more staffs. Alternatively, they can automate some of the business services such as responding to enquiries or employ middleware applications for inventory management. Many SMEs, however, lack technical know-how and are not aware of various options and available e-commerce tools. Branding, or simply maintaining a reputation for quality and trustworthy service, is also a challenge for some SMEs who cannot keep up with consistent quality in their products.

SMEs' small operations tend to be heavily taxed when it experiences spurts of growth. For example, as they graduate from social media to becoming part of marketplace platforms, the dealing with more e-commerce actors (multiple logistics providers, payment services, other value-added services providers, etc.) becomes challenging given their small workforce.

3.4.2 Payment services onboarding

To safeguard trust in any transactions, payment services providers have a list of onboarding requirements that sellers and marketplace platform providers need to fulfill. For instance, in Malaysia, besides providing several documents including business registration certificate, sellers and marketplace platform providers also have to ensure that its website is compliant with requirements such as having legitimate domain names as well as information about the firm, contact details, product pricing and returns/refunds policy.

The development of payment gateway alleviates the messy process that SMEs would have to otherwise do. Instead of repeated onboarding procedures with different banks, SMES only need to deal with the payment service provider which, in turn, does the know-your-customer (KYC) procedures on behalf of the banks. In Malaysia, MOLPay has helped shorten the process of onboarding to a few days or weeks instead of months, besides offering value-added services such as data analytics for identifying possible frauds, reporting of sellers' transactions in a unified format, or providing innovative payment solutions especially for the unbanked potential buyers.

Still, this onboarding process is often tedious especially for a thinly-staffed SME operation. In addition, onboarded SMEs are required to pay some reserves to the service provider to account for chargebacks⁷⁴, adding to its cash flow pressure.

3.4.3 Support for SMEs

As is the case in many economies, the government and the private sector in Malaysia provide various support programs to assist SMEs in overcoming e-commerce challenges. For example, MDEC and SME Corp. have developed Go eCommerce, an online learning platform and hub where SMEs can take courses and find information about e-commerce⁷⁵. There is also a directory of solutions providers for different aspects of e-commerce such as marketplace platform, payment gateway, digital marketing, and logistics. Separately, MDEC is also launching an e-commerce academy whose goal is to train SMEs and, together with SME Corp. and Matrade, will be conducting e-commerce and export readiness assessment to evaluate the readiness of SMEs to participate in cross-border e-commerce.

In the case of the private sector, Alibaba provides training and advisory services to selected SMEs in Malaysia in connection with the DFTZ agreement. 11street Malaysia worked with MATRADE to encourage SMEs to first sell online domestically as learning opportunities before encouraging them to venture overseas. It also launched an academy in 2016 where it collaborates with MDEC, Facebook and Google AdWords to provide various training including taking platform-ready photographs, writing product descriptions, and dealing with product returns. 11Street introduced the first e-commerce certification program in Malaysia for participants who pass the qualification examination, complete given assignments and attend a minimum number of classes. Furthermore, in 11street's program, passing the examination entitles sellers to benefits such as free exposure in its main page for a period of time.

Zalora assists sellers by writing the product descriptions and taking photographs for them. Moreover, it shares its analysis of transaction data with SMEs and provides them with advice on the more popular products, the sizes that sell well, etc.

Platform providers also employ other programs to further assist SMEs in their branding and marketing activities. These include engaging brand ambassador (product endorsers) to promote selected products, providing dedicated campaign page for SMEs categorized by economies, and assigning category manager who has the responsibility to assess product potentials and organize fairs.

Help for SMEs also come from increasing efficiency in logistics services. For example, DHL is embarking on more e-commerce related logistics services such as providing shared-use fulfillment

⁷⁴ A chargeback is the amount a credit card merchant pays to the buyer after he/she successfully disputes a transaction on his or her statement.

⁷⁵ The list of courses offered by Go eCommerce can be found at: <https://www.goecommerce.my/elearning>.

facilities and improved handling of international returns.⁷⁶ Other technology-aided initiatives in the works include more options for last-mile delivery, for example, the deployment of password-protected lockers that give freedom to consumers to pick up the purchased goods at the time when they are available⁷⁷. Another example is Ninja Van which uses innovative technologies including optimization algorithms which minimizes costs and delivery time⁷⁸.

4. OTHER E-COMMERCE CHALLENGES IN ASEAN

ASEAN aspires to be a single market but many differing rules and regulations between economies hamper this. In e-commerce, in particular, ASEAN has challenges in firms' cross-registration, customs clearance and dealing with returns.

4.1 Cross-registration

Cross-listing on e-commerce marketplace platforms is not straightforward because each platform has different requirements for sellers that want to register. In general, economies require that listed sellers, except individuals selling through social media, are registered businesses. Yet, the rules and regulations for setting up, registering, and running businesses vary in complexity in the region as evidenced by the EoDB index compiled by the World Bank. In one ASEAN economy, for example, sellers cannot use their home address when applying for a value-added tax (VAT) registration number; while in another, home-based business operation and thus home addresses are perfectly legitimate for VAT purposes. Another example is that e-contracts are not recognized in all ASEAN economies. Collecting these different information from different economies is a challenging task for SMEs. Platform operators partly facilitate by undertaking the information collection on different rules and regulations that sellers need to comply with to onboard their platforms and sell in specific economies. These rules are then reflected in its online policies for would-be sellers in their platforms.

4.2 Customs-related challenges

For a significant number of buyers, a main motivation for making a purchase via e-commerce is to access foreign products that are not available in the economy where they are based. Clearing customs in ASEAN, however, is still fraught with numerous challenges. For one, in ASEAN, de-minimis level for tariff-free entry of e-commerce goods varies, ranging between USD0.23 and USD296 (Table 14).

⁷⁶ http://www.logisticsmgmt.com/article/dhl_global_mail_rebranded_as_dhl_ecommerce

⁷⁷ <https://www.techinasia.com/dhl-ecommerce-logistics-southeast-asia>

⁷⁸ <https://www.techinasia.com/talk/ninjavan-last-mile-logistics-southeast-asia>

Table 14. Varying de-minimis level in ASEAN

Economies	De-minimis level (in USD)
Brunei Darussalam	295
Indonesia	50
Malaysia	128
The Philippines	0.33
Singapore	296
Thailand	28
Viet Nam	40

Source: Global Express Association (2016).

Another challenge is, despite the harmonized system of classification, customs authorities have different interpretations of product categories for tariff purposes. Even within the same economy, different customs personnel can arrive at different tariff amount to be paid for the same product. Such inconsistencies in decisions make it difficult to determine in advance the amount of taxes and duties to pass on to the buyer.

Import regulations tend to vary between economies, in particular for products categorized as “sensitive”. These products are usually restricted or, if imported, have to meet the different standards requirements in each economy. Many electronics products, for example, are produced in ASEAN but they do not recognize the standards and conformity certificates issued by other ASEAN economies, even as they recognize the CE marking which certify that the products conform to European standards.

Even for products categorized as for “personal use”, there are many exception clauses and no clear and consistent policies on what are regarded as acceptable. To avoid potential problems, sellers send shipment to only specific economies but in doing so, limit the number of their potential buyers. Specifically for Brunei Darussalam, due to perceived easier customs rules in neighboring Sarawak state in Malaysia, buyers themselves sometimes instruct that packages are instead sent to Limbang and Miri which are only a short drive from Brunei Darussalam.

To overcome some of the challenges, governments try to constantly review and improve regulations and, together with the private sector, are introducing several initiatives. For example, the successful implementation of the DFTZ in Malaysia is expected to further streamline customs clearance processes. In Brunei Darussalam, the Royal Customs and Excise Department now categorizes inbound e-commerce packages into ‘green’ or ‘red’ lanes, in order to expedite release of packages that need no additional documentation. Such categorization is a marked improvement from the previous process where all packages were examined and opened physically in front of customs officer. However, there remain rooms for improvements. For example, in Brunei Darussalam, mobile phone covers are categorized as ‘red’ along with other electronic items requiring import license from AITI whereas it is far from being ‘electronic’.

Platform operators, too, resort to self-regulation by establishing fulfillment centers in different economies to facilitate shipment. Their online platforms are also economy-specific (as opposed to

regional)⁷⁹ to satisfy the local business registration requirement for sellers on their platforms, as well as to minimize the complexity and cost of cross-border trade within ASEAN. Interestingly, shipment cost within ASEAN can be more expensive than shipment to and from the United States and Europe because of lack of traffic volume in intra-ASEAN trade. To expedite customs assessment and product release, platform operators limit the number of products per package by HS code, employ canine team and x-ray machines to screen packages before they leave their facilities, and engage with customs authorities to understand the rationale behind certain rulings and decisions to discern consistent rulings and interpretations.

4.3 Dealing with returns

In e-commerce, facilitating returns has become an integral strategy of many businesses. Having flexible return policies is not only provision of customer service but also, in fact, leads to higher sales. Sellers have to make sure that returns policies are easy to see and include clear returns instructions in packages, preferably with return bags in them. Sellers also need to make arrangements with third-party logistics providers to offer multiple channels by which products can be returned, e.g. pick up from home, drop off in designated places, or by mail.

Dealing with returns, however, increases the cost of sellers. In Malaysia, product returns happen approximately 15-16 percent of the time, according to one platform operator. This means that for approximately 15 percent of shipped goods, sellers or platform operators bear the cost of the reverse logistics, process refunds, or ship a replacement products (at no additional cost to buyers). Arguably, such potential return possibilities are already imputed in the product price and are likely borne by the consumers themselves.

Another challenge related to product returns is the refund of duties and taxes paid on those products when they entered the economy. There is no clear process on how sellers can claim back paid duties and taxes. In some cases, packages to be returned are treated the same way as new exports and therefore, subjected to a new set of duties and taxes in both originating and destination economies.

Besides tax refunds, sellers need to assess the condition of returned products and determine if they can still be sold to other customers within the economy or would have to be shipped back abroad or destroyed. Here again, there are limitations – for example, reselling within the economy may not be permissible. Returned products also occupy storage space which needs to be paid for, usually by the sellers or platform operators.

To the extent that minimizing returns can be within the sellers' control, then steps should be taken to do so. For example, returns could be caused by insufficient and unclear description of products. If so, provision of more detailed information including high-quality product images and videos

⁷⁹As an example, a buyer based in Indonesia can only purchase from Lazada Indonesia website instead of Lazada Malaysia or Lazada Singapore.

can help solve the problem. To minimize the cost of returns, some marketplace providers set up a small returns hub to consolidate returns before shipping them out in bulk.

E. SUMMARY AND RECOMMENDATIONS

The case studies gave a sketch of the e-commerce ecosystem and the multiple stakeholders involved that help make the system work smoothly and efficiently. Regulations that adversely affect any of the players in the ecosystem impact the whole, including the buyers and sellers, some of whom are SMEs. Still few SMEs are able to take advantage of the potential of e-commerce. In Malaysia, only 20 percent of SMEs are selling online. Many lack awareness of business possibilities through e-commerce and even lack basic business skills such as knowledge of excel. Even SMEs that have some years of experience selling online need more tailored training in e-commerce selling strategy, in branding and packaging their products, in the smart use of videos or pictures for online marketing, as well as appropriate ad words. Online business is more demanding with respect to quality, not only of the product itself but also of how they are presented in the web.

Initial introductions to e-commerce for SMEs usually happen through social media like Facebook or Instagram. But SMEs have problems scaling up once business picks up. Value added service (VAS) providers, such as inventory management application providers or web ‘decorators’ help SMEs transition to a more commercialized setting as in technology-enabled marketplace platforms. But joining the latter has its own challenges.

Marketplace e-commerce platforms facilitate access to a wider market, and particularly in the case of cross-border trade, provide the necessary regulatory information collection that SMEs need to sell abroad. The complexity of regulations and the disproportionate cost in money and time to collect, understand and meet these regulations is a major hurdle for SMEs. Marketplace platforms partly provide the necessary minimum information by already limiting the products that can be sold in specific economies through the websites. But SMEs still face the challenge of meeting requirements on sustainability, and industry and product standards.

While it is relatively easy to join marketplace platforms catered to the SMEs’ own domestic market, it is difficult to list themselves in platforms catered to foreign markets. Most economies require that listed sellers on platforms have local business registration, a condition that SMEs would be hard pressed in complying in other markets. Aggregators or intermediaries, including the platform itself, can help solve this problem because they have the financial capacity to do multiple local business registrations. SMEs can, in this case, act as suppliers to these intermediaries without the need to list themselves independently.

In theory, SMEs need not list themselves in foreign market platforms to access those markets because foreign buyers can find them through their domestic platforms. In fact, this happens to Korean sellers who are found by consumers who are purposely looking for Korean products like cosmetics and search them through Korean marketplace platforms like Gmarket. This requires that buyers anywhere are not blocked from accessing any e-commerce website in any economy. This also requires that the marketplace platform itself is well-known enough and has significant traffic

so they are found in engine searches. In practice, however, domestic buyers prefer buying through the domestic marketplace platform, for reasons of language and shipping cost.

Logistics cost is a significant portion of e-commerce cost. SMEs shipping parcels abroad will not be competitive, unless they have a unique product that buyers are willing to get despite the high shipping cost. To be competitive, SMEs need volume which is obtained by using intermediaries or aggregators who can negotiate better shipping discounts, or by using the logistics arranged by the marketplace platform operator.

Payment service providers are another important link in the chain. One case study, Brunei Darussalam, highlights the disadvantage brought to sellers by the lack of available payment gateway like Paypal which many international online shoppers prefer to use for payment.

Good digital infrastructures including ICT, payment services, postal services and others are important for the development of e-commerce and internationalization of SMEs. Affordable broadband connection helps access to the internet and fosters increased awareness of e-commerce. But just as important are the regulatory infrastructures like transparent regulations, expeditious customs clearance through for example electronic single window, and overall facilitative business environment starting from business registration to taxation to application of international standards.

Regular dialogues in APEC between various regulators and market players are useful to understand emerging technology trends. As well, it is important to hear policy developments that may be useful to replicate in other economies. For example, China's experience of digital free trade zones may provide lessons for others.

F. APPENDIXES

APPENDIX A. BUSINESS-TO-CONSUMER (B2C) VERSUS BUSINESS-TO-BUSINESS (B2B)

How different is B2B compared to B2C? While B2B also uses online platforms (e.g. BuyKorea in the case of Korea), many B2B platforms essentially provide matching services between sellers and buyers with the actual transactions taking place offline. Unlike B2C platforms where only sellers list products for sale, in B2B platforms, buyers too can post products they want to buy. To ensure that potential buyers are not fabricated, Korea Trade-Investment Promotion Agency (KOTRA) as B2B platform manager has to approve website postings. KOTRA verifies the credibility of buyers by deploying staff from its 127 business centers located in at least 86 economies.

Products on B2B platforms may be tailor-made, while those in B2C are more generic. Purchase orders in B2B platforms also tend to be in bulk rather than in small quantities. There are also more personal and intensive contacts between buyers and sellers, while in B2C, such contacts are minimal.

Once both buyers and sellers decide to engage in a transaction, KOTRA can mediate the process, for example by assisting in the drafting of contract. Also, despite offering online payment service in the BuyKorea platform, KOTRA usually advises buyers and sellers to agree on the condition of the order and payment first before making online payment.

APPENDIX B. DEFINITION OF MSMEs IN CHINA

Unit: RMB

Industry	Indicator	Micro	Small	Medium	Large
Agriculture, Forestry, Animal Husbandry and Fishery	Total Turnover	<500K	≥500K, <5Million,	≥5Million, <200Million	≥200Million
Manufacturing	No. of Employees	<20	≥20, <300	≥300, <1000	≥1,000
	Total Turnover	<3Million	≥3Million, <20 Million	≥20Million, <400Million	≥400Million
Construction	Total Turnover	<3Million	≥3Million, <60 Million	≥60Million, <800Million	≥800Million
	Total Assets	<3Million	≥3Million, <50Million	≥50Million, <800Million	≥800Million
Wholesale	No. of Employees	<5	≥5, <20	≥20, <200	≥200
	Total Turnover	<10Million	≥10Million, <50Million	≥50Million, <400Million	≥400Million
Retail	No. of Employees	<10	≥10, <50	≥50, <300	≥300
	Total Turnover	<1Million	≥1Million, <5Million	≥5Million, <200Million	≥200Million
Transportation	No. of Employees	<20	≥20, <300	≥300, <1000	≥1,000
	Total Turnover	<2Million	≥2Million, <30Million	≥30Million, <300Million	≥300Million
Warehousing	No. of Employees	<20	≥20, <100	≥100, <200	≥200
	Total Turnover	<1Million	≥1Million, <10Million	≥100Million, <300Million	≥300Million
Postal	No. of Employees	<20	≥20, <300	≥300, <1000	≥1,000
	Total Turnover	<1Million	≥1Million, <20Million	≥20Million, <300Million	≥300Million
Hotel and Catering Service	No. of Employees	<10	≥10, <100	≥100, <300	≥300
	Total Turnover	<1Million	≥1Million, <20Million	≥20Million, <100Million	≥100Million
Information Transmission	No. of Employees	<10	≥10, <100	≥100, <2000	≥2,000
	Total Turnover	<1Million	≥1Million, <10Million	≥10Million, <1Billion	≥1Billion
Software and Information Service	No. of Employees	<10	≥10, <100	≥100, <300	≥300
	Total Turnover	<500K	≥500K, <10Million	≥10Million, <100Millio	≥100Million
Real Estate	Total Turnover	<1Million	≥1Million, <10Million	≥10Million, <2Billion	≥2Billion
	Total Assets	<20Million	≥20Million, <50 Million	≥50Million, <100Million	≥100Million
Estate Management	No. of Employees	<100	≥100, <300	≥300, <1000	≥1,000
	Total Turnover	<5Million	≥5Million, <10Million	≥10Million, <50Million	≥50Million
Leasing and Commercial Service	No. of Employees	<10	≥10, <100	≥100, <300	≥300
	Total Assets	<1Million	≥1Million, <80Million	≥80Million, <1.2Billion	≥1.2Billion
Others	No. of Employees	<10	≥10, <100	≥100, <300	≥300

Note: Small, medium and large enterprises shall meet the requirements of all indicators; micro enterprises only need to meet one of the indicators.

Source: National Bureau of Statistics of China, 2011.

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