Lifting the Barriers to E-Commerce in ASEAN

Lifting the barriers to retail e-commerce in the region will provide a unique way to contribute to economic integration across Southeast Asia.

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Executive Summary

With the Association of Southeast Asian Nations (ASEAN) Economic Community set to come into effect by the end of 2015, retail e-commerce offers a unique opportunity to connect millions of merchants and consumers across the region.[1]

Today, e-commerce remains relatively underdeveloped in Southeast Asia, accounting for less than 1 percent of total retail sales, compared to rates of 6 to 8 percent in Europe, China, and the United States. In the coming years, as purchasing power increases, Internet penetration spreads, and online offerings improve, online retail in ASEAN markets could grow as much as 25 percent annually.

To spur this growth, some initiatives have already been launched across the region, but further interventions are required to ensure future growth. The Lifting-the-Barriers roundtable at the ASEAN Business Club Forum, held in September 2014 in Singapore, highlighted five specific actions that ASEAN countries should consider to take e-commerce to the next level.

1. Increase broadband access: Using state-aid funding where private investment is not sufficient, enhancing cross-border connectivity, and increasing efforts to raise online awareness.

2. Support the emergence of local players: Improving access to finance for small and medium enterprises, fostering the integration of digital talent into businesses, and promoting awareness of e-commerce marketplaces.

3. Reinforce online security: Increasing information sharing and bilateral assistance, harmonizing existing legislative frameworks, and creating a regional online dispute-resolution facility.

4. Promote e-payment: Encouraging non-cash transactions, establishing e-payment-specific regulations, and harmonizing e-payment regulations regionally.

5. Improve logistics and trade efficiency: Encouraging the development of online retail logistics services, facilitating e-retailers and logistics players' partnerships, accelerating the integration of logistics systems, and ensuring full implementation of the ASEAN Single Window.[2]

A holistic approach that encompasses the five actions above would allow the region to unleash the full potential of e-commerce.

This paper provides a structured understanding of the main barriers that limit retail e-commerce growth in ASEAN while providing guidance on the way forward. It specifically shares an overview of retail e-commerce across the ASEAN 6—the six major ASEAN economies: Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam—and suggests how to lift the barriers to unlock the region's full e-commerce potential.

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[1] In this paper, retail e-commerce encompasses the products and services consumers order or book via the Internet.
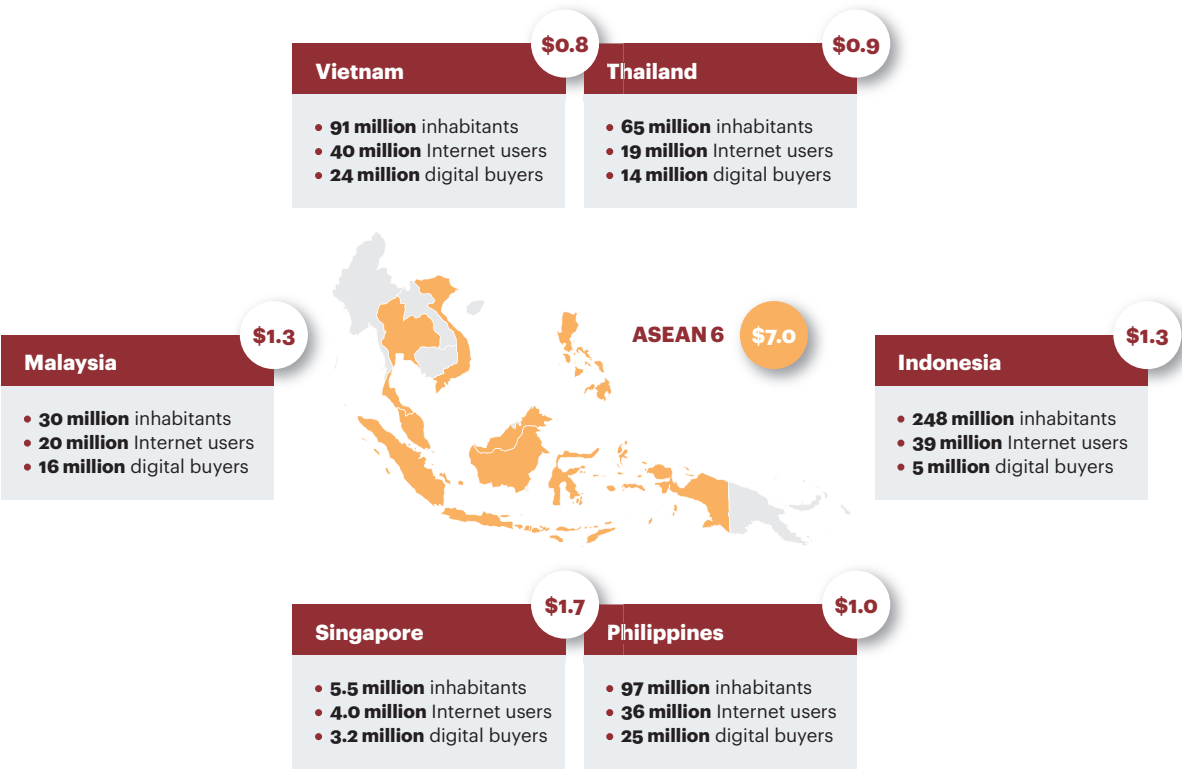
[2] The ASEAN Single Window is a regional initiative that aims to expedite cargo clearance within the context of increased economic integration in ASEAN.

Retail E-Commerce in ASEAN

The online retail market in the ASEAN 6 is worth an estimated $7 billion, with Singapore's $1.7 billion market accounting for 25 percent of all online sales in the region (see figure 1).[3] Malaysia and Indonesia follow at roughly $1.3 billion.

Figure 1
The retail e-commerce market in ASEAN

Market size
($ billion, 2013)

Vietnam — $0.8
- **91 million** inhabitants
- **40 million** Internet users
- **24 million** digital buyers

Thailand — $0.9
- **65 million** inhabitants
- **19 million** Internet users
- **14 million** digital buyers

ASEAN 6 — $7.0

Malaysia — $1.3
- **30 million** inhabitants
- **20 million** Internet users
- **16 million** digital buyers

Indonesia — $1.3
- **248 million** inhabitants
- **39 million** Internet users
- **5 million** digital buyers

Singapore — $1.7
- **5.5 million** inhabitants
- **4.0 million** Internet users
- **3.2 million** digital buyers

Philippines — $1.0
- **97 million** inhabitants
- **36 million** Internet users
- **25 million** digital buyers

Note: Market size figures are rounded.
Sources: International Monetary Fund, eMarketer, eCommerceMILO, DigitalFilipino, Frost & Sullivan, hybris, VECITA, A.T. Kearney analysis

The share of Internet users varies by country (see figure 2 on page 3). In Indonesia, only 16 percent of the population (39 million people) uses the Internet, and Thailand, the Philippines, and Vietnam still have rates below 50 percent. On the other hand Singapore and Malaysia have rates surpassing two-thirds of the population, levels close to the advanced Internet economies. The people who go online in ASEAN are young (roughly 70 percent are younger than 35 years old), spend between two and four hours a day on the Internet, and love social media (29 percent of their time online, compared to 20 percent globally).

In Thailand, the Philippines, Vietnam, Singapore, and Malaysia, the rate of Internet users who shop online ranges from 60 to 80 percent, rivaling levels found in Japan (78 percent) and the

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[3] All monetary figures in this paper are in U.S. dollars unless otherwise noted.

Figure 2
Key facts about online users and shoppers in the ASEAN 6

	Online users					Online shoppers		
	Number of online users (million)	**% total population**	**% below 35 years old**	**Time online** (hours per week)	**Time spent on social media**	**Number of online shoppers** (million)	**% online population**	**% using mobile to buy**
ASEAN 6	158	29%	70%	19.4	29%	87	55%	57%
Indonesia	39	16%	70%	13.5	25%	5	12%	61%
Malaysia	20	67%	63%	16	32%	16	80%	47%
Philippines	36	37%	71%	16.4	42%	25	70%	62%
Singapore	4	73%	51%	16.6	16%	3	80%	48%
Thailand	19	29%	74%	27.2	31%	14	75%	58%
Vietnam	40	44%	74%	26.2	22%	24	60%	58%

Sources: International Telecommunication Union, ComScore via UBS, Nielsen's global survey of e-commerce (Q1 2014), eMarketer, Trend Macro, MasterCard, PayPal, VECITA; A.T. Kearney analysis

United States (73 percent). Indonesia is an outlier; only 12 percent of its Internet users buy online, which means that just five million out of 248 million Indonesians are shopping online.

The personal computer remains the primary device to buy online, but mobile phones are more popular for online shopping in ASEAN than across the globe (57 percent vs. 44 percent). In countries where fixed broadband is not fully developed yet (Indonesia, Philippines, Thailand, and Vietnam), consumers are more prone to use their mobile phones to buy online.
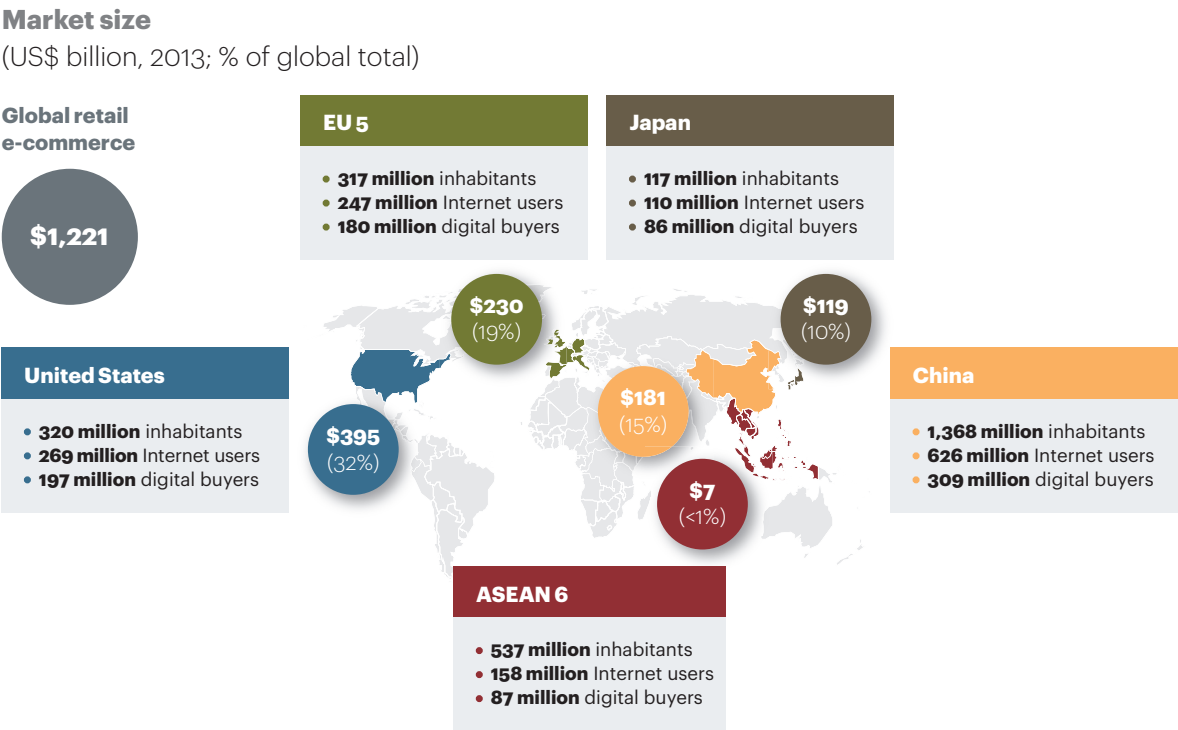
In the six major ASEAN economies, **less than one in six people shops online.**

A market still in its infancy

Despite these positive signs, ASEAN lags when it comes to the retail e-commerce market. The ASEAN 6 accounts for less than 1 percent of global online retail, even though it has 3 to 4 percent of global GDP and around 8 percent of the population. The United States, the EU's five largest economies (Germany, France, Italy, Spain, and UK), China, and Japan combine for 76 percent of global retail e-commerce (see figure 3 on page 4).
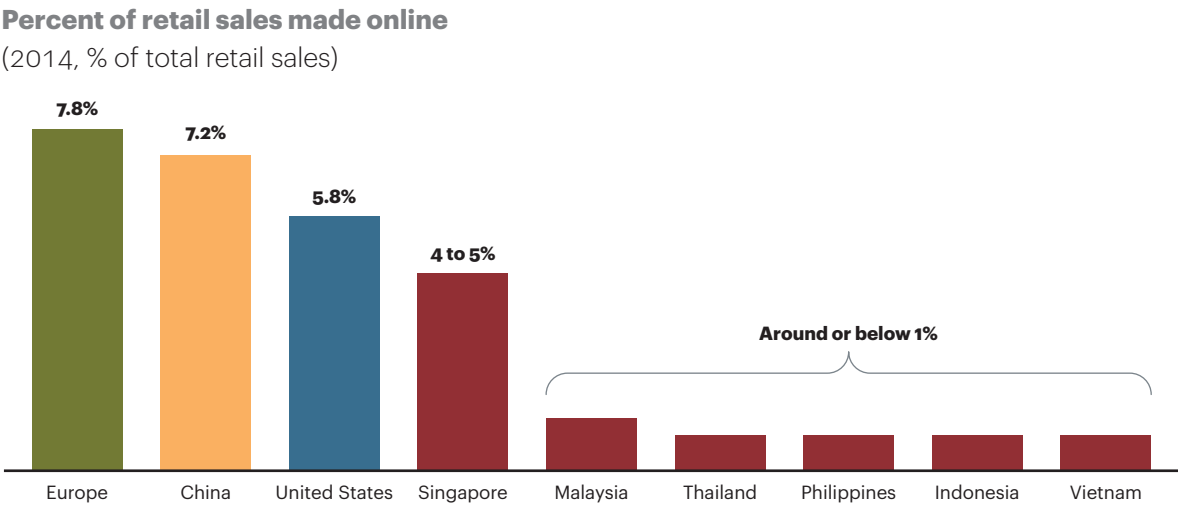
In Singapore, online retail comprises 4 to 5 percent of all retail sales; in the other five ASEAN countries it is around or below 1 percent (see figure 4 on page 4). In Europe, China, and the United States, the rates are between 5.8 and 7.8 percent, which suggests strong market potential for the ASEAN region.

Figure 3

The United States, the EU's five largest economies, China, and Japan account for three-quarters of all retail e-commerce

Market size
(US$ billion, 2013; % of global total)

Global retail e-commerce

$1,221

EU 5
- **317 million** inhabitants
- **247 million** Internet users
- **180 million** digital buyers

Japan
- **117 million** inhabitants
- **110 million** Internet users
- **86 million** digital buyers

$230 (19%)

$119 (10%)

United States
- **320 million** inhabitants
- **269 million** Internet users
- **197 million** digital buyers

$395 (32%)

$181 (15%)

China
- **1,368 million** inhabitants
- **626 million** Internet users
- **309 million** digital buyers

$7 (<1%)

ASEAN 6
- **537 million** inhabitants
- **158 million** Internet users
- **87 million** digital buyers

Notes: The EU 5 includes the European Union's five largest economies: Germany, France, the United Kingdom, Italy, and Spain. ASEAN 6 includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam
Sources: eMarketer, International Monetary Fund, International Telecommunication Union, A.T. Kearney estimates

Figure 4

In five ASEAN countries, e-commerce represents one percent or less of total retail sales
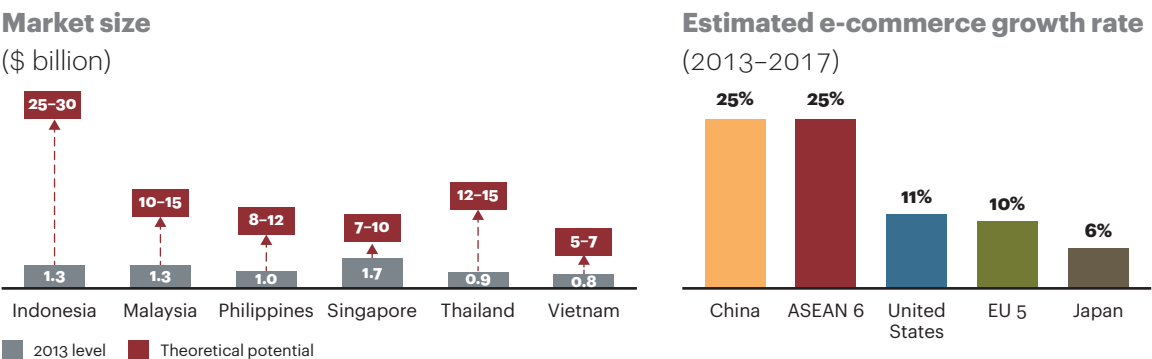
Percent of retail sales made online
(2014, % of total retail sales)

7.8% Europe
7.2% China
5.8% United States
4 to 5% Singapore

Around or below 1%

Europe | China | United States | Singapore | Malaysia | Thailand | Philippines | Indonesia | Vietnam

Sources: Frost & Sullivan; A.T. Kearney analysis

Growth expected to accelerate

To assess ASEAN's market potential, we analyzed the share of online shoppers and the share of spending on e-commerce found in more mature markets like the United States, Europe, and Japan. Applying those levels to ASEAN countries gives a perspective on how big those markets would be if consumers had similar online usage levels compared to mature markets (for example, a comparable proportion of digital buyers and a similar share of wallet spent online). Not surprisingly, Indonesia shows huge potential, although that's related more to its large population than the average amount spend online; the same applies to the Philippines and Vietnam. On the contrary, most of the market potential of Malaysia, Thailand, and Singapore come from a relatively lower share of spending on e-commerce (see figure 5). Overall, ASEAN's e-commerce market is expected to capture some of this potential in the coming years and grow at least twice as fast as the e-commerce markets in Europe, the United States, and Japan between 2013 and 2017, which will narrow the gap. Only China is expected to grow at a comparable pace.

Figure 5
ASEAN's market potential is huge

Market size
($ billion)

Indonesia: 25–30 theoretical potential, 1.3 2013 level
Malaysia: 10–15 theoretical potential, 1.3 2013 level
Philippines: 8–12 theoretical potential, 1.0 2013 level
Singapore: 7–10 theoretical potential, 1.7 2013 level
Thailand: 12–15 theoretical potential, 0.9 2013 level
Vietnam: 5–7 theoretical potential, 0.8 2013 level

■ 2013 level   ■ Theoretical potential

Estimated e-commerce growth rate
(2013–2017)

China: 25%
ASEAN 6: 25%
United States: 11%
EU 5: 10%
Japan: 6%

Notes: ASEAN 6 includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. EU 5 includes the European Union's five largest economies: Germany, France, the United Kingdom, Italy, and Spain.
Sources: eMarketer; A.T. Kearney analysis

In the past four years, the ASEAN online retail market has grown roughly 15 percent annually, almost three times faster than GDP. In the coming years, ASEAN online retail has the potential to grow even faster—up to 25 percent per year—thanks to increasing purchasing power, growing Internet penetration, and improving online offerings.

Increasing purchasing power. GDP per capita is expected to grow at roughly 6.2 percent per year, or about the same as between 2009 and 2013. In most ASEAN countries, this economic growth should help further the emergence of a young middle class that is more prone to shop online.

Growing Internet penetration. Households' access to fixed broadband is expected to increase more rapidly in the next few years as network coverage increases. And as mobile broadband spreads, consumers may be converted more easily to mobile shopping; thus we can expect that channel to play a significant role in future e-commerce growth. Many entities, including banks and telecom operators, are already developing innovative payment methods (such as by text message) that are making it easier for consumers to pay with their smartphones.

Improving online offerings. Online spending is increasing as online offerings expand and improve. Major retail players have recently extended their positions in Southeast Asia and are offering new shopping opportunities. For instance, in 2013 Rakuten launched a mobile marketplace in Singapore called Carousell, and has been making substantial investments in Indonesia and Malaysia since 2011 and 2012, respectively. Local players are also playing their part. For instance, HipVan, a specialized e-commerce site for design products such as home furnishings and fashion accessories, started in Singapore but has expanded into Malaysia. Developments in e-payment solutions will also play a positive role in online retail growth.

Lifting the Barriers

The Lifting-the-Barrier roundtable at the recent ASEAN Business Club Forum highlighted five specific barriers that ASEAN countries should understand and act upon to unleash the full potential of e-commerce: broadband access, local offerings, online security, e-payment, and logistics and trade.

The following sections examine each barrier in detail, look at how some regional or local initiatives are currently helping overcome those barriers, and offer guidance for future action.

1. Increase broadband access

Understanding the barrier

The current picture
Online connectivity in ASEAN countries remains relatively low (see figure 6 on page 7). In Vietnam, the Philippines, Thailand, and Indonesia, less than half of the population uses the Internet; only Singapore has comparable access to fixed broadband as markets such as the United States.[4] In terms of mobile broadband, less than half the population in the Philippines, Indonesia, and Vietnam has access; Singapore again is the only country with access comparable to mature economies.

Root causes
Limited network coverage. In many areas across ASEAN, high-speed Internet is not yet available for various reasons. In some areas, private investment is often considered too risky. In Indonesia, connecting more than 18,000 islands is a major logistical challenge. This lack of access has helped contribute to an "urban-rural divide." For example in Vietnam, there is a huge gap in broadband usage between the two main cities (Ho Chi Minh City and Hanoi) and the rest of the country.[5]

Slow Internet speeds. Compared to the rest of the world, Internet speeds in ASEAN are relatively slow. Even Singapore, which enjoys the region's fastest speeds, ranks just 20th worldwide.[6] The situation is more problematic for the Philippines, Vietnam, and Indonesia, which rate much lower (see figure 7 on page 7).

High cost of connection. The cost of broadband remains high across the region despite recent increases in Internet penetration. Within the region, only Singapore and Malaysia are considered to have affordable broadband.[7]
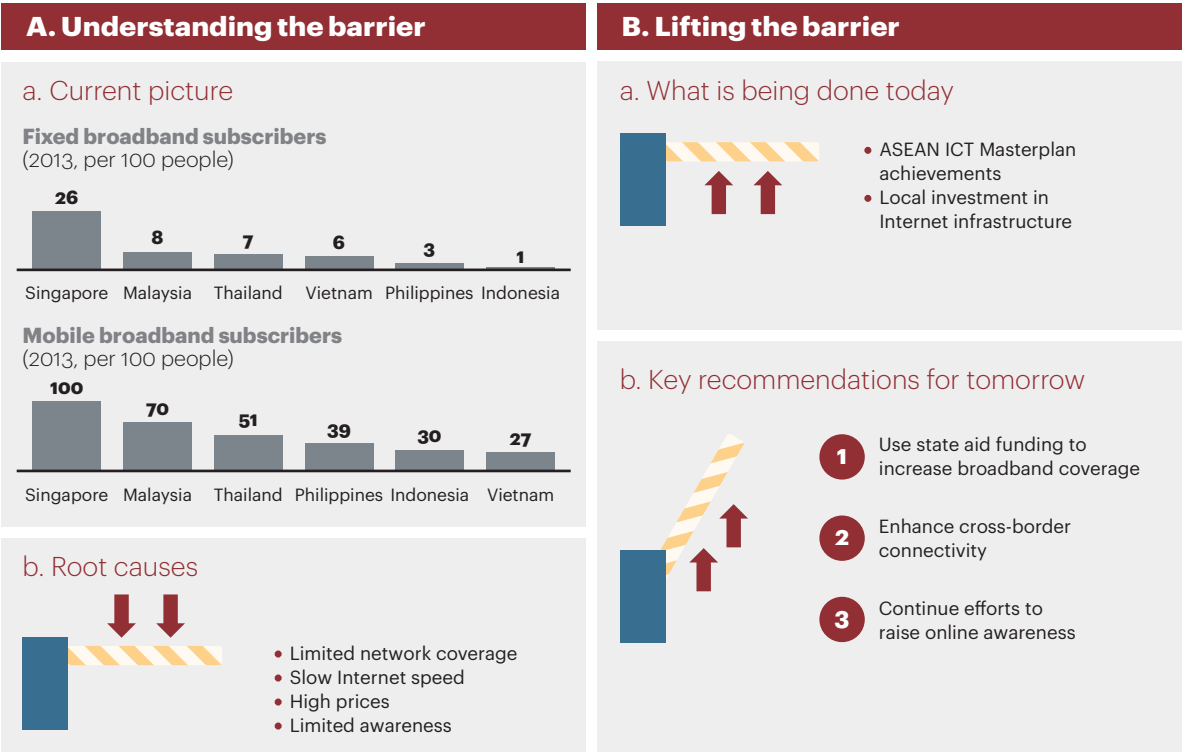
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[4] Fixed broadband includes digital subscriber lines, cable modems, or other high-speed technologies.

[5] *The future of broadband in South-East Asia*, The Economist Intelligence Unit, 2014

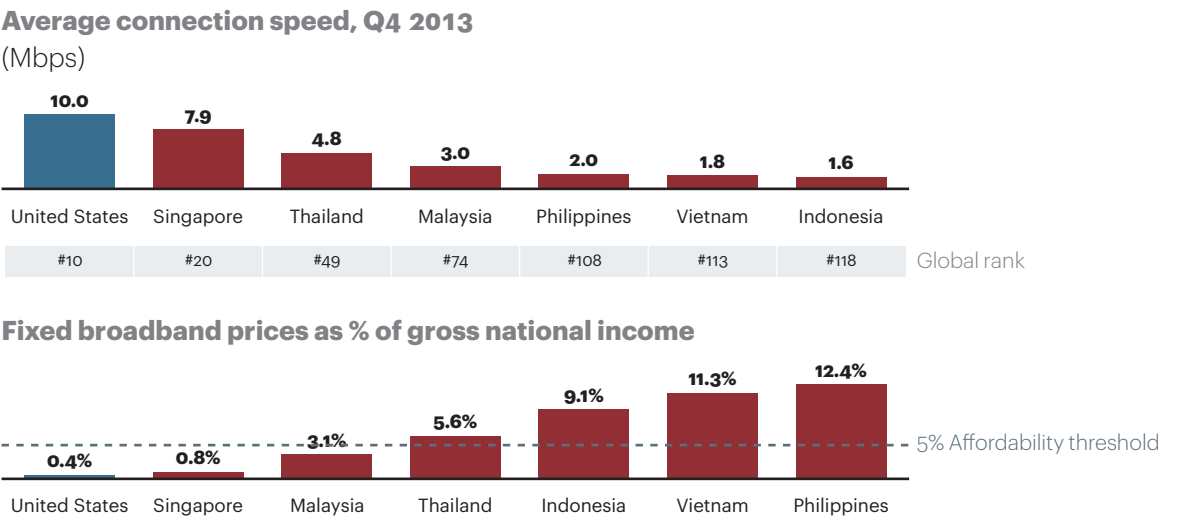[6] This is based on a ranking of 238 countries and regions connected to the Akamai Intelligent Platform.

[7] Thresholds for affordability are determined by the Broadband Commission for Digital Development, jointly set up by the International Telecommunications Union and UNESCO.

Figure 6
Lifting-the-barrier 1: Increase broadband access

A. Understanding the barrier

a. Current picture

Fixed broadband subscribers
(2013, per 100 people)

Singapore	Malaysia	Thailand	Vietnam	Philippines	Indonesia
26	8	7	6	3	1

Mobile broadband subscribers
(2013, per 100 people)

Singapore	Malaysia	Thailand	Philippines	Indonesia	Vietnam
100	70	51	39	30	27

b. Root causes

- Limited network coverage
- Slow Internet speed
- High prices
- Limited awareness

B. Lifting the barrier

a. What is being done today

- ASEAN ICT Masterplan achievements
- Local investment in Internet infrastructure

b. Key recommendations for tomorrow

1. Use state aid funding to increase broadband coverage
2. Enhance cross-border connectivity
3. Continue efforts to raise online awareness

Sources: World Bank, International Telecommunication Union, GSMA Wireless Intelligence; A.T. Kearney analysis

Figure 7
Compared to the rest of the world, Internet speeds in ASEAN are slow and costs high

Average connection speed, Q4 2013
(Mbps)

	United States	Singapore	Thailand	Malaysia	Philippines	Vietnam	Indonesia
Speed	10.0	7.9	4.8	3.0	2.0	1.8	1.6
Global rank	#10	#20	#49	#74	#108	#113	#118

Fixed broadband prices as % of gross national income

United States	Singapore	Malaysia	Thailand	Indonesia	Vietnam	Philippines
0.4%	0.8%	3.1%	5.6%	9.1%	11.3%	12.4%

5% Affordability threshold

Note: Affordability threshold is as determined by the Broadband Commission for Digital Development, jointly set up by International Telecommunication Union (ITU) and UNESCO.
Sources: ITU, Akamai; A.T. Kearney analysis

Limited awareness. Despite the recent advances in Internet penetration, many rural populations as well as older generations still do not know how to use the Internet or remain reluctant to use it and therefore need additional guidance.

Lifting the barrier

What is being done today?

The ASEAN ICT Masterplan 2015. Regional cooperation in the information and communications technology (ICT) sector dates back to 1999 with the e-ASEAN initiative. The ICT ASEAN Masterplan 2015, launched in 2011, is the current regional framework for digital strategy.

The master plan outlined 29 actions articulated around six strategic thrusts: economic transformation; people empowerment and engagement; innovation; infrastructure development; human capital; and bridging the digital divide.

The plan's mid-term review in December 2013 found that two-thirds of the actions had already been achieved with successful initiatives implemented in various fields, including the first ASEAN CIO Forum in 2012 and the creation of a training program for the elderly and people with disabilities (asean4all.org).

Other initiatives, such as the ASEAN Broadband Corridor, focus on developing next-generation infrastructure and ensuring minimum standards and strong broadband quality across the region.

Local investment in broadband infrastructure, especially mobile. ASEAN countries have also been active individually in developing Internet infrastructure. For instance, Indonesia has invested to connect its eastern islands to the country's Internet network and is planning to develop a nationwide fiber-optic network. Thailand migrated from 2G to 3G in 2013, reaching 70 percent coverage in a few months, and has now introduced 4G services. Since mobile penetration rates are already fixed and will continue to grow, we expect it to play a significant role in e-commerce expansion going forward.

Key recommendations for tomorrow

Use state aid to increase broadband coverage. As Singapore's Minister for Communications and Information, Yaacob Ibrahim, highlighted: "[Applying] ICT in the public sector is one of the key initiatives of the ASEAN ICT Masterplan 2015. But recognizing that different states have different levels of development, ASEAN has left the implementation of these initiatives to the various states."[8]

However, local action has its limitations. As broadband coverage increases rapidly in high-potential areas, poorer coverage of remote areas will soon become an issue. Private players will likely be reluctant to invest in these areas, which could accentuate the digital divide.

The European Union has successfully dealt with this issue using a collective response. It has set state-aid funding to foster broadband deployment in remote areas, understanding that the private sector may not consider such investments feasible for them. The EU's regional policy investment helped make broadband available to millions of extra people since its deployment. Comparable moves in ASEAN could help accelerate access to broadband and consequently boost e-commerce.

Enhance cross-border connectivity. International infrastructure is key to ensuring regional connectivity. A recent report by UNESCAP called for governments to intervene to implement a Pan-Asian Terrestrial Fiber Optic Network, as international infrastructure in the region is currently

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[8] "ASEAN Ministers emphasize cooperation in ICT initiatives," FutureGov, 18 November 2013

limited and helps create inequality among markets.[9] The report has already identified priority projects, including one between Malaysia and Indonesia, noting that the private sector has been reluctant to make investments and that public intervention will have to provide the financial support and facilitate the bureaucratic process.

Raise online awareness. Digital awareness programs need to become more generalized parts of educational systems. Also, encouraging private sector involvement can bring additional insights and strengthen existing initiatives. In September 2014 at the second ASEAN Ebook Conference in Kuala Lumpur, the Malaysian publishing industry, which hosted the conference, pushed the idea of introducing e-textbooks in Malaysian schools.[10]

Several initiatives conducted as part of the ASEAN ICT Masterplan could also inspire further action led at the local level. For instance, the ASEAN Cyberkids Camp, designed to create awareness of basic ICT applications for primary schoolchildren, could serve as a platform for other large-scale local campaigns.
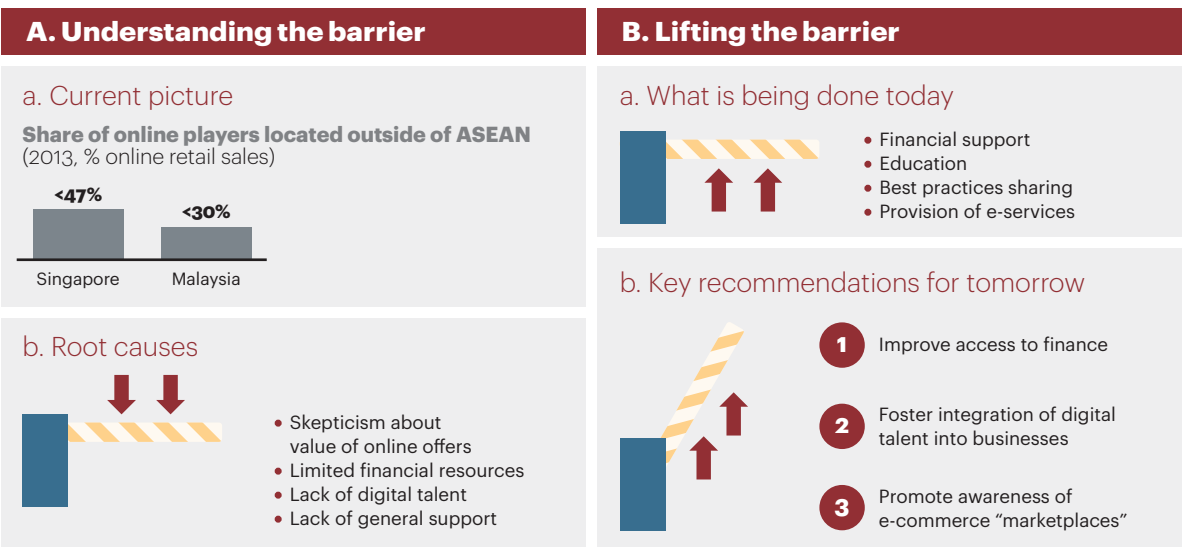
2. Support the emergence of local players

Understanding the barrier

Current picture
Although some local champions have emerged, consumers appear to be more attracted by foreign players that do not necessarily have a local footprint. In Singapore almost half of the e-commerce market is made up of online players located outside of ASEAN. In all six major ASEAN economies, large U.S.-based players such as Amazon, eBay, and Groupon are among the most popular e-commerce websites (see figure 8).

Figure 8
Lifting-the-barrier 2: Support the emergence of local players

A. Understanding the barrier	B. Lifting the barrier
a. Current picture **Share of online players located outside of ASEAN** (2013, % online retail sales) Singapore <47% Malaysia <30%	**a. What is being done today** • Financial support • Education • Best practices sharing • Provision of e-services
b. Root causes • Skepticism about value of online offers • Limited financial resources • Lack of digital talent • Lack of general support	**b. Key recommendations for tomorrow** 1 Improve access to finance 2 Foster integration of digital talent into businesses 3 Promote awareness of e-commerce "marketplaces"

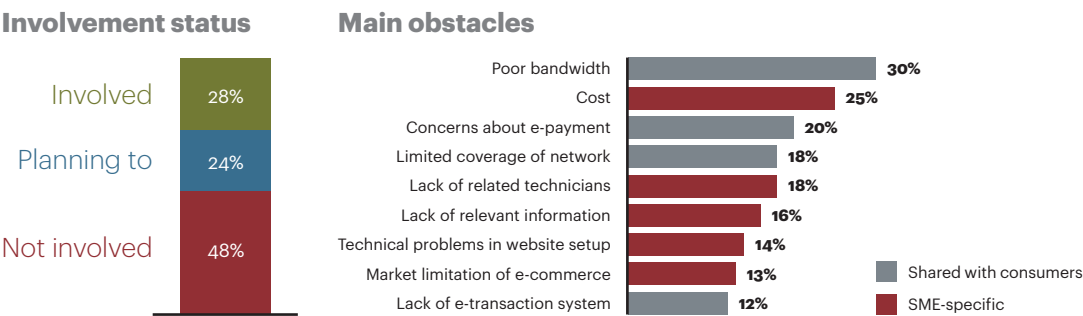Sources: Payvision, eCommerceMILO; A.T. Kearney analysis

[9] *An In-Depth Study of Broadband Infrastructure in the ASEAN Region*, August 2013, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)

[10] "At ASEAN Ebook Conference, Education Was Top Priority," *Publishing Perspectives*, 5 September 2014

Root causes

Skepticism about online offerings. In most ASEAN economies, small- and medium-sized enterprises (SMEs) represent a significant contribution to GDP and employment. However, many remain reluctant to sell online despite the opportunity. Almost half of Malaysian SMEs recently surveyed by Associated Chinese Chambers of Commerce and Industry of Malaysia (ACCCIM) said that they are not involved in e-commerce and do not plan to be (see figure 9).[11]

Figure 9

As of 2012, half of Malaysian SMEs were not involved in e-commerce

Involvement status

Involved	28%
Planning to	24%
Not involved	48%

Main obstacles

Poor bandwidth	30%
Cost	25%
Concerns about e-payment	20%
Limited coverage of network	18%
Lack of related technicians	18%
Lack of relevant information	16%
Technical problems in website setup	14%
Market limitation of e-commerce	13%
Lack of e-transaction system	12%

Shared with consumers
SME-specific

Sources: Associated Chinese Chambers of Commerce and Industry of Malaysia (ACCCIM); A.T. Kearney analysis

The brick-and-mortar SMEs that do decide to go online are facing competition on many fronts. Pure retail e-commerce players are seeing 41 times more traffic than the online platforms of traditional brick-and-mortar stores.[12]

Lack of resources. Lack of financial resources, limited access to digital talent, and the absence of general information are obstacles to SMEs' involvement in e-commerce. Hence, SMEs are often unable to afford an e-commerce presence, acquire the capabilities to develop one, or obtain the information required to develop one.

Lifting the barrier

What is being done today

Financial support. Malaysia recently set up an initiative to boost the most promising e-commerce SMEs. Multimedia Development Corporation, the national ICT agency, announced in June 2014 an e-commerce reward program to boost adoption by local SMEs. The prizes are worth up to $50,000 for the top 25 SMEs.

Education. In Singapore, the Infocomm Development Authority (IDA) launched FutureSchools@ Singapore, designed to encourage innovation and entrepreneurship in schools. This program equips students with the skills needed to be effective workers and citizens in the globalized and digital world. IDA industry partners will also use FutureSchools to experiment and commercialize the most promising new ideas.

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[11] "Malaysia's SME statistics, and e-commerce readiness," *eCommerceMILO,* 23 December 2014

[12] "E-Commerce Retail Sales See Rapid Growth in ASEAN," *Asian Briefing*, 11 August 2014

Sharing best practices. The US-ASEAN Business Council recently organized an ICT-focused workshop for 100 SMEs in Malaysia, in partnership with the SME Corporation of Malaysia. Major U.S. players such as eBay, Google, and PayPal attended and shared information on e-commerce platforms and payment tools, international shipping and delivery services, the legal aspects of cross-border e-commerce, and how to strengthen global market presence through online marketing. The partnership is also working to establish a cloud-based portal to support Southeast Asia SMEs.

Provision of e-services. Malaysian E-Government (MyEG) is one of the ASEAN region's best examples of an e-services portal helping SMEs access general information and apply for licenses to start operating in the country.

Key recommendations for tomorrow

Improve access to finance. As highlighted in the ASEAN SME Policy Index 2014, "Many SMEs lack awareness of financing resources and programs [and] have difficulty defining and articulating their financing needs."[13]

ASEAN consumers remain **reluctant to believe their online transactions are safe.**

Developing public or private financial support programs would help entrepreneurs pay for their high start-up costs, but on its own it's not enough. Efforts should be made to raise SMEs' awareness of these programs at the local level to make sure that they reach the largest possible audience.

Foster the integration of digital talent into businesses. Most ASEAN countries have already developed digital educational programs in schools and universities, however SME feedback continues to suggest a shortage of digital talent. By bringing more digital talent into the market, SMEs will find it easier to acquire the expertise, either in-house or externally, needed to develop and manage their e-commerce presence. Linking schools and businesses will improve employers' access to new digital talents as well as to the training needed. Efforts in entrepreneurial education should also be reinforced.

Promote awareness of e-commerce marketplaces. For SMEs with a lack of financial resources or limited access to digital talent, the "marketplaces" created by e-commerce players such as eBay, Lazada, and Rakuten could be a crucial entry point. This would enable SMEs to sell online without the need for significant money and people investments. SME associations in each country can work with these service providers to promote awareness of the possibilities these marketplaces offer.

3. Reinforce online security

Understanding the barrier

Current picture

To truly unleash the potential of e-commerce in ASEAN, consumers need to believe their online transactions are safe. Within the ASEAN 6 countries other than Singapore, online shoppers are more reluctant to give their credit card information than the global average (see figure 10 on page 12).

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[13] *ASEAN SME Policy Index 2014: Towards Competitive and Innovative ASEAN SMEs*, Economic Research Institute for ASEAN and East Asia
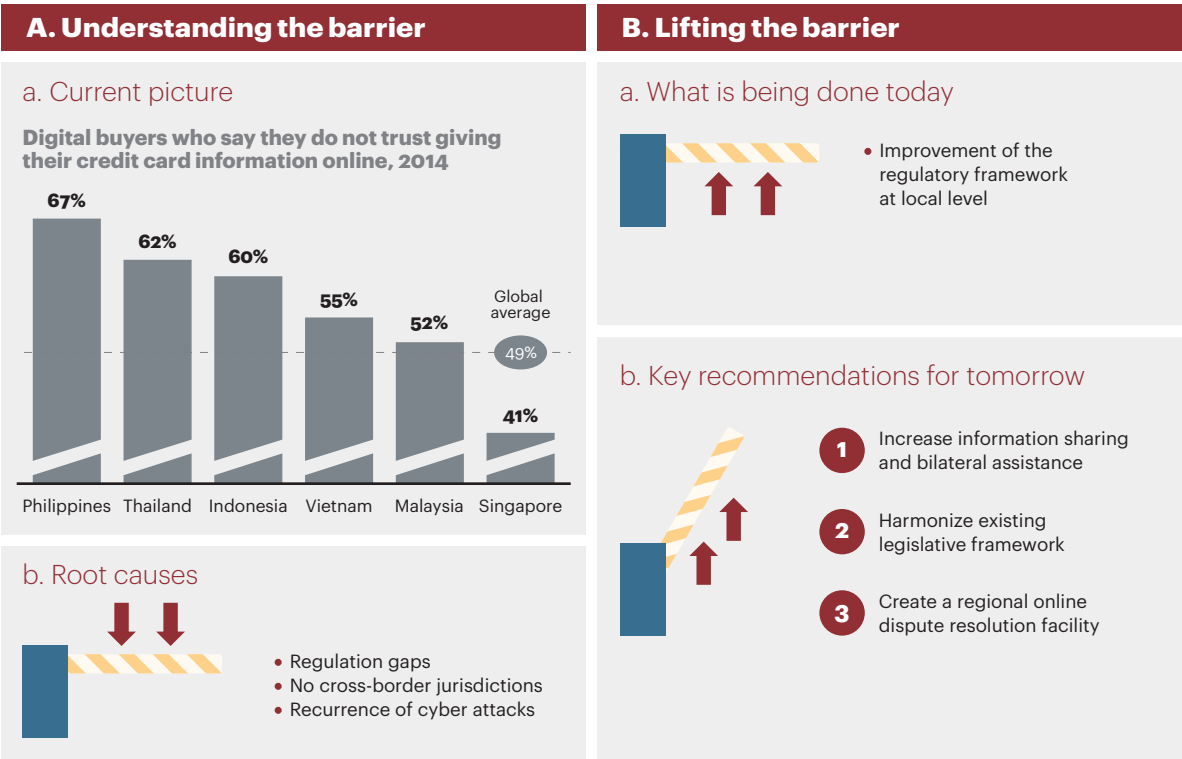
Root causes

Regulation gaps. The United Nations Conference on Trade and Development (UNCTAD) has found that despite ASEAN countries' efforts to build a comprehensive e-commerce regulation framework, important pieces of legislation are still missing in some countries (see figure 11 on page 13).[14]

The absence of cross-border jurisdiction. To date, no regional-level entity exists to fight cybercrime or settle cross-border disputes. This is anxiety-inducing for consumers, online retailers, and even investors, given that so much cybercrime occurs cross-border. As UNCTAD observed, "Becoming participants in the International Consumer Protection and Enforcement Network could be a first step in improving regional cooperation. To date, only the Philippines and [Vietnam] are members."

A heightened threat of cyber attacks. Eight of the 10 countries most threatened by cyber attacks are in Asia, including Indonesia, Thailand, Philippines, and Malaysia, with Indonesia even overtaking China as a greater source of cyber-attack traffic.[15] Thus it's not surprising that Internet users in ASEAN are worried when a website requires personal information. A survey by UM, a division of IPG Mediabrands, found that more than three-quarters of Filipinos say they are reluctant to share personal data online.[16]

Figure 10

Lifting-the-barrier 3: Reinforce online security

A. Understanding the barrier

a. Current picture

Digital buyers who say they do not trust giving their credit card information online, 2014

- Philippines 67%
- Thailand 62%
- Indonesia 60%
- Vietnam 55%
- Malaysia 52%
- Singapore 41%
- Global average 49%

b. Root causes

- Regulation gaps
- No cross-border jurisdictions
- Recurrence of cyber attacks

B. Lifting the barrier

a. What is being done today

- Improvement of the regulatory framework at local level

b. Key recommendations for tomorrow

1. Increase information sharing and bilateral assistance
2. Harmonize existing legislative framework
3. Create a regional online dispute resolution facility

Sources: Nielsen; A.T. Kearney analysis

[14] *Review of e-commerce legislation harmonization in the Association of Southeast Asian Nations*, UNCTAD, 2013

[15] Sources: *Security Threat Report 2013*, Sophos; Akamai

[16] "Pinoys lead the world in social media engagement–study," *GMA News*, 30 June 2014

Lifting the barrier

What is being done today

ASEAN countries have developed and enforced numerous laws, including general regulations on e-commerce data protection and electronic transactions (see figure 12). However, there has been little region-wide sharing of best practices on cybersecurity, nor has there been broader harmonization of legislative frameworks.

Figure 11

The status of e-commerce law in ASEAN

	Electronic transactions	Privacy	Cyber crime	Consumer protection	Content regulation	Domain names
Indonesia	✓	– – –	✓	– – –	✓	✓
Malaysia	✓	✓	✓	✓	✓	✓
Philippines	✓	✓	✓	✓	✗	✓
Singapore	✓	✓	✓	✓	✓	✓
Thailand	✓	– – –	✓	✓	– – –	– – –
Vietnam	✓	– – –	✓	✓	✓	✓

✓ Enacted – – – Draft or partial ✗ Missing

Sources: UNCTAD; A.T. Kearney analysis

Figure 12

A selection of recent e-commerce legislations in ASEAN

	Year	Regulation
Indonesia	2008	Electronic Information and Transactions Act
	2012	Electronic Information and Transactions Act (update)
Malaysia	2006	Electronic Commerce Act
	2007	Electronic Government Activities Act
	2010	Personal Data Protection Act
Philippines	2000	Electronic Commerce Act
	2008	Administrative Order 01 to Consumer Act
	2012	Data Privacy Act and the Cybercrime Prevention Act
Singapore	2010	Update of The Electronic Transactions Act
	2012	Personal Data Protection Act
Thailand	2001	Electronic Transactions Act
	2007	Computer Crime Act
Vietnam	2005	Law on E-transactions
	2006	Law on Information Technology
	2010	Law on Protection of Consumers' Rights

Sources: UNCTAD; A.T. Kearney analysis

Key recommendations for tomorrow

Increase information sharing and bilateral assistance. Inter-governmental cooperation in sharing regulatory best practices will help make the whole region's legislation process faster, smoother, and more consistent regionally. Given that some countries are trying to catch up with more advanced geographies, bilateral assistance could bring the measures needed to boost online users' confidence in e-commerce.

Harmonize existing legislative frameworks. UNCTAD has highlighted harmonization as critical to successfully tackling cybercrime, improving consumer protection, and embracing electronic signatures. The goal is to reduce "conflicts and improving cooperation among ASEAN regulators and public law enforcement agencies... to facilitate smoother cross-border enforcement."[17] In the field of consumer protection, the EU's Unfair Commercial Practices Directive (2013) offers a path forward for ASEAN. It lays down cross-country rules, including bans on fraudulent product claims, aggressive marketing practices, hidden advertising, and direct marketing to children.

Create a regional online dispute resolution facility. UNCTAD has highlighted the need for a regionally coordinated method for resolving disputes, due to increasing cross-border disputes and fewer case settlements.

The EU has an example of collective response to cybercrime. It includes legislation such as the directive on attacks against information systems as well as the European Cybercrime Centre, which was created in 2013 as a central point in fighting cybercrime, pooling continent-wide expertise in cybercrime investigations and providing a collective, cross-jurisdiction voice against cybercrime.

4. Promote e-payments

Understanding the barrier

Current picture
Even as e-commerce spreads across ASEAN, the vast majority of payments for online retail today are still made offline, in methods such as cash-on-delivery. Vela Asia Online Shopper Survey in 2013 found that only 2 to 11 percent of digital buyers use online payments in ASEAN (outside of Singapore, which is at 50 percent) (see figure 13 on page 15). Increasing e-payment penetration is key for retail e-commerce growth, as it is less costly and risky for merchants than offline payment methods.
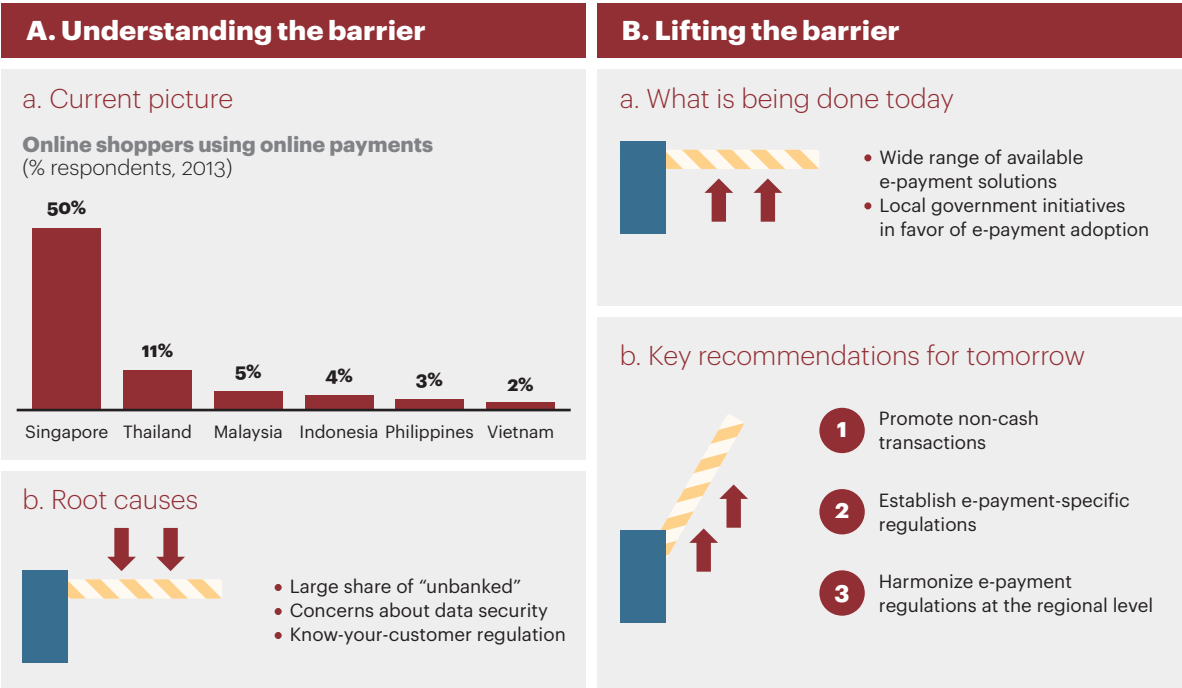
Root causes
A large share of "unbanked." In terms of financial inclusion there's a clear divide in the ASEAN 6: Singapore, Thailand, and Malaysia on one side, where two-thirds of adults have bank accounts; and the Philippines, Vietnam, and Indonesia on the other side, where between 70 and 80 percent of citizens are "unbanked" (see figure 14 on page 15). Not surprisingly, this divide is also reflected in terms of payment card ownership.

Concerns about data security. As discussed above, fears about online security and consumer protection have impacted e-payment adoption. According to a 2014 survey commissioned by PayPal, 58 percent of Malaysians say they are concerned about their financial information being stolen by cybercriminals.[18] In Indonesia, the Association of Indonesian Internet Service Providers has found that the fear of fraud is the most important obstacle to online shopping.

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[17] *Review of e-commerce legislation harmonization*, UNCTAD
[18] "Online security a major concern among Malaysian shoppers, says PayPal survey," *The Star*, 8 July 2014
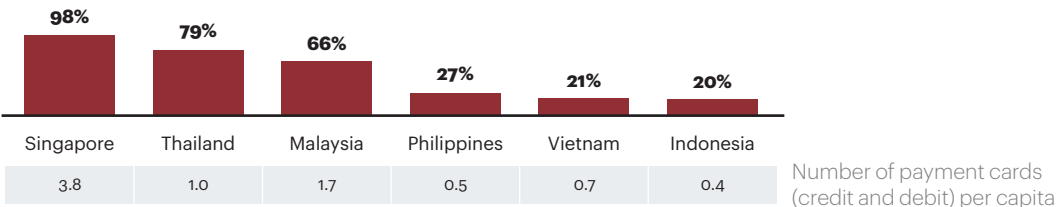
Figure 13

Lifting-the-barrier 4: Promote e-payments

A. Understanding the barrier	**B. Lifting the barrier**

A. Understanding the barrier

a. Current picture

Online shoppers using online payments
(% respondents, 2013)

Singapore	Thailand	Malaysia	Indonesia	Philippines	Vietnam
50%	11%	5%	4%	3%	2%

b. Root causes

- Large share of "unbanked"
- Concerns about data security
- Know-your-customer regulation

B. Lifting the barrier

a. What is being done today

- Wide range of available e-payment solutions
- Local government initiatives in favor of e-payment adoption

b. Key recommendations for tomorrow

1. Promote non-cash transactions
2. Establish e-payment-specific regulations
3. Harmonize e-payment regulations at the regional level

Sources: Vela Asia Online Shopper Survey (August 2013); A.T. Kearney analysis

Figure 14

In the Philippines, Vietnam, and Indonesia, there remains a large share of "unbanked"

Share of adults with an account at a formal financial institution
(2012)

	Singapore	Thailand	Malaysia	Philippines	Vietnam	Indonesia
Share	98%	79%	66%	27%	21%	20%
Number of payment cards (credit and debit) per capita	3.8	1.0	1.7	0.5	0.7	0.4

Sources: World Bank, Economist Intelligence Unit; A.T. Kearney analysis

Extensive know-your-customer (KYC) processes. In some cases, cross-border transactions require going through a heavy KYC process to ensure compliance with anti-money laundering regulations. As PayPal explained in its 2014 survey findings, consumers "have to scan copies of their national ID and send them to the payment provider facilitating the transaction and wait a couple of days for their review before the payment instruction is carried out. In the meantime, the merchant they purchased the product from will be chasing them up on payments and

wondering if they have had cold feet." This increases compliance costs for e-payment players and has a severe negative impact on the customer experience.

Lifting the barrier

What is being done today

Existing e-payment solutions. Many e-payment alternatives to cards have emerged worldwide and are now widely accessible to Internet users. Beyond popular platforms such as PayPal, Amazon Payments, and Alipay, many other players are regularly bringing new innovative solutions to the market. Local e-payment providers are also active and could help increase regional adoption. Malaysia's GHL Systems has emerged as one promising company in this field. It has developed a presence across ASEAN, including Malaysia, Thailand, and the Philippines, and seems to be entering a growth phase. Meanwhile in Indonesia, no fewer than 17 online payment companies were operating in 2014.

Local government initiatives. The Monetary Authority of Singapore has worked jointly with the Association of Banks in Singapore to adopt payment regulations, ultimately providing inputs on legislative changes and guidelines. An immediate payment project, named G3, has also been launched and is likely to benefit e-payment adoption as it allows for real-time, low-value products with the same safety as banking products. These services will also support channels such as peer-to-peer payments and increase the competitiveness of non-bank payment providers.

In Malaysia, the government has set three goals for 2020 for a new integrated payment system called the Entry Point Project (EPP): reduce cash transactions from more than 90 percent to 63 percent; increase e-payments to 200 per capita per year; and increase the number of point-of-sale terminals to 25 per 1,000 inhabitants. CIMB research estimates that e-payment transactions should grow by 10 times by 2020, from 1.2 billion today to 12 billion.[19]

Key recommendations for tomorrow

Promote non-cash transactions. E-payments have an overall positive economic impact, and they specifically help e-commerce. The G3 and EPP initiatives referenced above offer strong examples for future actions. Bringing together government and industry participants (including banks and telecom operators) will help build successful e-payment ecosystem. Government-led initiatives to reduce the use of cash are fundamental for increasing e-payment adoption.

Establish e-payment-specific regulation. Specific e-payment regulations are needed to limit current legal uncertainties. It should first address all stakeholders involved, introducing new legal concepts if needed (such as payment arrangers). It should also strengthen regulatory symmetry between financial institutions and other payment agents to foster a fair competitive environment. Finally, it should be designed so as to remain valid even for new technologies that may arise in the future.

Among the many concrete issues that need to be tackled by the regulation, KYC is a recurring one. A recent survey by PayPal highlighted the need to use KYC processes adapted to e-payment, adopting a risk-based approach that leverages the functionalities provided by big data analytics. The payment provider suggests that data points used to build a risk-based framework could include "IP address, smart device's unique identification code, geo-location based on the nearest WiFi's IP address, and GPS—of course all encrypted and within the boundaries of acceptable data collection methods."[20]

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[19] "CIMB Research starts coverage of GHL Systems," *The Star,* 9 September 2014
[20] "Why We Need ePayments Harmonization in Asia," PayPal

Harmonize e-payment regulations regionally. ASEAN has not yet harmonized and coordinated e-payment regulations. PayPal's study highlighted two concrete recommendations that we agree can help achieve this objective: create a specific e-payments subgroup within the APEC's Electronic Commerce Steering Group to provide common vision to local regulators; and create a regional central body for e-payment, bringing together stakeholder agencies with the aim of providing regulatory oversight.[21]
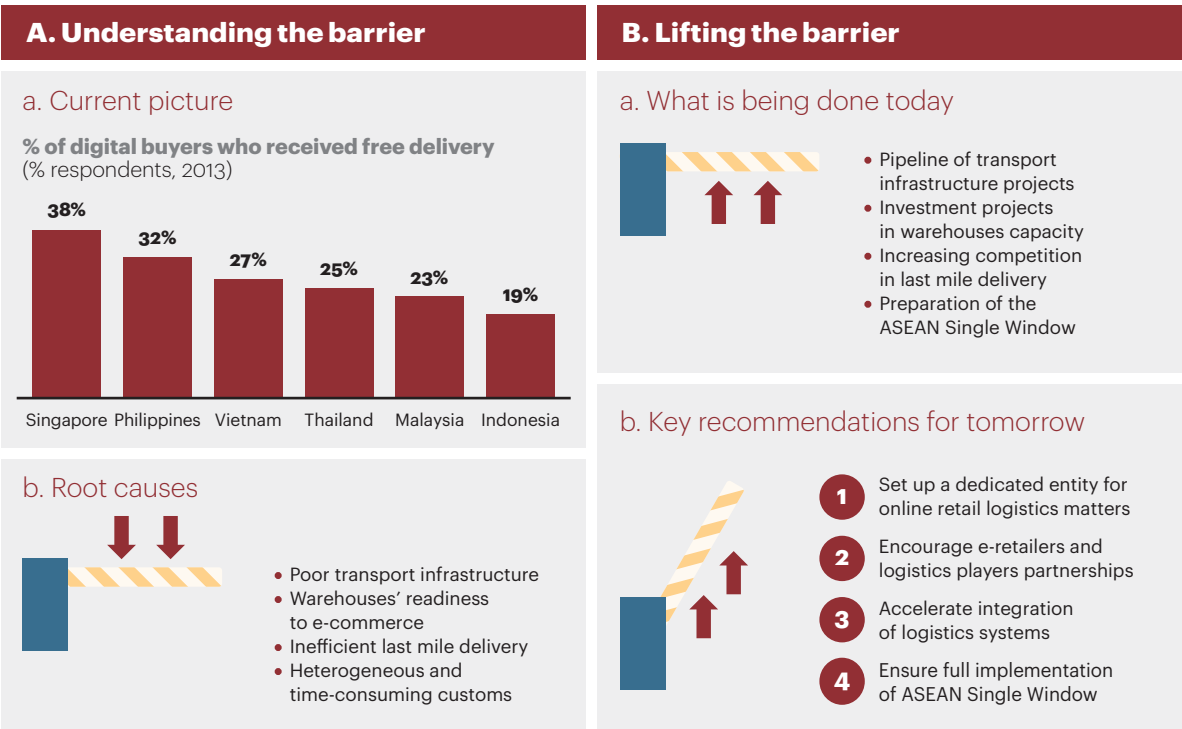
5. Improve logistics and trade efficiency

Understanding the barrier

Current picture

Logistics and trade in ASEAN today do not seem to meet shoppers' expectations. Almost half of Singaporeans say delivery is the main reason why they do not buy online, according to a study by the tech blog SGE (now part of Tech in Asia). A relatively small share of ASEAN online shoppers in the Vela Asia Online Shopper Survey in August 2013 said that they received free delivery in the previous year, indicating that logistics costs are too high for many players, who end up passing the costs on to consumers (see figure 15).[22]

Figure 15

Lifting-the-barrier 5: Improve logistics and trade efficiency

A. Understanding the barrier

a. Current picture

% of digital buyers who received free delivery
(% respondents, 2013)

Singapore	Philippines	Vietnam	Thailand	Malaysia	Indonesia
38%	32%	27%	25%	23%	19%

b. Root causes

- Poor transport infrastructure
- Warehouses' readiness to e-commerce
- Inefficient last mile delivery
- Heterogeneous and time-consuming customs

B. Lifting the barrier

a. What is being done today

- Pipeline of transport infrastructure projects
- Investment projects in warehouses capacity
- Increasing competition in last mile delivery
- Preparation of the ASEAN Single Window

b. Key recommendations for tomorrow

1. Set up a dedicated entity for online retail logistics matters
2. Encourage e-retailers and logistics players partnerships
3. Accelerate integration of logistics systems
4. Ensure full implementation of ASEAN Single Window

Sources: Vela Asia Online Shopper Survey (August 2013); A.T. Kearney analysis

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[21] APEC is the Asia-Pacific Economic Cooperation.

[22] With free delivery, costs are also passed to consumers, but they are low enough compared to margins to be hidden in retail prices.

Root causes

The geography of ASEAN poses inherent challenges for logistics. For example, the remote islands of Indonesia and the Philippines make it particularly hard to deliver products. However, several logistics inefficiencies further exacerbate the issue:

Poor transport infrastructure. Rail is underdeveloped in the region, but several projects are on their way. Once complete, the rail networks should benefit countries such as Thailand and Vietnam, increasing connection with China. There is also a need for efficient road networks in order to ensure efficient last-mile delivery. According to real estate firm Jones Lang LaSalle, upgrading roads and reducing bottlenecks in the region are the highest priorities to improve logistics in ASEAN (see figure 17).[23]

Figure 16

A qualitative assessment of transport infrastructure in ASEAN

	Road network	Rail network	Port quality	Air transport
Indonesia	Bad	Bad	Fair	Fair
Malaysia	Good	Good	Good	Good
Philippines	Fair	Bad	Bad	Bad
Singapore	Good	Good	Good	Good
Thailand	Good	Good	Good	Good
Vietnam	Fair	Fair	Bad	Bad

Sources: Jones Lang LaSalle; A.T. Kearney analysis

Lack of warehouse readiness. Outside of Singapore and Thailand, warehouse capacity has not kept pace with economic growth. In addition, investment in automation is sometimes insufficient and online players struggle to meet logistics players' volume requirements.

Inefficient last mile delivery. Last mile delivery is particularly crucial in a region where cash-on-delivery is so common. However, ASEAN logistics companies are still familiarizing themselves with it and need further refinements in their processes to suit e-commerce. For example, local post office operators find that they are often not able to meet retailers' and consumers' expectations.

Inconsistent and time-consuming customs. Import duties vary widely among countries, which hampers the regionwide e-commerce market and consumer adoption. For example, in Singapore, goods valued at less than 400 Singapore dollars (about $300) are shipped duty-free, while in Malaysia the limit is 500 ringgit (about $140). Limits, VAT, and duties also differ for different product types (see figure 17 on page 19).

For a $100 dress purchased from an ASEAN country, a digital buyer would have to pay an additional one-third of the dress price in duties and taxes in Thailand, Indonesia, Vietnam, and the Philippines. If the dress has to be returned, reclaiming import duties would either be impossible or overly expensive. In some countries, importing certain product categories also requires import permits.

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[23] *Southeast Asia's Rising Logistics Market*, Jones Lang LaSalle, 2013

Figure 17

The total customs value of a $100 dress purchased from another ASEAN country
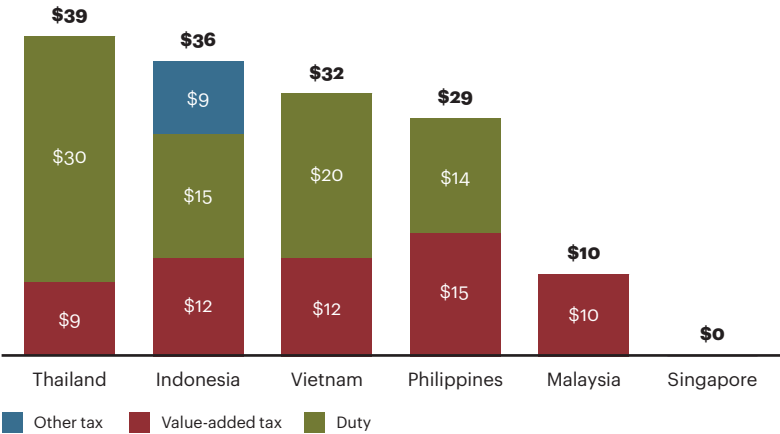
Sources: Duty Calculator; A.T. Kearney analysis

Lifting the barrier

What is being done today

A strong pipeline of transport infrastructure projects. Most ASEAN countries have already decided to invest in transport infrastructure. Indonesia and Vietnam in particular have launched numerous projects that should directly enhance local supply chain competitiveness (see figure 18).

Investment projects in warehouse capacity. Major players are investing in adding warehouse capacity. DHL has plans to invest $180 million by 2015, doubling its supply chain in the region over the next few years.

Figure 18

Transport infrastructure projects by type, 2013

	Road network	Rail network	Port quality	Air transport	Total
Indonesia	17	16	9	4	**46**
Malaysia	1	6	2	1	**10**
Philippines	1	4	–	1	**6**
Singapore	2	4	1	1	**8**
Thailand	2	13	1	3	**19**
Vietnam	25	10	7	7	**49**

Sources: Jones Lang LaSalle; A.T. Kearney analysis

Increasing competition in last-mile delivery. The ASEAN Post++ alliance, which gathers together the 10 national postal authorities, was created in August 2014 to raise local postal authorities' competitiveness on par with international courier companies and improve shoppers' ability to buy ASEAN-made products. In addition, third-party logistics providers have emerged, such as aCommerce, a Thailand-based start-up, which raised $11 million to become a leading player of last mile delivery across Southeast Asia.

The ASEAN Single Window. The ASEAN Single Window is a regional initiative that, in preparation for the AEC, is designed to optimize data exchange to facilitate regional customs integration. Each member country has been working on its own National Single Window, taking the form of a unified Internet portal and enabling stakeholders to access permits, licenses, and clearance services.

Key recommendations for tomorrow

Develop online retail logistics services. Online retail follows a different paradigm from the business-to-business supply chain. New challenges include smaller inventories not adapted to logistics companies' minimum volume requirements; demand for individual product tracking along the supply chain, requiring new IT solutions; greater volume and complexity in last mile deliveries; and a larger share of returns, requiring flexible supply chain capabilities. While some players such as aCommerce and TA-Q-BIN provide services solving some of these challenges, governments can further stimulate growth by providing subsidies or tax breaks to logistics players focusing on online retail.

Encourage partnerships between online retailers and logistics players. As e-commerce grows, ASEAN online retailers must ensure that logistics does not hinder expansion. Cooperation between retailers and logistics players is central to tackling this barrier.[24] Alibaba's investment in SingPost is one step toward addressing the issue. The involvement of government bodies at the local and regional level would help foster collaboration among players.

Accelerate the integration of logistics systems. Beyond investments in transport and warehouse infrastructure at the local level, further efforts are needed to bring together national supply chains at the regional level. A recent paper by the U.S. Agency for International Development (USAID) highlighted a few areas where regional collaboration is needed.[25] Necessary actions include creating an ASEAN logistics database system to track costs, transit times, and reliability; encouraging ASEAN businesses to outsource logistics activities to ASEAN service providers; and supporting the establishment of common standard trading provisions for logistics service providers.

Ensure full implementation of ASEAN Single Window. The ASEAN Single Window is expected to solve logistics challenges, especially difficulties with customs clearances. Regional stakeholders must monitor the window's progress, its concrete impact on e-commerce, and the appropriateness of thresholds and other policies in order to ensure that its implementation stays on track.

[24] *China's E-Commerce Market: The Logistics Challenges*, A.T. Kearney, 2011

[25] *Toward a Roadmap for Integration of the ASEAN Logistics Sector: Rapid Assessment & Concept Paper*

A Great Opportunity for ASEAN

At the regional level, the benefits of retail e-commerce development go beyond direct economic impact. It can be a vehicle for economic development, social cohesion, and cultural exchanges that contribute to regional integration. E-commerce can also propel ASEAN globally. Economic partners are already asking for a strong regional response to online retail matters. For example, the Chinese Cyberspace Administration director recently said that China would "like to share information with the ASEAN partners, including finance, customs data, disaster prevention, and evaluation."[26]

However, the approach needs to be coordinated. While the ASEAN region has already launched many ambitious initiatives in many areas directly impacting e-commerce, efforts are needed to continue the harmonization progress that has been made in recent years. Efforts around digitization, developing online offerings, data security, payment, logistics, and trade should be coordinated to ensure that regional retail e-commerce develops as fast as expected and fully benefits all regional stakeholders.

We are at an inflection point, and the forces already at work will not be sufficient to unlock the full potential of e-commerce in the region (see figure 19). Holistic, collective efforts to lift e-commerce barriers—highlighted in this report—are necessary to ensure that the ASEAN countries pave the way for a long period of sustained growth.

Figure 19
The ASEAN retail e-commerce story
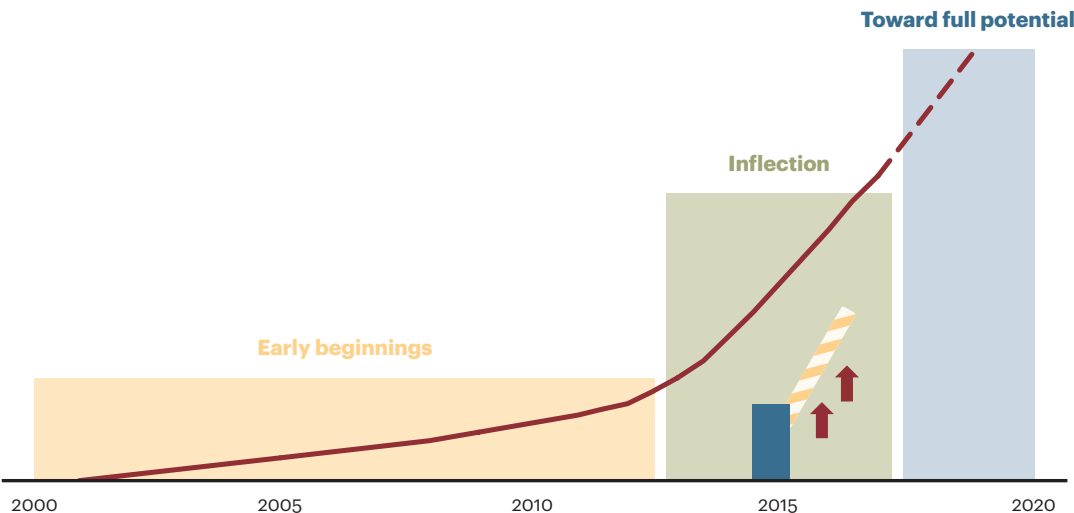
Source: A.T. Kearney analysis

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[26] "Country calls for creation of Asian Net hub," *China Daily*, 19 September 2014

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About CARI

The CIMB ASEAN Research Institute (CARI) was established in 2011 as a member of CIMB Group. CARI prides itself on being the first independent, transnational research institute dedicated solely to the advancement and acceleration of the ASEAN integration agenda. CARI was designed to pursue research and to promote thought leadership in support of an integrated ASEAN Community. CARI seeks pragmatic solutions and policy recommendations to address challenges in ASEAN integration and connectivity. CARI's headquarters is located in Kuala Lumpur but the institute has a regional presence.

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