Chapter 5

Prospects and Challenges in Improving E-commerce Connectivity in Malaysia

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Chapter 5

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1. Introduction

Electronic commerce or e-commerce refers to a business or commercial transaction that involves an exchange of information through the electronic system or computer networks such as the Internet. E-commerce can cover a wide range of businesses due to its popularity and accessibility, made possible by the Internet. Without doubt, Internet connectivity is the spine of the industrial revolution. The production of manufacturing components across borders, real-time product maintenance, and online merchandise tracking all require a reliable and high-speed Internet connection. In recent years, Association of Southeast Asian Nations (ASEAN) members have taken steps to improve their Internet connectivity, but progress has been uneven. All ASEAN members have made steady progress in Internet connectivity and Singapore has broken the bar for 2 consecutive years (WEF, 2016). As the sub-indices deepen, progress is imbalanced. Malaysia, Singapore, and Thailand have steadily improved their digital infrastructure, with Thailand leading at 7.65% growth over 5 years, followed by Singapore with 2.31%.

Whilst individuals may be using the Internet for different purposes, their existence means that e-commerce might have a bright future in Malaysia. As e-commerce continues to grow, taking a big chunk of market share, it is important to understand why this growth is possible in the first place. One reason is convenience. Consumers can purchase physical goods and services from a website, in the comfort of their own homes, instead of visiting traditional stores, minimising travel expense and time. A website offers round-the-clock access, unlike physical stores, which are open 8–16 hours a day. An online business overcomes geographical limitations and can reach consumers all around the world, benefitting not only them but also the company's product and brand.

Whilst e-commerce offers many advantages, companies in Malaysia and in other countries are not immune to the challenges and setbacks of e-commerce. This chapter aims to discuss the current situation of e-commerce connectivity in Malaysia, which has developed rapidly (section 2). This chapter then discusses e-commerce prospects and challenges, Alibaba's role, and how to overcome challenges, specifically through regional or sub-regional cooperation.

2. E-commerce Connectivity in Malaysia

The Internet is easily accessible in most places in Malaysia. The development of the Internet and information communication technology (ICT) in Malaysia is amongst the fastest in the ASEAN region (Akamai, 2017; WEF, 2016). The Internet hosts a wide range of economic activities daily, from millions of paid downloads to billions of sales. The Internet accounts for a significant and growing portion of global gross domestic product (GDP) (Galgal, 2017). Considering the 24.5 million Internet users (76.6% penetration) in December 2016 (MCMC, 2017), the potential to expand e-commerce is unlimited. Internet users making online purchases have increased significantly, from 35.3% in 2015 to 48.8% in 2016.

In 2016, the Ministry of International Trade and Industry (MITI) Malaysia launched e-commerce initiatives involving other ministries and agencies to bring about 80% of small and medium-sized enterprises (SMEs) into the world of e-commerce (Table 5.1). Such SMEs are expected to reach more than 87 million customers in the ASEAN region and grow even more rapidly. Malaysia targeted half a million SMEs to register and become active on the e-commerce platform; 75% of retailers and 80% of manufacturers are expected to be involved in e-commerce by 2020 (MDEC, 2016).

According to Chen (2017) and Kimura and Chen (2017), fundamental of successful e-commerce includes (1) connectivity for information flow, (2) logistics connectivity, (3) connectivity for cash flow, and (4) integrated connectivity.

Table 5.1: E-commerce Initiatives by Ministries and Agencies in Malaysia

Ministry/Agency	Initiatives	Objective
Ministry of International Trade and Industry (MITI)	National eCommerce Council, comprising various ministries and agencies	Drive and coordinate programmes to increase Malaysia's e-commerce growth rate
	APEC Committee on Trade and Investment	Deliberate on trade and policy issues amongst APEC member economies
	APEC E-commerce Steering Group	
	APEC Economic Committee APEC Ad-Hoc Steering Group on Internet Economy	
	APEC SME Working Group	
	Connect and integrate national single window	Expedite cargo clearance
SME Corp	Business Acceleration Programme 2.0	Build SMEs' capacity to grow their business locally and abroad
	E-payment for SMEs and microentrepreneurs	Increase adoption of e-payment amongst micro-enterprises and SMEs
HDC	eHalal.com	Publish halal supplier and product information to buyers world-wide through eHalal.com's B2B portal and with partners' B2C portals
MATRADE	eTrade	Accelerate exports by SMEs through participation in international leading marketplaces: • 11street • Dagang Halal • Alibaba.com • Tradeindia • eBay • Amazon • JinBaoMen
MIDA	Principal Hub Incentive Domestic Investment Strategic Fund	Allow multinational corporations to enjoy benefits and incentives so they can establish their regional centre in Kuala Lumpur
MDEC	#YOUCANDUIT	Encourage Malaysians to generate income via digital platforms (education and training)
	#MYCyberSale#	Encourage SMEs to be part of e-commerce and generate online shopping demand
	#MYGlobalExport	Encourage SMEs to export their products via e-commerce (partnering with Amazon) and collaboration with MATRADE
MOF	ePerolehan	Government and related agencies adopt e-procurement
	Councils and committees	• Income tax treatment under Income Tax Act • GST
BNM	Electronic payment	Drive towards electronic payments
Customs	uCustoms	Provide fully integrated, end-to-end customs modernisation solution that delivers single window for goods clearance
	myCargo2U	Empower logistics players with a GST-ready comprehensive software to manage cargo and trade documentation, in collaboration with MITI/ Dagang NeXchange
KPDNKK	eCommerce Laws	Establish regulation related to e-commerce such as • Electronic Commerce Act 2006 • Consumer Protection Act 1999 • Consumer Protection (Electronic Trade Transactions) Regulations 2012

Ministry/Agency	Initiatives	Objective
	Malaysia Trustmark	Ensure e-commerce safety
	Virtual mall	Enable large retailers and SMEs to distribute products and services online
SSM	Online networking entrepreneurs (SSM-One)	Help entrepreneurs register their business and sell products online
MAMPU	myGovXchange	Serve as a gateway to government electronic submission and electronic payment
MOA	Agro Bazaar	Market agricultural products via online platform by FAMA
MOT	The Logistic and Trade Facilitation Master Plan	Build a strategic framework to improve the efficiency of transport and trade facilitation (steps to capitalise on Malaysia's strengths in resolving logistics bottlenecks)
Malaysian Rubber Export Promotion Council (MREPC)	MREPC Marketplace	Link buyers and sellers of rubber products
MTIB	eMall@MTIB	Build an online platform for e-books and merchandise
Cyber Security	Cyber 999	Help Internet users report or elevate computer security incidents
Malaysia Network Information Centre (MYNIC)	Business Online Bundle	Provide bundle package (domain, hosting, etc.) to SMEs to expand their business online

APEC = Asia–Pacific Economic Cooperation; B2C = Business to Customer; BNM = Bank Negara Malaysia (Central Bank of Malaysia); FAMA = Federal Agricultural Marketing Authority; HDC = Halal Industry Development Cooperation; KPDNKK = Kementerian Perdagangan Dalam Negeri, Koperasi dan Kepenggunaan (Ministry of Trade and Consumer Affairs); MAMPU = Malaysian Administrative Modernisation and Management Planning Unit; MATRADE = Malaysia External Trade Development Corporation; MDEC = Malaysia Digital Economy Corporation; MIDA = Malaysian Investment Development Authority; MOA = Ministry of Agriculture and Agro-based Industry; MOF = Ministry of Finance; MOT = Ministry of Transport Malaysia; MTIB = Malaysian Timber Industry Board; SME Corp = Small Medium Enterprise Corporation; SSM = Suruhanjaya Syarikat Malaysia (Companies Commission of Malaysia).
Source: MITI website, https://www.miti.gov.my.

2.1. Connectivity for Information Flow

This section first discusses the background of the political and regulatory environment as well as the business environment, then looks into ICT infrastructure, and affordability and skills at the individual, business, and government levels. The Network Readiness Index (WEF, 2016) ranks Malaysia second to Singapore in connectivity in information flow in ASEAN. Malaysia is at or below the median in affordability and infrastructure compared with other upper-middle-income countries.

2.1.1. Government Initiatives and Support

Malaysia has taken steps to spur e-commerce growth. With its open trade policy, Malaysia envisages vast opportunities in online business. Through the Malaysia Digital Economy Corporation (MDEC), with its more than 20 years' experience in advising the government on legislation, policies, and standards for ICT and multimedia operations, Malaysia hopes to play a leading role in the global digital revolution. In its 2018 budget, the government announced five initiatives to stimulate e-commerce growth. It allocated US$19.7 million to construct the first phase of the Digital Free Trade Zone (DFTZ), which was launched by Dato' Seri Mohd Najib Tun Abdul Razak, former Prime Minister of Malaysia, together with Jack Ma, the founder and executive chairman of the Alibaba Group, on 22 March 2017. The DFTZ is Malaysia's first initiative to capitalise on the confluence and exponential growth of the digital economy and cross-border e-commerce. The DFTZ e-services platform will connect users with the government and other business providers in supporting cross-border trade. The DFTZ will facilitate seamless cross-border trade to enable SMEs, marketplaces, and mono brands to export their goods mainly through e-commerce. The growth rate of SMEs' goods exports via the DFTZ are expected double by 2025.

To help SMEs enter online business, the MDEC and the SME Corporation of Malaysia, a central coordinating agency that formulates policies and strategies for SMEs, developed Go e-commerce – an active learning platform and hub, providing comprehensive guidance to all Malaysian SMEs keen to explore and build their businesses via e-commerce. Go e-commerce aims to empower SMEs to expand and diversify digitally. It comes with a specially made SME Readiness Tool. Members can obtain information and find out their level in an instant. Go e-commerce is also programmed to help SMEs tailor solutions to their needs. The launch of the National E-commerce Strategic Roadmap in October 2016 is evidence that the government is serious about driving the national e-commerce agenda as it strives to double the e-commerce growth rate from the current 10.8% to 20.8% by 2020, and to elevate the e-commerce GDP contribution to more than RM170 billion by 2020.

The MDEC (2016) outlines the government's intervention in six thrust areas:

(1) Accelerate adoption of e-commerce by sellers and help them increase the availability and range of their products through online channels.

(2) Increase adoption of e-procurement by businesses since most transaction values are from business-to-business (B2B) e-commerce.

(3) Lift non-tariff barriers, increase the adoption of e-payment, intensify the level of maturity of the national e-fulfilment sector, augment mass awareness of consumer protection, and facilitate cross-border e-commerce.

(4) Re-align economic incentives to ensure product delivery to areas with higher possible multiplier benefits.

(5) Invest strategically in selected e-commerce players.

(6) Promote national brands to boost cross-border e-commerce by supporting domestic companies operating in strategic sectors.

The six thrust areas will allow buyers, sellers, government agencies, platform providers, payment providers, and logistics and fulfilment providers to contribute to the growth of e-commerce.

To ensure that the digital economy includes all of society, the MDEC has introduced programmes such as eUsahawan and eRezeki. eUsahawan was launched in 2015 and aims to encourage the use of digital economy amongst SMEs. eRezeki is a training course to assist low-income households by connecting them to digital income opportunities and matching individuals to suitable tasks or work. The MDEC is also pushing to integrate digital entrepreneurship knowledge into the curricula of higher education institutions.

Malaysia was the first ASEAN member to pass privacy legislation – the Personal Data Protection Act 2010. Previous acts, including the Electronic Commerce Act 2006 and the Electronic Government Activities Act 2007, were sources for e-commerce regulation. Malaysia introduced the Digital Signature Act 1997. To protect consumers against unfair practices and ensure their right to minimum product standards, which cover e-commerce transactions and general safety requirements, consumers can refer to the Consumer Protection Act, which was amended for the third time, in 2010.

2.1.2 Infrastructure, Skills, and Usage

E-commerce development requires good Internet speed and connectivity. ASEAN countries, including Malaysia, have satisfactory Internet infrastructure (Akamai, 2017). Whilst the average Internet connection speed for Malaysia is slower than that of Singapore, it surpasses the world's average of 7.2 megabits per second (Mbps). The average Internet connection speed for Malaysia is 8.9 Mbps, with a year-to-year change of 40% (Table 5.2). The average peak connection speed is 64.1 Mbps, with a year-to-year change of 38%, exceeding the world's average of 28%. Whilst the broadband adoption rate is lower than the world's average, yearly growth is encouraging, with 10 Mbps adoption improved by 179% and 15 Mbps adoption by 339% within 1 year; 4 Mbps adoption, however, improved by only 5.6%.

An increase in domestic ICT consumption provides opportunities for SMEs in Malaysia to showcase their businesses and to reach a wider circle of customers. Although Malaysia has a satisfactory Internet speed compared with other emerging Asian countries, the broadband speed gap between ASEAN countries, including Malaysia, and developed countries is wide. Malaysia's urban and rural ICT infrastructure is developing unevenly, and Malaysia is still improving its ICT infrastructure to be at par with the world's frontiers (MOSTI, 2014).

Table 5.2: State of Internet Connectivity for Selected Asia-Pacific Countries, First Quarter, 2017

Country	Unique IPv4 Addresses	Average Connection Speed	Average Peak Connection Speed	% above 4 Mbps	% above 10 Mbps	% above 15 Mbps
Indonesia	3,201,102	7.2	66.1	76.0	18.0	5.0
Malaysia	2,036,612	8.9	64.1	72.0	32.0	14.0
Philippines	1,550,940	5.5	45.0	39.0	11.0	6.2
Singapore	1,882,779	20.3	184.5	94.0	72.0	51.0
Thailand	3,100,080	16.0	106.6	97.0	72.0	43.0
Viet Nam	8,791,007	9,5	59.0	86.0	37.0	11.0
China	116,682,392	7.6	45.9	81.0	20.0	5.0
India	15,327,977	6.5	41.4	42.0	19.0	10.0
World		7.2	44.6	82.0	45.0	28.0

Mbps = megabits per second.
Source: Akamai (2017).

Malaysia's online retail is dominated by the marketplace model. Business involvement in the online market dates to the 1990s when Lelong, an online auction and shopping website, was set up. It is one of the oldest and largest e-commerce sites in Malaysia. The two largest marketplaces are Lazada.com.my and 11street.my. Other platforms such as Mudah, Ebay, Taobao, and many others also exist. Besides selling their products through these popular marketplaces, many companies, especially SMEs, also use social media such as Facebook, Instagram, WeChat, and other platforms.

Social e-commerce is popular for several reasons:

(1) It provides two-way interaction between sellers and buyers. Both parties often find it faster to respond through social media than email or other forms of communication. Sellers can easily help buyers with their concerns and enquiries before and after sales.
(2) Buyers can read customers' reviews of specific products before deciding to buy.
(3) Malaysians are still wary of online payment, and social media allow buyers and sellers to arrange other forms of payment.

Unfortunately, business-to-consumer (B2C) e-commerce sales account for just above 1% of total retail in Malaysia, despite Internet penetration being one of the highest in the region and despite several government initiatives to help businesses. This observation was confirmed by recent findings of yStats (2018), a Germany-based e-commerce business intelligence specialist.

Whilst ICT adoption amongst businesses, including SMEs, is low, amongst individuals it is one of the highest in the ASEAN region. MCMC (2017) reports that in 2016 there were approximately 24.5 million Internet users, or 76.9% of the total population. Their most popular activities were texting, visiting social networking sites, and getting information. Despite the huge number of Internet users, only 48.8% used the Internet to shop. Almost 80% of the MCMC survey respondents said they preferred to visit brick-and-mortar stores rather than shop online. Many preferred to see, try, and feel the merchandise before they bought. Malaysia has many mega stores that offer a wide array of choices such as high-street brands, luxury labels, and even local brands. Shoppers combine shopping with family outings, dining, and other activities. Of the non-online shoppers surveyed, 64.6% were concerned about e-commerce security and privacy and were not too keen to provide their personal information such as their full names, contact numbers, and full addresses to a third party. They were also concerned about the vulnerability of online banking services that facilitate online shopping.

2.2. Logistics Connectivity

Logistics is crucial to Malaysia's e-commerce boom. A World Bank (2016) study shows that Malaysia ranked 32nd out of 160 countries in the Logistics Performance Index, which measures countries' challenges and opportunities based on trade logistics. The components analysed in the index were chosen based on recent theoretical and empirical research and also on the practical experience of the logistics professionals involved in international freight forwarding (Table 5.3). Two areas desperately needing improvement are customs and border management clearance and the delivery system.

Table 5.3: Logistics Performance Index, Malaysia, 2016

	Score (1–5)	Rank/160
Overall	**3.43**	**32**
The efficiency of customs and border management clearance	3.17	40
The quality of trade- and transport-related infrastructure	3.45	33
The ease of arranging competitively priced shipments	3.48	32
The competence and quality of logistics services – trucking, forwarding, and customs brokerage	3.34	35
The ability to track and trace consignments	3.46	36
The frequency with which shipments reach consignees within scheduled or expected delivery times	3.65	47

Source: World Bank (2016).

Undeniably, poor logistics connectivity is a reason for SMEs' low participation in B2C e-commerce (A.T. Kearney, 2017). Malaysia was rated low for warehousing and order management, flexible pickup and delivery, payment on delivery, and returns management; and moderate on real-time track and trace and reliable delivery over speed. Delivery service should take into account the nature of working households. Most deliveries are made during office hours when many working people may not be at home to receive their parcels. This wastes time and effort. Another impediment to e-commerce is the lack of proper rural addresses, which is a huge challenge for delivery agents. To enable comprehensive e-commerce coverage, the MCMC and Pos Malaysia created Address for All, which provides many rural homes with a complete premise address. In March 2017, approximately 30,000 rural premises in Kemaman, Hulu Terengganu, Pulau Pangkor, Pulau Langkawi, Kota Belud, and Lundu were provided complete addresses (MCMC, 2017).

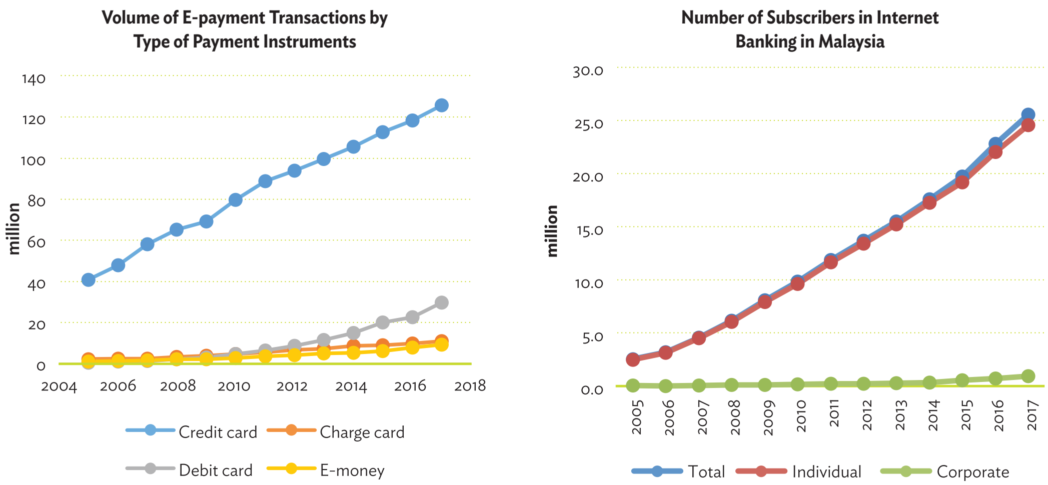
2.3. Connectivity for Cash Flow

Connectivity for cash flow ensures safe and transparent e-payment, which is the vital bridge between the physical and virtual part of e-commerce and can be done using credit cards, debit cards, online banking, cash on delivery, and PayPal, or by paying at any 7-Eleven outlet within a given time (MDEC, 2016). The Bank Negara Malaysia (BNM) says the country has a healthy e-payment system, and many regulations and policies provide reliable and secure e-payment infrastructure.

The volume of e-payment by e-money has increased dramatically since 2010. E-money has monetary values stored electronically and is usually held in cards, servers, or devices. Malaysians use e-payment regularly. Meanwhile, subscription in Internet banking has been also increasing dramatically since 2006. (Figure 5.1).

BNM has taken several initiatives to encourage the use of e-payment. With BNM's help, commercial banks have begun formulating an e-payment roadmap to increase the adoption of e-payment, decrease e-payment barriers, and improve the overall efficiency of the payment system, which will have a positive impact on the economy (BNM, 2019). BNM announced that from 1 July 2018, there would be no transfer fee for online banking. The CIMB Bank stopped charging transfer fees for online banking before other banks did. The Association of Banks in Malaysia imposes a charge of RM0.50 to process cheques, to increase the use of e-payment. The Malaysian Employees Provident Fund (EPF) is cooperating with BNM, domestic banks, and the Malaysian Electronic Clearing Corporation Sdn Bhd ('MyClear') to encourage e-payment and reduce the use of cash and cheques amongst employers, in line with the EPF's efforts to minimise dependence on counter services. Whilst

Figure 5.1: E-payment and E-banking in Malaysia



Source: Bank Negara Malaysia (2019).

the e-payment system has been improved, e-commerce will have to offer more innovative payment products, encourage the adoption and use of e-payment by SMEs and customers, and improve e-payment service (MDEC, 2016). Some e-commerce SMEs have the option to pay in instalments.

In principle, the e-commerce platform must meet the requirements to ensure e-payment security, consumer protection, tracking of credit records, privacy, credibility, reliability, and efficiency. Building and maintaining an e-payment system is resource intensive, requiring technology, capital, and human capital. Since some Malaysian banks also operate in several ASEAN countries, the Malaysian banking and financial sectors are advanced in this system. Malaysia has an advantage over other ASEAN countries in building and maintaining an e-payment system.

2.4. Integrating Connectivity

The physical and virtual parts of the e-commerce network must be unified. (Chen, 2017) Successful e-commerce connectivity needs networks of different countries or regions to better coordinate interactions, information connectivity, logistics connectivity, and e-payment. Malaysia and other ASEAN countries must bridge the rural–urban development gap.

Cross-border e-commerce has gained momentum around the world, particularly with the advancement of e-banking, e-fulfilment, and consumer protection. Of online shoppers in Malaysia, 75% buy locally whilst 20.3% make local and cross-border purchases and only

4.7% conduct cross-border transactions (MCMC, 2017). Providing affordable high-speed Internet connectivity would encourage more people, including in rural and underdeveloped parts of the country, to subscribe to the Internet and engage in e-commerce. The few service providers in Malaysia offer affordable and competitive rates: 100 Mbps for RM329 or less than US$100 per month maximum for household use, and slightly higher for business use but not more than US$100 (Table 5.3). These findings are corroborated by MCMC (2017) and the International Communication Union (ITU, 2017).

The government has taken various e-commerce initiatives through MDeC. It works with the Malaysia External Trade Development Corporation (MATRADE) in collaborating with various global e-trade players. BNM helped introduce the framework to encourage e-payments (MIDF, 2016). Some private sector organisations have been proactive in promoting e-commerce: United Business Media (UBM) Asia, for example, has partnered with e-commerce giant, Alibaba, by expanding its commercial programmes outside of China. Credit card companies and banks have linked up with e-commerce players in Malaysia, which then make exclusive offers to cardholders (MIDF, 2016).

Table 5.4: Comparing Internet Prices in Malaysia

ISP	Type	Speed (Mbps)	Monthly fee (RM)
TIME	Home	100	149
		300	189
		500	299
	Business	50	318
		100	348
Maxis	Home	10	119
		30	139
		50	219
		100	299
	Business	20	208
		32	258
		64	358
		100	389

ISP	Type	Speed (Mbps)	Monthly fee (RM)
TM	Home	1	110
		2	120
		4	130
		8	140
		10	129
		30	179
		50	199
		100	329
	Business	30	299
		50	349
		100	379
Astro IPTV	Home	10	156.88
		20	209.88
		30	262.88

ISP = internet service provider, Mbps = megabits per second, RM = Malaysian ringgit.
Source: iMoney (2018).

To reach a wider range of customers, businesses throughout the world are also selling through Facebook, most of whose users are 25–54 years old. If an SME wants to be successful, it should reveal and create promotions exclusively on Facebook (Forbes, 2018). Facebook does not limit the timeframe or character of a post, which makes it a great marketing tool. But marketing through Facebook has to be timely and unique, and businesses should keep in mind that Facebook is a social media platform, so promotional activities should not look like advertisements. The target audience should feel that they are part of the promotion. Facebook boosts are not costly and can target users based on location, age, gender, interests, demographics, likes on Facebook, and so on. Facebook is an efficient way to advertise and businesses must provide excellent service and stay in touch with customers so they will keep coming back to the page, which can also provide customer service. In Malaysia, Lazada was the number-one e-commerce site on Facebook, followed by Shopee, Zalora, Lelong, and 11street in 2017. Malaysia has more than 200 million social media users, so SMEs should use Facebook to promote their businesses locally and internationally.

Malaysia has a smaller domestic market than its neighbours. It must continue to enter into open trade agreements to promote economic growth. Free trade agreements (FTAs) are proving that Malaysian SMEs can go international and participate in global value chains. Malaysia has signed 13 FTAs. (see Annex I). The SMEs' e-commerce platform is important for reaching wider free trade markets. The FTAs do not only liberalise trade but also provide many other benefits such as trade facilitation, competitive policy for trade, SME development, research and development, and paperless trading. MATRADE encourages SMEs to participate in e-commerce and to take advantage of the FTAs. Malaysian SMEs benefit from bilateral FTAs with China, India, the Republic of Korea, Australia, Japan, Chile, New Zealand, Pakistan, and Turkey, and will benefit from bilateral and regional trade agreements coming into force.

One of the biggest obstacles to online shopping is buyers' lack of confidence in online shopping and data protection. The Personal Data Protection Act 2010 and the SME Corporation of Malaysia (SMECM) require that data provided by a company be protected. The data provided by the company – from a company, a partner company, a society, a club, an unincorporated body, or an individual – is used by the SMECM and its strategic partners. Individuals can have access to their personal data and request the SMECM to correct any incorrect information.

3. E-commerce Potential

Malaysia has enormous potential to develop digital trade and e-commerce. Its population is 32.5 million and it is geographically located in the heart of ASEAN. Malaysia has two main ports, grasping the strategic international shipping lane connecting West and East. Both ports are amongst the top-20 busiest in the world (World Shipping Council, 2018). Malaysia is close to Indonesia and borders on Thailand, connecting it to neighbouring countries such as Cambodia, Myanmar, and Viet Nam. Economically, when compared to Singapore, it has cheaper labour, abundant land, and lower operational costs to open e-fulfilment (logistic) centres to facilitate cross-border e-commerce.

Broadly, the whole ASEAN region is getting ready to grasp the growth opportunities coming long with digital economy. The use of the Internet, social media, and mobile phones is growing rapidly. By January 2018, there were over 370 million Internet users in Southeast Asia. It is forecast that the market will keep booming at double-digit growth rate. (ASEANUP, 2018) E-commerce in Indonesia, Thailand, Malaysia, Singapore, the Philippines, and Viet Nam is booming. With the third-largest population in the world and rapidly rising Internet connectivity, the ASEAN region has been one of the most promising markets of e-commerce. Many companies are using the Internet to sell the products or provide services.

In general, the region has more online shoppers and e-commerce participants compared to the United States, Europe, or Japan. Relatively, e-commerce market expansion in Indonesia, the Philippines, and Viet Nam seems to mainly driven by their large population; while in Malaysia, Thailand, and Singapore, the market is more likely driven by the purchasing power. (A.T. Kearney, 2015) Looking forward, the ASEAN e-commerce market is expected to grow twice as fast as that in Europe, the United States, or Japan. This provides Malaysia a development-friendly regional environment to promote e-commerce.

When compared to other ASEAN countries, Malaysia has several advantages. First, the level of the country's Internet and smartphone penetration, credit card usage, and the quality of transportation infrastructure are higher than most of its neighbours. In Malaysia, the high-speed Internet has covered almost three-quarters of the population. Second, Malaysians' shopping habits seem to be attractive for foreign e-commerce investors. A survey conducted by 11 street, one of the country's largest e-malls, showed that in Malaysia, men shopped online more than women. East Malaysians were 2.6 times more likely to shop online than peninsular Malaysians; 59% of online shoppers purchased something at least once a month and 80% shopped using their smartphones. Another survey, conducted by Nanyang Siang Pau in the Klang Valley of Malaysia reveals that 70% of respondents were optimistic that online shopping would dominate traditional shopping; and the prospects for e-commerce in Malaysia in the next few years would be 'immense' (ecInsider, 2016).

4. Challenges of E-commerce

Malaysia's e-commerce ecosystem is still in its early stage of development and needs to make progress in many aspects. E-commerce websites still offer a smaller range of products than many other countries (MDEC, 2016). SMEs are not growing fast enough to export internationally because they lack product offers. High upfront investment to adopt e-procurement – usually including a change of procurement processes, costs to integrate, and the need to search for suppliers – are amongst the factors hindering SMEs from adopting e-commerce. Many SME owners find the e-commerce system complex and need to build their capacity to participate in e-procurement platforms (A.T. Kearney, 2015; Rillo and Cruz, 2016; MDEC, 2016). Only about 25% of SMEs in Malaysia are active in e-commerce (MDEC, 2016). As in some other ASEAN countries, online e-commerce marketing is still driven by large companies, creating unclear value propositions because such marketing does not cover products sold by SMEs (MDEC, 2016).

How to improve the efficiency of delivery services is another challenge facing the e-commerce industry. Whilst transport infrastructure is good, many customers do not use the e-commerce platform because delivery time does not meet customers' expectations

(Jones Lang LaSalle Inc., 2013; A.T. Kearney, 2015). In Malaysia, products are delivered mostly during office hours, so the risk of items being returned is high. There is little delivery information available and sometimes it is not correct (MDEC, 2016). With the rapid growth of e-commerce, customers' delivery expectations are changing rapidly and e-retailers are under pressure to reduce fulfilment costs whilst also delivering faster. Therefore, one of the biggest limitations in the online market is reliable last-mile delivery services.

Online consumers still lack confidence and trust in Internet shopping, and many prefer to pay cash on delivery (Brewer, 2017). This is a barrier to e-commerce adoption (MCMC, 2017). Other barriers include consumers' preference to go to physical stores, as well as security and privacy concerns. Whilst e-commerce is becoming more popular, Malaysia is still far behind other countries in developing a successful e-commerce system. Product warranty is still a concern, with product warranty claims for online purchases delayed by 2 weeks to more than 1 month (Mukhtar et al., 2016). In some cases, warranty is eventually denied. Delays and denial of warranty may be caused by misunderstanding between service centres and brands. Other challenges include lack of knowledge about market access, e-commerce, and digital markets; limited production capacity; cyber security; and logistics costs and regulations of cross-border e-commerce (e.g. A.T. Kearney, 2015; Rillo and Cruz, 2016).

Malaysia also faces institutional issues such as complex border clearance procedures and disharmonised customs requirements, in addition to market-related challenges such as adoption costs, fraud, and risk of crowding out (Rillo and Cruz, 2016). Malaysia and other countries in the region need to reduce the technological complexity and barriers to free market competition and attract SMEs to e-commerce. A successful e-commerce system is made up of several components and Malaysia needs to focus on each of them.

5. Digital Free Trade Zone

To deal with the challenges of e-commerce connectivity, Malaysia collaborated with Alibaba and launched the first Digital Free Trade Zone (DFTZ) on 3 November 2017. Alibaba and its affiliated firms are participating in four segments of the DFTZ: e-fulfilment hub, e-service platform, e-payment and financing, and e-talent development. The e-fulfilment hub, under the Electronic World Trade Platform (eWTP), is in the KLIA Aeropolis, a 24,700-acre development led by Malaysia Airports Holdings (MAH). The hub is a joint venture between Alibaba Cainiao's logistics and MAH, where Cainiao holds 70% of shares and MAH 30% (Vicknaraj and Tay, 2018). The joint venture has a total paid-up capital of RM206.67 million (US$48.84 million) and will help develop the regional e-commerce and logistics hub. This covers the development of freight terminals, sorting centres, warehouses, execution centres, and other facilities that support e-commerce.

The eWTP hub provides SMEs with e-commerce infrastructure, including logistics, cloud computing, mobile payment, and talent-training services. The eWTP's vision is to reduce trade barriers and provide more equitable market access for SMEs around the world, linking the private sector and the government to work together. A one-stop solution platform has been put in place to facilitate exports by local SMEs, with services ranging from marketing and customs clearance to simplified permits and tax-filing procedures. The logistics centre is partly operational to serve Lazada, the largest online shopping platform in Southeast Asia. Alibaba recently increased its stake in Lazada, from 51% to 83%. Alibaba mentioned that goods clearance time has been reduced from 6 to 3 hours through the help of robots and cloud computing technologies.

The establishment of Alibaba Cloud local data centre in Malaysia aims to provide powerful, reliable, and secure service to meet SMEs' cloud computing needs. With the amalgamation of Tianchi's Big Data programme in Malaysia and Alibaba Cloud's global Tianchi community, Malaysian specialists will be learning to develop advanced data technologies from their counterparts around the world and place Malaysia in a leading position in the global digital economy. Alibaba Cloud has committed a local team of solution architects and professional consultants to help clients of all sizes, enabling them to reach their fullest potential. For SMEs and start-ups, in particular, access to cost-effective cloud services supported by a local team is key in choosing a cloud service partner. Alibaba Cloud levels the global playing field for small businesses. Large companies will also benefit from the convenience and security of local data storage, which will help them comply with monitoring necessities.

Training and capacity building of local business are also included in the plan. As part of the eWTP programme, local talent training is essential to ensure the ecosystem's sustainability. More than 1,000 students from Malaysian universities have participated in business-to-business e-commerce programmes, and nearly 140 faculty members have completed the Train the Trainers programme. In this regard, the establishment of joint ventures will help fill the gap in technical abilities, skills, and knowledge as well.

DFTZ also pilots in exploring e-payment and financial opportunities to facilitate business-to-business trade. Two local banks, the Malayan Banking Berhad and CIMB Group holdings, will explore joint opportunities in e-payment and financing services with Ali-Pay. Both banks will permit Chinese tourists to use their Ali-Pay e-wallet services in Malaysia. This to a great extent facilitate doing business for SMEs. In addition to its support for e-commerce, the bilateral cooperation in e-payment tends to help Malaysia accelerate the transition to an inclusive and transparent cashless society.

6. Discussion and Conclusion

Generally, government initiatives and support are encouraging, resulting in Malaysia ranking higher in network readiness than its neighbours. These initiatives cover all levels of stakeholders and aim to promote e-commerce growth and realise Malaysia's vision to be the e-commerce leader in Southeast Asia. The impacts of these initiatives, however, are still unclear since Malaysia's e-commerce ecosystem is still in its early stage of development. The level of adoption is still low amongst SMEs and individuals. Without doubt, SMEs are economically important, especially in developing countries. E-commerce is an alternative strategy for SMEs to sustain their businesses and expand across countries in this digitalised world. The level of e-commerce adoption amongst Malaysian SMEs is relatively low, with less than 10% of their GDP contribution derived from e-commerce. E-commerce adoption is lower in rural areas, where many SME owners and customers live (MOSTI, 2014). These areas need stable, affordable high-speed Internet connection.

Why individual consumers shun e-commerce should be studied. Although Internet penetration level is high and the use of credit cards is expanding, the level of e-commerce adoption is still low. The lack of confidence and trust in the products sold online and the concern for security and privacy whilst paying online are the two main barriers to e-commerce adoption. If these concerns are not addressed adequately, e-commerce will not be adopted.

Another big issue is the link between the physical and virtual parts of e-commerce, which involves smooth networking amongst countries as well as coordinated information, logistics, and cash flow connectivity. Cross-border e-commerce transactions can expand throughout the ASEAN region, especially with the advancement of e-banking, e-fulfilment, and consumer protection. Urban and rural areas, however, are developing unevenly in Malaysia and other Southeast Asian countries, which should improve their connectivity to ensure e-commerce growth in the region.

Malaysia established the DFTZ to promote e-commerce amongst SMEs and improve e-commerce logistics. As cross-border e-commerce grows, complementary or alternative approaches to fulfilment might be needed. The target is to drive down the cost of shipment and shorten the end-to-end return cycle. This will facilitate international sales, with the help of leading fulfilment service providers. The government has added extra terminals, is rehabilitating existing ports, and is developing new ones. Another important investment is the railway connecting the east and west coasts of Malaysia – the East Coast Rail Link (ECRL). It will be operated and owned by Malaysia Rail Link, Sendirian Berhad, but the vehicle will be owned by the Ministry of Finance. The ECRL will connect Port Klang on the west coast of peninsular Malaysia to Pengkalan Kubor in northeast peninsular Malaysia, and link the East Coast Economic Region to the east coast of peninsular Malaysia. The ECRL is expected to carry cargoes and passengers and to be completed by 2024.

Alibaba's involvement in Malaysian e-commerce initiatives improves e-commerce connectivity and helps the country fulfil its vision to lead in e-commerce in Southeast Asia. Former Prime Minister Najib Razak pledged his full support for the initiatives, saying he looked forward to 'the rebirth of the new Silk Road'. The e-hub is designed to ease trade between Malaysian and Chinese firms and is also expected to boost trade between Southeast Asia and China. This initiative will open opportunities for small businesses, especially start-ups, by lowering the barriers to cross-border trade and by providing access to the global market. The Malaysian market is the smallest in Southeast Asia but local companies may be able to sell to China, which will help increase creativity and innovation amongst Malaysian companies so they become more competitive globally.

This Belt and Road project, however, has also raised anxiety due to its strong control over the process, which could lead to a monopoly. Malaysian firms may find it difficult to compete with the giants. Small businesses that depend on commoditised products may be outpriced by their competitors from China. As it is, Alibaba, through Cainiao, has a bigger share of the logistics market than MAH. Alibaba recently raised its share in Lazada, the biggest e-commerce platform in Southeast Asia. Local businesses, however, should take full advantage of Alibaba's platform and use their language skills and education to compete with other mainland Chinese businesses. Local businesses need to be more creative. They should publicise their companies and products. To ensure that the market is competitive, the government should encourage more Malaysian firms to provide similar services because they understand the needs of Malaysian customers.

Malaysia must encourage e-commerce adoption amongst SMEs because they are vital to the economy. E-commerce adoption is a source of competitive advantage. E-commerce improves financial performance and operational competence and enables SMEs to compete globally, enhancing the quality of their information and competitiveness (Migiro, 2006). Malaysian SMEs will increase their computing capabilities and be exposed to globalisation and cross-functional communication and cooperation. They will be able to offer online customers a vast and diverse choice of products. But they need to improve their logistics services, provide an effective payment gateway, and develop innovative ideas and products if they are to compete with international big players such as Alibaba and Amazon.

The Malaysian e-commerce ecosystem is dynamic and fast-changing, so businesses, especially SMEs, should equip themselves and take full advantage of all the government's initiatives and support. With strong government backing, Malaysia could very well lead e-commerce in Southeast Asia.

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Annex I: List of Free Trade Agreements Signed Between Malaysia and Trading Partners

Free Trade Agreement	Entry into Force
Malaysia–Japan Economic Partnership Agreement (MJEPA)	13 July 2006
Malaysia–Pakistan Closer Economic Partnership Agreement (MPCEPA)	1 January 2008
Malaysia–New Zealand Free Trade Agreement (MNZFTA)	1 August 2010
Malaysia–India Comprehensive Economic Cooperation Agreement (MICECA)	1 July 2011
Malaysia–Chile Free Trade Agreement (MCFTA)	25 February 2012
Malaysia–Australia Free Trade Agreement (MAFTA)	1 January 2013
Malaysia–Turkey Free Trade Agreement (MTFTA)	1 August 2015
ASEAN–China Free Trade Agreement (ACFTA)	1 July 2003
ASEAN–Korea Free Trade Agreement (AKFTA)	1 July 2006
ASEAN–Japan Comprehensive Economic Partnership (AJCEP)	1 February 2009
ASEAN–Australia–New Zealand Free Trade Agreement (AANZFTA)	1 January 2010
ASEAN–India Free Trade Agreement (AIFTA)	1 January 2010
ASEAN Trade in Goods Agreement (ATIGA)	17 May 2010

Source: MITI website https://www.fta.miti.gov.my