

# CHAPTER 7

## HARNESSING E-COMMERCE FOR SUSTAINABLE DEVELOPMENT

*Contributed by the United Nations Conference on Trade and Development*

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**Abstract:** *As the digital economy expands and touches more business activities, it is important to consider how policies can help to harness e-commerce for sustainable development. This chapter examines the potential of developing countries to engage in and benefit from the expansion of e-commerce. It presents recent estimates of the value of global e-commerce, identifies related opportunities and challenges, gauges the e-commerce divide, and considers the extent to which countries are ready to engage in e-commerce. Finally, it identifies key policy areas to be addressed in national e-commerce strategies and highlights the need for more concerted policy efforts to support developing countries in this area. It discusses how to create synergies and greater scale in the overall efforts of the international community to enable more countries to engage in and benefit from e-commerce, and considers how aid for trade can support the strengthening of e-commerce readiness in developing countries.*

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## INTRODUCTION

As a starting point for the analysis in the chapter, it is appropriate to consider recent trends in e-commerce, which highlight the most prominent opportunities and challenges associated with the shift from offline to online trade<sup>1</sup>.

### E-commerce is evolving rapidly, but data are scarce

The global landscape of e-commerce is rapidly evolving, with increasing relevance for developing countries. However, the lack of statistics on e-commerce is a major challenge for mapping e-commerce uptake and measuring its impact. There are no comprehensive official data on the value of domestic and international e-commerce. Only some countries—mainly developed ones—currently compile data on e-commerce revenue. Very few report data on crossborder e-commerce. There is generally more information available on business-to-business (B2B) and business-to-consumer (B2C) transactions. This chapter also makes occasional reference to consumer-to-consumer (C2C) e-commerce and, to a lesser extent, business-to-government (B2G) transactions.

#### Box 7.1. Partner country views on availability of e-commerce data

“Currently there is limited data on e-commerce transaction and there is also a capacity challenge in the analysis to capture the data on e-commerce.” **Gambia**

“Currently this type of information has not been collected.” **Saint Vincent and the Grenadines**

“There has been no formal survey done on the e-commerce and the numbers related to it.” **Sri Lanka**

“Customs data does not separate between exports and imports done through traditional way and those completed by e-commerce.” **Yemen**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/)

Official statistics were compiled by the United Nations Conference on Trade and Development (UNCTAD) for B2C and B2B sales in the major e-commerce markets in 2015 (UNCTAD, 2017; Table 7.1). They show that global B2B and B2C e-commerce reached USD 25.3 trillion in 2015, a staggering USD 9 trillion above the 2013 value. B2C sales amounted to just over USD 2.9 trillion, slightly more than 11% of the overall global estimate. B2B sales reached over USD 22 trillion, almost 8 times the B2C value. Yet while B2B represents the largest share of e-commerce, B2C appears to be expanding faster (UNCTAD, 2015).

China was the world’s largest B2C e-commerce market in 2015, at USD 617 billion, followed closely by the United States at USD 612 billion. The United States, however, was the leader in B2B sales, at more than USD 6 trillion, well ahead of Japan (USD 2.4 trillion). In the ten economies for which data were compiled, e-commerce sales corresponded to more than a third of the aggregate GDP; in Japan and the Korea, they represented well over 50%.

The available information suggests that the market for e-commerce expanded significantly over the past decade and that it continues to grow. Such observations are supported by estimates made by private consultancy firms. While global e-commerce is still dominated by developed countries, the highest growth is observed in developing regions, especially in Asia.

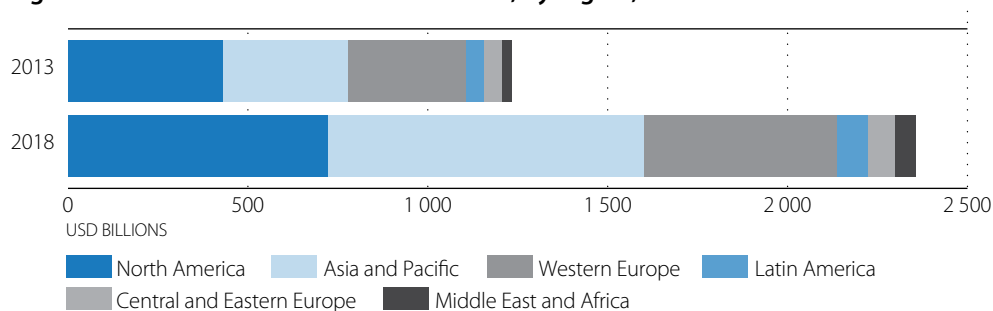
**Table 7.1. B2B and B2C e-commerce in ten major economies, 2015**

	Country	Total		B2B market		B2C market
		USD billion	% of GDP	USD billion	% of all e-commerce	USD billion
1	United States	7 055	39%	6 443	91%	612
2	Japan	2 495	60%	2 382	96%	114
3	China	1 991	18%	1 374	69%	617
4	Korea (Rep.)	1 161	84%	1 113	96%	48
5	Germany (2014)	1 037	27%	944	91%	93
6	United Kingdom	845	30%	645	76%	200
7	France (2014)	661	23%	588	89%	73
8	Canada (2014)	470	26%	422	90%	48
9	Spain	242	20%	217	90%	25
10	Australia	216	16%	188	87%	28
<b>Total for 10 above</b>		<b>16 174</b>	<b>34%</b>	<b>14 317</b>	<b>89%</b>	<b>1 857</b>
<b>Total for world</b>		<b>25 293</b>		<b>22 389</b>		<b>2 904</b>

Notes: Figures in italics are estimates. Missing data were estimated based on average ratios. Converted to USD using annual average exchange rate.

Sources: UNCTAD (2017), *Ministers to discuss opportunities and challenges of e-commerce with Jack Ma, eBay, Jumia, Huawei, Etsy, PayPal, Vodafone and more*

Projections of future growth vary considerably, depending on the methodology used. According to eMarketer, B2C e-commerce is forecast to double from USD 1.2 trillion in 2013 to USD 2.4 trillion in 2018 (Figure 7.1). The fastest growth is expected in Asia and the Pacific, where the market share is set to grow from 28% in 2013 to 37% in 2018. The only other region that is forecast to increase its share of the global market is the Middle East and Africa: from 2.2% to 2.5% over the same period. Conversely, the combined share of Western Europe and North America is expected to fall, from 61% to 53%. These estimates resonate with predictions that the next billion online consumers will be from developing countries.<sup>2</sup>

**Figure 7.1. B2C e-commerce sales worldwide, by region, 2013 and 2018**

Notes: Estimates are based on the analysis of data from research firms and government agencies, historical trends, reported and estimated revenues from major online retailers, consumer online buying trends, and macro-level economic conditions. Data include products and services ordered, and leisure and unmanaged business travel sales booked, using the Internet via any device, regardless of the method of payment or fulfilment.

Source: UNCTAD (2015), *Information Economy Report 2015: Unlocking the Potential of E-commerce for Developing Countries*, based on eMarketer data, [www.emarketer.com](http://www.emarketer.com) (accessed on 01 July 2014)

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This trend is visible also in terms of the number of people buying online. An estimated 1.1 billion people around the world made at least one online purchase in 2013, accounting for 41% of all Internet users (Table 7.2). With some 460 million online shoppers, Asia and Oceania accounted for the largest share (43%), which is expected to grow further until 2018. Western Europe and North America follow, accounting for 17% and 16% respectively of global digital buyers. The highest growth between 2013 and 2018 is anticipated for the Middle East and Africa.

**Table 7.2. Estimated number of online buyers worldwide, by region, 2013 and 2018**

	Total (million)		Growth	Online buyers as a share of:		
	2013	2018		World total of online buyers	Population	Internet users
			2013-18	2013	2013	2013
<b>Asia and Oceania</b>	<b>460.3</b>	782.4	70%	42.6%	14.9%	42.1%
<b>Western Europe</b>	<b>182.3</b>	210.2	15%	16.9%	49.0%	64.0%
<b>North America</b>	<b>172.3</b>	203.8	18%	16.0%	59.7%	72.0%
<b>Middle East and Africa</b>	<b>93.6</b>	170.6	82%	8.7%	7.1%	31.3%
<b>Latin America</b>	<b>84.7</b>	139.3	64%	7.8%	18.6%	28.2%
<b>Central and Eastern Europe</b>	<b>86.4</b>	117.4	36%	8.0%	24.1%	41.6%
<b>World</b>	<b>1,079.6</b>	1,623.7	50%	100.0%	15.2%	41.3%

Source: UNCTAD (2016a), *UNCTAD B2C E-commerce Index 2016*, eMarketer data, [www.emarketer.com](http://www.emarketer.com) (accessed on 01 July 2014).

In most developing and transition economies, people buying online constitute a small proportion of all Internet users. Unlike social networking, for which activity rates are relatively high among developing country Internet users, the share of these that engages in online shopping is generally lower than in developed countries (Figure 7.2). This may reflect limited purchasing power, but it also points to other mitigating factors, such as a lack of trust, limited shopping options (including content in local languages) and poor delivery services.

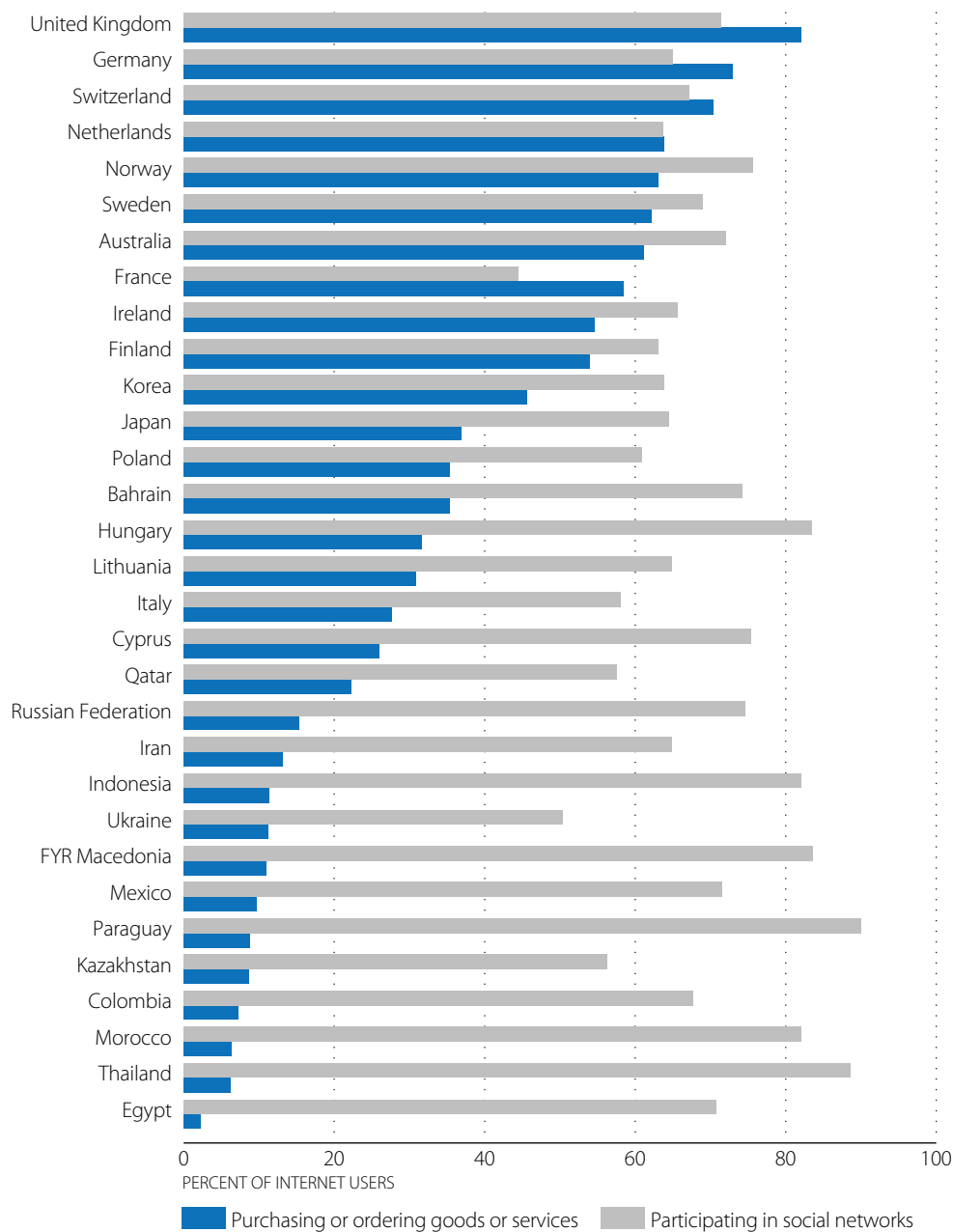
#### Box 7.2. A partner country view on the use of e-commerce

"Electronic commerce is at a very embryonic stage, however the government is aware of the importance of e-commerce and is looking to promote it." **Burkina Faso**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/)

Some developing countries feature prominently as online sellers of goods and services. In these countries, enterprises are increasingly exploiting the opportunities created by improved connectivity and the greater willingness among consumers to shop online. China, in particular, has seen the emergence of major players, such as the Alibaba Group and JD.com (formerly 360Buy.com), which now figure among the world's top e-commerce companies. As of 15 September 2014, Alibaba and Amazon ranked third and fourth, respectively, in market capitalization among the world's largest Internet companies (WSJ, 2014).

**Figure 7.2. Share of Internet users involved in online purchasing and social networking, selected countries, 2015**



Source: ITU.

StatLink  <http://dx.doi.org/10.1787/888933526576>

A relatively small number of companies accounts for a substantial share of the e-commerce market, with the level of concentration varying by country and region (Table 7.3). In the United States, the top ten leading web retailers accounted for about half (52%) of total sales by the top 500 web merchants in 2013 (Internetretailer.com, 2014). In the more fragmented European market, the top ten accounted for 37% of sales by the top 500 web retailers in 2012, and the top 100 for 80%. The level of concentration is higher in Asia, where the combined sales of the top ten accounted for as much as 86% of web sales by the region's top 500 web retailers in 2012. By comparison, the share was about 51% in Latin America in 2013.

**Table 7.3. Top ten Internet retail companies in the United States, Europe, Asia and Latin America, 2012-13**

	<b>United States 2013</b>	<b>Europe 2012</b>	<b>Asia 2012</b>	<b>Latin America 2013</b>
1	Amazon.com (United States)	Amazon.com (United States)	Alibaba Group (China)	B2W Digital (Brazil)
2	Apple (United States)	Otto (Germany)	Rakuten (Japan)	Nova Pontocom (Brazil)
3	Staples (United States)	Staples (United States)	360Buy.com (China)	SACI Falabella (Chile)
4	Wal-Mart (United States)	Home Retail Group (United Kingdom)	Amazon.com (United States)	Wal-Mart Latin America (United States)
5	Sears Holdings (United States)	Tesco (United Kingdom)	Suning Commerce (China)	Netshoes (Brazil)
6	Liberty Interactive (United States)	Apple (United States)	Jia.com (China)	Máquina de Vendas (Brazil)
7	Netflix (United States)	CDiscount.com (France)	eBay (United States)	Dell (United States)
8	Macy's (United States)	Tengelmann (Germany)	51Buy.com (China)	Amazon.com (United States)
9	Office Depot (United States)	Shop Direct Group (United Kingdom)	HappiGo (China)	Magazine Luiza (Brazil)
10	Dell (United States)	Sainsburys (United Kingdom)	Vamcl (China)	Saraiva e Siciliano (Brazil)
<b>Share of top 500 sales</b>	<b>52%</b>	<b>37%</b>	<b>86%</b>	<b>51%</b>

Sources: UNCTAD (2015), *Information Economy Report 2015: Unlocking the Potential of E-commerce for Developing Countries*; based on [internetretailer.com](http://internetretailer.com) data, [www.digitalcommerce360.com/internet-retailer/](http://www.digitalcommerce360.com/internet-retailer/)

### Assessing cross-border e-commerce is challenging

All of the estimates provided above include both domestic and cross-border e-commerce. A prominent policy challenge today is to determine the contribution of e-commerce to international trade; in other words, to assess the share of e-commerce that is cross-border. The lack of official statistics in this area makes it very difficult to provide an overall picture (UNCTAD, 2016b).<sup>3</sup> Existing data and estimates suggest that the share of cross-border e-commerce may be higher in certain developing countries.

In many developed countries, the international dimension of e-commerce is still modest. For example, European e-commerce sales are predominantly domestic in nature. In 2015, whereas 20% of the enterprises in the European Union's EU-28 sold online, on average only 8% reported making e-sales to other EU countries (Eurostat, 2017). In Ireland, which ranks first among European Union countries in businesses making e-sales, with 30%, only slightly more than half of them reported selling to customers in another EU country. In Canada, 80% of the value of online sales was attributable to customers in Canada, 15% to customers in the United States and the remaining 5% to customers in other countries (Statistics Canada, 2014).

While the number of enterprises selling cross-border online may be limited, those that do could be sourcing intermediate goods from enterprises in other countries, either online or offline. Thus, the object sold through a domestic B2C e-commerce transaction may be produced through global value chains, with inputs from firms in several other countries. This is the case, for example, for sports shoes sold on domestic retail websites.

In developing countries, although official statistics on cross-border e-commerce are scarce, there are some data from private sources. Compared with the situation in developed countries, cross-border B2C or C2C transactions weigh more significantly in a number of developing countries. For example, in 2013 more than half of the e-commerce in both India and Singapore was cross-border. In Latin America, cross-border trade accounted for the bulk of online buying by consumers in Colombia, Paraguay and the Bolivarian Republic of Venezuela, partly resulting from underdeveloped domestic e-commerce (Payvision, 2014). According to eMarketer, in Argentina, 40% of digital buyers made a cross-border transaction in 2015, compared to 45% in Brazil and 60% in Mexico (eMarketer, 2016).

Data from the Universal Postal Union (UPU) on the volume of international postal traffic offer important insights into recent trends in cross-border e-commerce of goods. Between 2011 and 2016, global deliveries of small packets, parcels and packages more than doubled, although admittedly not all of these were linked to e-commerce transactions. The UPU data confirm, however, the increasingly important role of developing countries in cross-border trade, especially in Asia and Oceania (Table 7.4). That region's share of postal deliveries sent abroad rose from 26% to 43% during the same period, while its share of received postal deliveries surged from 15% to 25%. The data further show that developed countries and Asia and Oceania run significant trade surpluses in this area, whereas Latin America and the Caribbean as well as transition economies import considerably more than they export.

**Table 7.4. International deliveries of small packets, parcels and packages, 2011 and 2016  
(Regional flows as a percentage share of global flows)**

2011							
Sent from ▼	Sent to ►	Developed countries	Africa	Asia and Oceania	Latin America and Caribbean	Transition economies	World
Developed countries		46.3 %	2.4 %	12.1 %	7 %	2.8 %	70.6 %
Africa		0.7 %	0.2 %	0.1 %	0 %	0 %	1 %
Asia and Oceania		21.6 %	0.3 %	2.7 %	0.5 %	0.4 %	25.5 %
Latin America and the Caribbean		1.7 %	0 %	0.1 %	0.3 %	0 %	2.1 %
Transition economies		0.5 %	0 %	0 %	0 %	0.3 %	0.8 %
<b>World</b>		<b>70.8 %</b>	<b>2.9 %</b>	<b>15 %</b>	<b>7.8 %</b>	<b>3.5 %</b>	<b>100 %</b>
2016							
Sent from ▼	Sent to ►	Developed countries	Africa	Asia and Oceania	Latin America and Caribbean	Transition economies	World
Developed countries		26.3 %	0.9 %	20.8 %	2.7 %	2.4 %	53.1 %
Africa		0.7 %	0.2 %	0.2 %	0 %	0 %	1.1 %
Asia and Oceania		33.2 %	0.4 %	4.2 %	1.4 %	4.0 %	43.2 %
Latin America and the Caribbean		1.0 %	0 %	0.1 %	0.2 %	0 %	1.3 %
Transition economies		0.7 %	0 %	0.1 %	0 %	0.5 %	1.3 %
<b>World</b>		<b>61.9 %</b>	<b>1.5 %</b>	<b>25.4 %</b>	<b>4.3 %</b>	<b>6.9 %</b>	<b>100 %</b>

Note: The table shows international deliveries

Source: Universal Postal Union.

**Box 7.3. World Bank views on the value of the Internet for trade**

“The internet enables more products to be exported to more markets, often by newer and younger firms. A 10% increase in internet use in the exporting country is found to increase the number of products traded between two countries by 0.4%. A similar increase in internet use of a country pair increases the average bilateral trade value per product by 0.6%”.

Source: Shawn Tan (2015), *The effects of the Internet on Firm Export Behaviour*, World Bank [www.worldbank.org/en/publication/wdr2016](http://www.worldbank.org/en/publication/wdr2016)

**E-commerce offers opportunities for development, but also challenges**

There is growing interest in the development dimension of e-commerce. The United Nations General Assembly has committed to harnessing the potential of information and communications technologies (ICTs) to advance the 2030 Agenda for Sustainable Development and achieve other internationally agreed development goals (UN, 2016). In doing so, they note that this could accelerate progress across all 17 Sustainable Development Goals (SDGs). The digitalization of trade is of direct relevance to several of these goals.

For example, digital trade can be leveraged to promote the empowerment of women as entrepreneurs and traders (SDG Target 5b). E-commerce and digital trade can support productive activities, decent job creation, entrepreneurship, creativity and innovation. They can encourage the formalization and growth of micro, small and medium enterprises (MSMEs) in developing countries, including through access to ICT-enabled financial services such as online and mobile payments (SDG Target 8.3). They can also promote the integration of MSMEs into value chains and markets (e.g. by leveraging virtual marketplaces) in support of SDG Target 9.3. Moreover, digital trade can help to significantly increase the exports of developing countries (SDG Target 17.11), in particular with a view to doubling the least developed countries’ share of global exports by 2020.

Yet as the rapid uptake of ICTs and e-commerce is transformational, it creates both opportunities and challenges for developing countries, including the LDCs.

**Box 7.4. Sri Lanka’s vision for 2022**

In 2007, Sri Lanka’s ICT and business process management (BPM) sectors agreed a ten-year plan to generate annual export revenues of USD 1 billion and employ more than 80 000 people. Today, these targets have been surpassed and ICT is now Sri Lanka’s fifth-largest export-earning sector. A new vision for 2022 has been developed with the following targets: growing revenue to USD 5 billion and creating 200 000 jobs. To make this happen, Sri Lanka’s goal is to move up the value chain—shifting from a focus on cost to one based on value. The ICT sector has constructed its strategy for making this happen around three targets:

1. building capacity by tripling the number of ICT graduates by 2020 (there were only 6 000 graduates in ICT and related fields in 2015)
2. promoting innovation by encouraging the creation of 1 000 start-ups and fostering links between academia and the private sector
3. underpinning regional development by taking the ICT/BPM industry to the regions, again by promoting linkages with universities.

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/)



In terms of opportunities, the application of ICTs can lower transaction costs and enable the remote delivery of more goods and services. For example, automating customs declarations has been shown to bring clearance times down and to reduce the period that goods stay in transit. Access to ICT platforms and devices may enable a seller in a developing country to reach more potential customers in domestic as well as foreign markets, in a more targeted way, and often at lower cost than through traditional channels. Meanwhile, suppliers that increase their reliance on e-commerce may be able to see reduced delivery costs, especially for electronically-provided content. This has an impact on global value chains, as more inputs can be digitally delivered, which in turn facilitates the management of fragmented production networks.

Greater ICT use can enhance the productivity of enterprises and more productive enterprises are generally more likely to export. The potential for such productivity gains, however, remains far from fully exploited in most developing countries. In addition, e-commerce offers opportunities for entrepreneurship, innovation and job creation. There are now thousands of e-commerce start-ups throughout developing countries, but many of them have yet to become profitable and reach a significant scale.<sup>4</sup> Mobile payment has emerged as a regional East African means of extending payment solutions to the unbanked.

E-commerce can help enterprises, in particular small and medium ones, to overcome barriers to their expansion. Digitalization can allow small businesses to engage in peer-to-peer collaboration, and innovate using alternative funding mechanisms (such as crowdfunding). New cloud-based solutions can reduce the need for enterprises to invest in ICT equipment. E-commerce can furthermore facilitate the scale up of SMEs by providing vehicles to build verifiable online transaction records that may help attract new customers and business partners, as well as financing opportunities.

E-commerce has also been shown to support rural development. In China, for example, several villages have successfully sold local agricultural products online through the country's leading e-commerce sites (UNCTAD, 2015). Positive side effects have included upstream crop revitalization as well as the emergence of a supporting logistics ecosystem, and of processing and packaging industries.

Consumers stand to benefit from e-commerce in numerous ways, in both monetary and non-monetary terms. Internet browsing, e-mail inquiries and social networking allow them to compare prices and features of products more easily, thanks to reviews by other consumers. They can also make their purchases at times that are convenient to them, or from online discounters. Also, consumer choice is expanded when products from far afield can be discovered, ordered and delivered over long distances.

### **E-commerce poses a number of potential challenges**

Nonetheless, uneven access to ICTs can lead to an inequitable distribution of the benefits from e-commerce, bypassing those with little education and/or literacy, as well as MSMEs in rural areas or with limited ability or rights to connect. One of the commitments taken by all participants in the World Summit on the Information Society (WSIS) was to ensure that the benefits of ICTs are available to all.

The specific challenges to maximizing the benefits of e-commerce include: unreliable and costly power supply, limited awareness and skills regarding how to implement and use e-commerce, insufficient or inconsistent laws and regulations, limited or deficient transport and logistics infrastructure, lack of online or alternative payment facilities, limited purchasing power, cultural preferences for face-to-face interaction, and reliance on cash. These and other challenges are further explored in the next section, which aims to provide an overview of the numerous metrics available for assessing e-commerce readiness and the extent to which countries can address a range of e-commerce-related challenges.

## ASSESSING THE READINESS OF COUNTRIES TO ENGAGE IN E-COMMERCE IS A FIRST STEP TO BETTER POLICY OUTCOMES

This section looks at various factors affecting a country's ability to engage in and benefit from e-commerce. It draws on the UNCTAD B2C E-Commerce Index and the Global Cyberlaw Tracker. The analysis points to divides across regions and countries and underlines the importance of taking action at both the national and international levels to facilitate more inclusive e-commerce. Recognizing that e-commerce remains a difficult area of measurement, not least due to the fast changing nature of the digital economy, the section also mentions some recent initiatives to define, identify and improve relevant and comparable statistics, in collaboration with international agencies and national statistics offices from around the world.

### Numerous factors affect e-commerce readiness

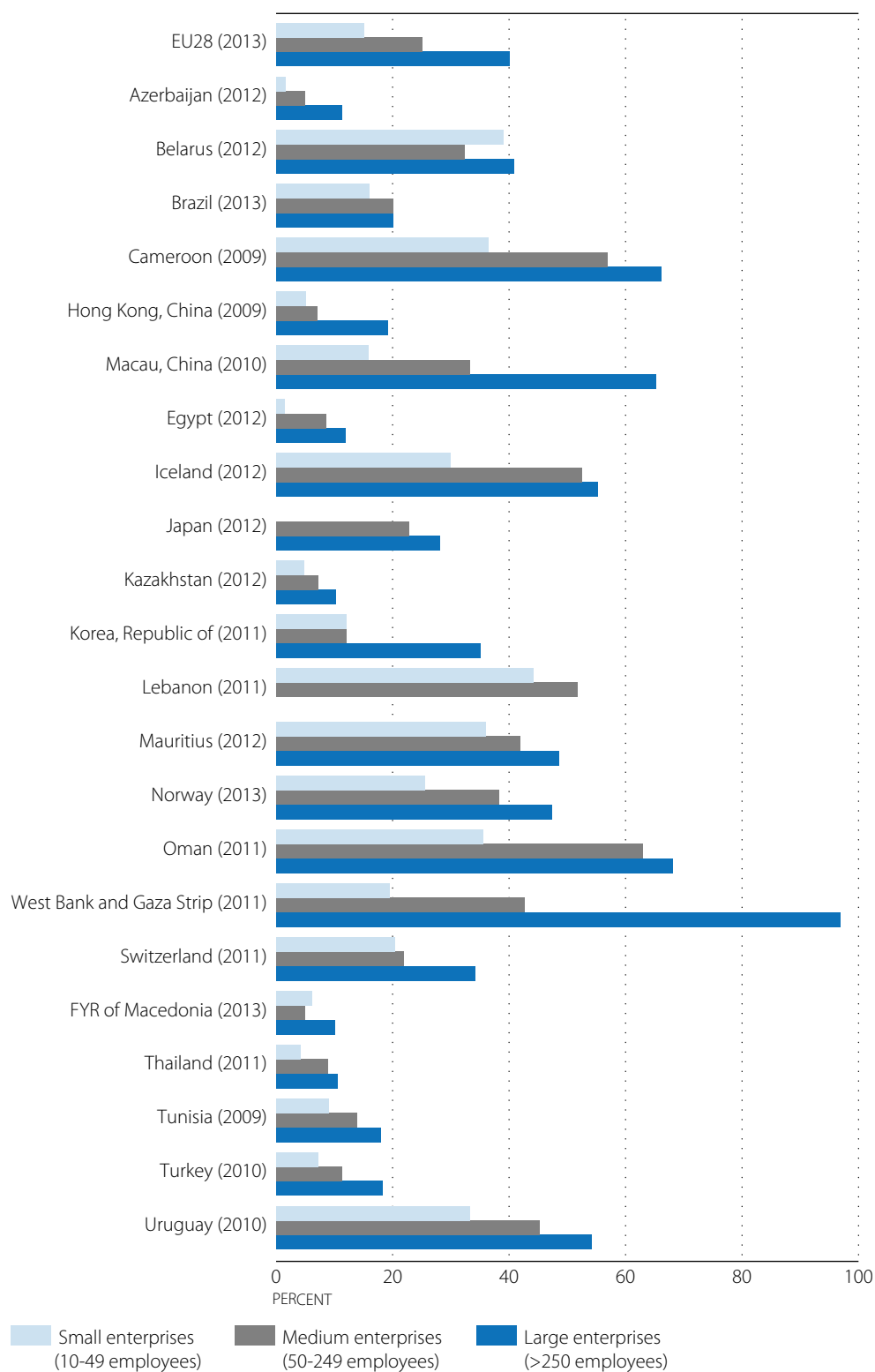
The extent to which different countries engage in e-commerce varies, giving rise to a multi-faceted digital divide. Internet access for both buyers and sellers is essential for online shopping. Based on ITU data, it is estimated that just under half (47%) of the people around the world could theoretically make online purchases from home, work, telecentres or other locations using mobile devices. In the LDCs, only one out of nine people are online, and fewer still use broadband. Beyond cross-country divides, there are also differences within countries, not least between small and large firms, and between women and men (ITU, 2015). These gaps represent barriers to the contribution of ICTs and e-commerce to inclusive development.

Lack of access to the Internet is a constraint not only for consumers, but also for resident enterprises. Data show that the proportion of enterprises that access the Internet is heavily influenced by their size and location, with larger urban firms usually enjoying much higher and qualitatively better levels of use than smaller rural ones. Enterprises need a web presence for accepting orders, even if these are outsourced to a third party. Thus, the number of e-commerce web sites is an indicator of capabilities for receiving online orders. According to one source, around 110 000 e-commerce sites in the world generated non-negligible revenue in 2014 (Moore, 2014). However, these data are neither regularly updated nor disaggregated by country.

Indicators developed by the Partnership on Measuring ICT for Development can help assess the capacity of firms to engage in e-commerce. They capture, for example, the number of enterprises with a web presence, and those placing orders (buying) and receiving orders (selling) online. Data for these indicators are collected through enterprise surveys by most developed countries, but only by selected developing and transition economies. Indeed, such statistics remain scarce for developing countries and virtually non-existent for the LDCs. Moreover, few existing enterprise surveys in developing countries ask about the value of e-commerce, distinguish between B2B, B2C or B2G transactions or capture the domestic vs. cross-border distinction. It is often more common for enterprises to purchase inputs than to sell online, as selling online requires additional effort, investment and skills.

Enterprise size is generally a strong determinant of e-commerce uptake, regardless of the level of development (Figure 7.3). In Oman, for example, 36% of small enterprises received orders over the Internet in 2011, compared to 68% of large enterprises. In Azerbaijan, only 2% of small enterprises received orders online in 2012, compared to 11% of large enterprises. Even in the European Union, a similar pattern prevails: in 2012, 40% of large enterprises, 25% of medium enterprises and 15% of small enterprises sold online. Where data for micro-enterprises are available, the gap in e-commerce adoption is even wider. In Cameroon, 28% of micro-enterprises received orders over the Internet, compared to 36% of small enterprises.

**Figure 7.3. Share of enterprises receiving orders over the Internet in selected economies, by enterprise size**



Note: Data is for the latest available year. Japan data is for enterprises with 50 employees or more.

Source: UNCTAD (2015) *Information Economy Report 2015: Unlocking the Potential of E-commerce for Developing Countries*.

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**Box 7.5. Partner country views on the status of e-commerce in their countries**

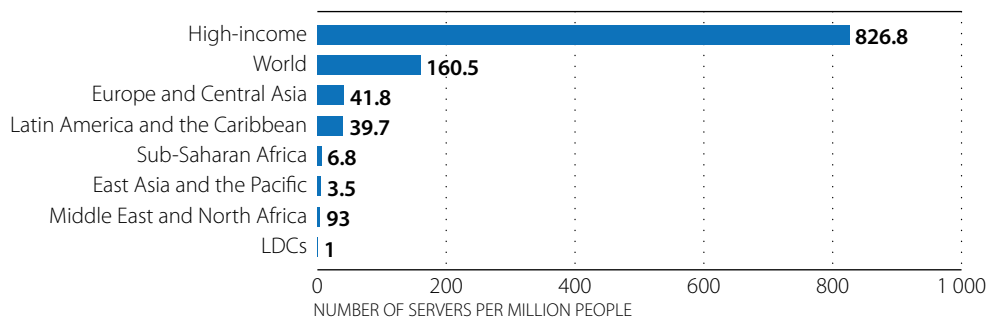
“Most companies in electronic commerce and, in the economy in general, use a simplified regime that does not allow exporting”. **Colombia**

“Our SMEs are basically hindered by the accessibility to a global e-commerce platform to sell their goods”. **Pakistan**

Source: OECD-WTO aid-for-trade monitoring exercise (2017), [www.oecd.org/aidfortrade/countryprofiles/](http://www.oecd.org/aidfortrade/countryprofiles/).

Given that e-commerce sites require security software, one widely available proxy for the quality of e-commerce infrastructure is the number of secure servers using encryption technology for Internet transactions. There are considerable differences among countries in this respect. In 2013, there were over 800 secure data servers per million inhabitants in high-income economies, compared to only one server per million inhabitants in the LDCs (figure 7.4).

**Figure 7.4. Distribution of secure Internet servers by region and country type, 2013**



Notes: Regional data refer to developing economies only in each region. Secure servers are those using encryption technology in Internet transactions.

Source: UNCTAD (2016a) *UNCTAD B2C E-commerce Index 2016*, based on World Bank data, <http://data.worldbank.org/indicator/IT.NET.SECR.P6>

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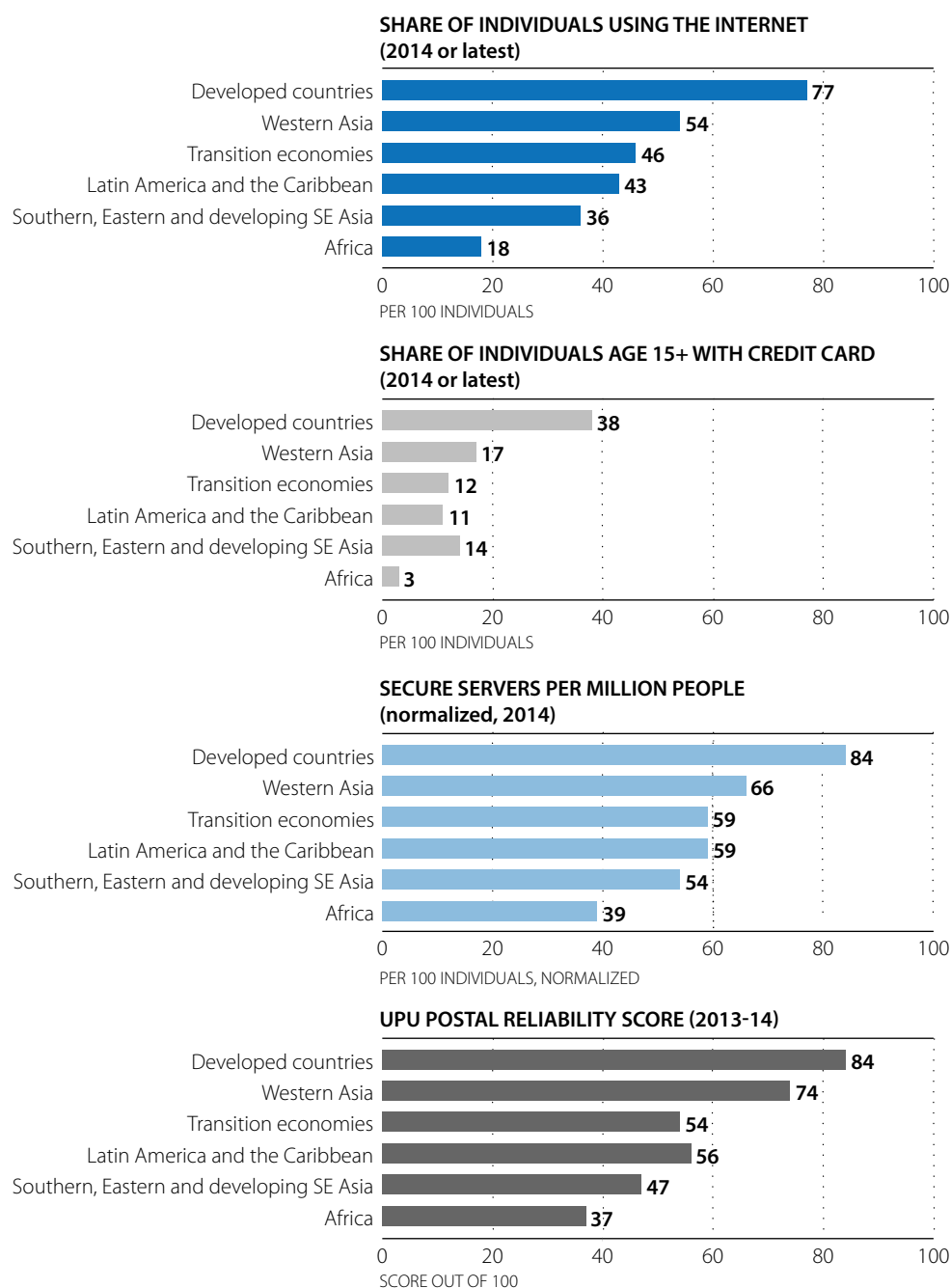
Products purchased over the Internet can be paid for online or offline. Credit cards are among the most convenient payment methods for e-commerce, capturing a large share of online transactions, and this is forecast to continue through 2019. Although other payment options are increasingly used, especially in developing countries, credit cards are very widely accepted on virtually any B2C web site. Therefore, not having a credit card constrains the ability of consumers to shop freely online. The World Bank's Global Findex survey provides estimates of credit card penetration among the population aged 15 years and older (World Bank, 2014).

Similarly, because a product ordered online must be delivered, data on delivery of physical goods is a key indicator. The UPU postal reliability score captures aspects such as the proportion of people who can have mail delivered at home and the quality of postal service.

An increasing number of countries are designing national policies and strategies to harness the full potential of e-commerce for economic development. The *UNCTAD B2C E-commerce Index 2016* (UNCTAD 2016a) groups indicators to help policy makers assess to what extent their economies are e-commerce ready and what areas are in greatest need of improvement. The Index comprises four readiness indicators: 1) Internet use penetration, 2) secure servers per million inhabitants, 3) credit card penetration, and 4) postal reliability. The 2016 Index covers 137 economies, which represent 96% of the world population and 99% of global GDP.

The UNCTAD indicator shows that e-commerce readiness varies by region (Figure 7.5). Just over one-fifth of the population in Africa uses the Internet, compared to two-thirds in Western Asia. While Western Asia and transition economies fare well on most indicators, credit card availability there is average. Overall, Asia needs to boost Internet penetration, which currently stands at just over one-third of the population, as well as the number of secure servers. In Latin America and the Caribbean, the main barriers appear to be low credit-card penetration and relatively poor postal reliability. Africa ranks the lowest in all the indicators. Unless there is improvement in the underlying transaction and logistics processes, African online shopping is likely to remain confined to wealthier populations in urban areas.

**Figure 7.5. E-commerce readiness, by component indicators and geographical region**



Note: Latest data available.

Source: Based on UNCTAD (2016a), *UNCTAD B2C E-commerce Index 2016* ITU, World Bank and UPU data.

StatLink  <http://dx.doi.org/10.1787/888933526633>

### Weak legal and regulatory frameworks can result in low levels of trust in online transactions

Barriers caused by legal and regulatory frameworks can be particularly damaging for MSMEs, which are usually less connected than larger firms, especially in developing countries. While data on legal and regulatory frameworks are not currently included in the UNCTAD Index, UNCTAD publishes information on four key qualitative indicators, which look at whether countries have a legal framework for 1) electronic transactions, 2) data protection/privacy online, 3) consumer protection when purchasing online and 4) cybercrime prevention.<sup>5</sup>

When considering legal frameworks, a key question for policy makers is to ascertain whether existing laws and regulations allow for a “level playing field” between e-commerce and regular trade. From a trade policy perspective, there may be barriers related to market access, technical standards, regulations and various border measures. Exports may also be hampered if enterprises in a country are unable to use certain online platforms and marketplaces for various reasons. For example for Amazon, eBay and PayPal the full range of services offered online are only available in a limited number of countries, sometime limiting existing options to buy-only. Moreover, producers in a country may be unable to compete internationally because they have insufficient resources to promote their brand names or to comply with technical and other standards. In many developing countries, difficulties with complying with regulations for international banking transactions represent additional barriers.

To help address some of these issues, and others, a number of initiatives have recently been launched to improve e-commerce-related statistics. One of them is the UNCTAD-UPU-WTO-OECD-World Customs Organization (WCO) initiative to improve measurement of cross-border e-commerce. Another is the recently-established WCO Working Group on E-commerce Measurement. Under the 2017 German Presidency, the G20<sup>6</sup> countries have also focused their efforts to better measure and understand e-commerce and its development dimension. More recently, eTrade for All, the multi-stakeholder initiative that aims to assist developing countries engage in and benefit from e-commerce, proposed a list of available, prominent e-commerce readiness indicators (World Bank, 2017). The eTrade for All indicators are available online and e-trade country profiles are provided on the eTrade for All online platform (etradeforall, 2017). To be able to offer a complete picture, more efforts are also needed to reinforce the capacity of developing countries to collect and compile relevant statistics.

### NATIONAL POLICIES AND STRATEGIES CAN HELP TO ENABLE E-COMMERCE

This section discusses the role of governments and other stakeholders in e-commerce policy making. It identifies key policy areas to be addressed in national e-commerce strategies, including trade logistics, online payment solutions, online e-commerce and payment marketplaces, legal and regulatory frameworks, relevant skills, public e-procurement, and stakeholder participation in policy formulation and implementation. It examines how to tackle e-commerce divides, such as the ones identified in the previous sections, and how to make access to and use of e-commerce more inclusive.

#### Box 7.6. The Tunis Agenda for the Information Society, 2005

“Taking into consideration the leading role of governments in partnership with other stakeholders in implementing the WSIS outcomes, including the Geneva Plan of Action, at the national level, we encourage those governments that have not yet done so to elaborate, as appropriate, comprehensive, forward-looking and sustainable national e-strategies, including ICT strategies and sectoral e-strategies as appropriate, as an integral part of national development plans and poverty reduction strategies, as soon as possible and before 2010.”

Note: 163 national e-strategies were developed by 2011.

Sources: ITU (2011), *National e-Strategies for Development: Global Status and Perspectives*; quoting the World Summit on the Information Society (2005), *Tunis Agenda for the Information Society*, [www.itu.int/net/wsis/docs2/tunis/off/6rev1.html](http://www.itu.int/net/wsis/docs2/tunis/off/6rev1.html)

## INFORMED DECISION AND POLICY MAKING IS ESSENTIAL, AS IS STAKEHOLDER PARTICIPATION

Governments have a crucial role to play in creating an environment that is conducive to maximizing sustainable development opportunities such as e-commerce. Informed decision-making is facilitated by a realistic assessment of where the country stands in terms of its national needs, strengths, weaknesses, opportunities and threats. As e-commerce opportunities expand and more business activities are affected, it is important to consider policies that can help harness e-commerce for sustainable development.

E-commerce policies should be coherent, and their objectives should be well integrated with the country's broader national development agenda, as e-commerce may support various other economic and social objectives, such as higher productivity, improved competitiveness, improved access to information, increased transparency of regulations, and more inclusive and equitable development.

While the role of governments is crucial in creating an enabling environment, engaging in effective dialogue with all relevant stakeholders is also essential. A national e-commerce strategy developed in collaboration with relevant stakeholders can play a useful role in helping to make e-commerce more inclusive and in maximizing its net benefits. Effective multi-sectoral and inter-ministerial co-operation is necessary for both strategy development and implementation. Examples of ministries that might be interested include those responsible for justice, finance, science, technology and innovations, ICT, international trade, rural development, employment, post and transportation, and education. Other stakeholders that should be involved include relevant government regulatory and promotional agencies, the trade facilitation committee, the postal service, national ICT associations, chambers of commerce, academia and consumer organizations, when they exist.

Assessing e-commerce readiness is a natural first step towards formulating an effective national e-commerce strategy and setting priorities. Tools such as the UNCTAD B2C E-Commerce Index, the UNCTAD E-commerce Policy Review and the Rapid eTrade Assessments of LDCs can help develop an understanding of national needs, strengths and weaknesses. Reports from other well-established policy review mechanisms, such as the WTO Trade Policy Reviews, the EIF Diagnostic Trade Integration Studies (DTIS) and the World Bank Poverty Reduction Strategy Papers, may also include helpful information with regards to e-commerce-related policies and challenges.

A comprehensive assessment needs to include a review of e-commerce trends. Any assessment should include a review of existing initiatives and a stocktaking of the resources and capabilities that could contribute to further e-commerce development. Identifying the main challenges and barriers to e-commerce in a comprehensive manner, and uncovering the dynamics underpinning them, help to ensure that the policy measures adopted are effective. Direct consultations with stakeholders can play a key role in this process, especially given the fast changing nature of ICT technologies.

Tracking progress is also essential. To this end, relevant performance indicators and realistic targets should be established at the outset. The monitoring exercise also may require new efforts to collect data.

### A review of selected relevant policy areas follows:

**Improving access to reliable and affordable ICT services is essential for e-commerce to thrive.** Governments in developing countries are increasingly facilitating the deployment of networks, often through public-private partnerships, and/or with finance derived from government revenues or loans from international financial institutions. Some of the pre-requisites for e-commerce include affordable mobile communications, access to broadband Internet, interconnectivity between services and devices, as well as the skills and infrastructure necessary to secure and encrypt transactions. In addition, infrastructure improvements need to be accompanied by competent and effective regulation of telecommunications markets. Competitive and interoperable ICT markets, facilitated by independent regulators, help to deliver higher-quality, more reliable and affordable services. Inadequate power infrastructure, another common bottleneck to e-commerce adoption, also needs to be addressed.

**Strengthening logistics and transport infrastructure are imperative for both domestic and cross-border e-commerce facilitation.** Poor logistics remain a barrier to e-commerce in many developing countries and investment in infrastructure is often much needed, especially outside the main urban centres. If people can order something online in one click, parcel delivery also needs to be reasonably quick and predictable. In this context, initiatives to strengthen the capacity of the postal sector can be relevant for facilitating e-commerce.

For cross-border e-commerce, additional infrastructure and regulatory issues may need to be addressed. Customs-related procedures and formalities, reporting requirements and bottlenecks at ports can hamper e-commerce. Clear legislation on applicable tax rates and international refund policies are important. Often, the standardization, harmonization and simplification of customs and trade procedures go hand in hand with customs automation, which leads to significant gains in the time needed to clear goods through customs. UNCTAD's Automated System for Customs Data (ASYCUDA), which automates border procedures and serves to facilitate trade in more than 90 developing countries, has led to important reductions in the time needed for customs clearance. In Uganda, for example, use of the ASYCUDA allowed for a drop in the average time from payment to the release of goods from customs, from 8.8 days in January 2014 to 3.2 days in June 2014. Moreover, automating and modernizing customs procedures often improves revenue collection, as well as reducing the costs of trade.<sup>7</sup>

**Enhanced availability and use of electronic payment systems are important for facilitating e-commerce.** Governments should seek to foster a regulatory environment that is conducive to online payments and the development of adequate payment solutions. This enables consumers and other buyers to feel confident and secure in making purchases online, and vendors to be assured of payment for delivery of their products and services.

Although many global e-commerce platforms are becoming increasingly accessible from locations around the world, there is ample scope for new platforms, tailored to local needs and opportunities, that are fully operational in developing countries. Developing e-commerce platforms can necessitate the involvement of both the public sector (including the postal system) and the private sector. Foreign direct investment (FDI) can provide funding, expertise and know-how that can help the e-commerce sector to expand. For example, foreign investors have contributed to the spread of new e-commerce platforms in sub-Saharan Africa. In some countries, however, there are concerns that opening up to global investors may crowd out local businesses. Both the pros and the cons of FDI in developing the e-commerce industry should be examined.

**An adequate legal and regulatory framework is needed to enable e-commerce stakeholders to mitigate transaction risks, provide transparency and ensure a level-playing field.** Despite progress over the past decade, considerable gaps in cyber-law coverage remain in many parts of the world. To facilitate cross-border e-commerce, it is important that each country's national legislation in the areas of e-transactions, consumer protection, data protection and privacy is compatible with that of its trade partners. Aligning such laws with international legal instruments also is desirable.

#### Box 7.7. The Economic Community of West African States

The Economic Community of West African States (ECOWAS) Vision 2020 seeks to harmonize ECOWAS members' telecommunication policies in order to benefit from the digital economy. In 2013-14, with the support of UNCTAD, ECOWAS conducted two online training sessions and three regional workshops. Through these efforts, 315 policymakers and lawmakers received training in the legal aspects of e-commerce. Areas identified for further legislative harmonization included: electronic transactions, data protection, computer crime, consumer protection, online content and domain names.

Source: OECD-WTO aid-for-trade monitoring exercise (2017), Public sector case story 59, <http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-59-Review-of-e-commerce-legislation-harmonization-in-ECOWAS.pdf>



Once relevant laws and regulations are in place, they need to be communicated transparently to producers and users of e-commerce services. They also need to be effectively enforced, and consumers as well as enterprises need to know how to seek redress if appropriate. National public information campaigns can constitute a key element of awareness-raising efforts, publicising the means that exist to legally protect online consumers. Moreover, as cyber legislation is still a relatively new territory for the legislature and judiciary in many developing countries, there is a need for further capacity-building in this area.

Government and the private sector should work together to foster e-literacy in the population at large and among consumers. This ranges from the revision of curricula at different stages in the education system, to in-work training and specialized professional skills development. Special programmes can provide consumers with the relevant knowledge and skills to acquire and use products purchased online, including raising awareness of their legal rights and obligations.

**The lack of e-commerce skills, especially among small businesses, can hamper the capacity of the private sector to engage in e-commerce projects.** Data scientists, web developers, and implementers of online payment features are in short supply and expensive to employ in developing economies (WEF, 2012). Micro and small enterprises need training in how to design e-commerce business strategies, evaluate different e-commerce tools and platforms, and create compelling advertisements, while paying attention to quality service and rapid delivery. In this context, it may be useful for governments at the national and local levels to involve intermediaries (such as chambers of commerce and business associations) in the provision of training. They are often in a privileged position to transmit information and knowledge about e-commerce to their members.

In the context of e-commerce skills development, governments should not leave behind women entrepreneurs. Small and micro women-owned businesses may gain from B2B, B2C and C2C transactions that use e-commerce platforms to reach domestic and foreign markets. It has been shown that women entrepreneurs, who are often restricted in their access to capital, can benefit from the ability of e-commerce to increase efficiencies and profitability with limited investment (UNCTAD, 2014). In Uganda, for example, the Women of Uganda Network (WOUGNET) is a non-governmental organization that has undertaken various advocacy and training initiatives. Aimed at policy intermediaries such as government, chambers of commerce, business and trade associations, and professional education institutions, these efforts have helped to raise awareness regarding ICTs and women's entrepreneurship, including e-commerce (WOUGNET, 2017).

Governments can use e-procurement to incentivize resident enterprises to use the Internet. By making e-procurement a requirement for public tenders, they encourage small and medium enterprises to increase their use of the Internet as a business tool. An often cited example of good practice is ChileCompra (Chile), a public, electronic system for purchasing and hiring based on an Internet platform that caters to companies, public organizations and citizens (ChileCompra, n.d.). In Georgia, the government created an e-procurement platform in 2011; since then, all tendered government purchases are conducted through this centralized bidding platform, operated by the Competition and State Procurement Agency. It has helped to streamline procurement processes, increase competition, enhance transparency and reduce the scope for corruption (Luijken and Martini, 2014).<sup>8</sup> Similarly, in Albania, the introduction of an e-procurement system in 2010 had positive results in the form of increased competition and considerable cost savings (Luijken and Martini, 2014).

**Lack of awareness may hamper the transition from traditional ways of doing business, placing enterprises at a competitive disadvantage.** There are various examples of pro-active efforts by governments to inform and alert consumers, businesses to the implications and opportunities of e-commerce. Some governments have raised the visibility of e-commerce through advertising on billboards, radio, TV and the Internet, encouraging consumers to buy online.

**With the expansion of e-commerce, new policy barriers to international trade are emerging.** In the context of cross-border e-commerce, two policy issues have been very prominent on the international debate and action agenda: 1) new emerging barriers to trade, and 2) taxation.

National legal barriers that have been noted include stringent financial licensing agreements, and restrictions on the ability of foreign e-commerce companies to enter and engage in local e-commerce markets (Sweden, 2012). Some measures may aim at protecting local businesses from foreign competitors. For example, Chinese financial payment licensing agreements may have prevented eBay from offering Chinese consumers e-payment features equivalent to those provided through the national Alipay on the Taobao platform. This reportedly contributed to eBay's exit from the market in 2006 (New York Times, 2006). In India, foreign e-commerce companies are prohibited from selling. In addition, some governments and other cloud service customers have enacted data localization laws, reflecting concerns about national data being kept on servers in foreign jurisdictions (Kshetri, 2010; UNCTAD, 2013).

E-commerce also questions regarding the international tax concept that allocates jurisdictional tax claims over profits of multinational companies based on physical presence. It raises issues such as: where to tax non-resident e-commerce businesses, how to assess intra-group transactions, how to classify digital goods, how to identify tax payers, and where and how to collect consumption tax, as well as issues of enforcement. Even among developed countries, concerns have been expressed that e-commerce may exacerbate the risk of tax base erosion.<sup>9</sup> Furthermore, the remote supply of digital products by suppliers with no direct or indirect physical presence in the consumer's jurisdiction presents challenges to value added tax (VAT) systems, as these may often result in no VAT—or an inappropriately low amount thereof—being collected. This can create competitive pressures on domestic suppliers. The OECD Task Force for the Base Erosion and Profit Shifting Project found that the collection of VAT on B2C transactions was a pressing issue that needed to be addressed to create a level playing field among foreign and domestic suppliers (OECD, 2014). Whereas concerns related to tax implications from e-commerce are likely to be more pronounced in countries where the uptake of e-commerce is relatively high, finding ways to address these concerns is of relevance to all countries. More research is needed to fully understand the implications of existing tax regimes on e-commerce and to devise policy options. In all cases, balancing appropriate enforcement with facilitation of e-commerce should be a priority. Multi-stakeholder dialogue is an effective way to negotiate optimal solutions.

Further shifts from offline to online commerce are expected over the coming years. This will continue to change the ways in which consumers and enterprises interact. Some are better equipped to adapt to these transformations than others. From a policy perspective, it is important to create an environment that offers stakeholders in diverse locations and areas of society equal opportunities to take part in the process. In this context, international cooperation and effective dialogue among policy makers and other stakeholders will remain essential.

#### Box 7.8. The Asian Development Bank on challenges to e-commerce in Asia

"Despite the vast opportunities presented by a digital economy, Asia has yet to overcome challenges to fully realize its potential to harness e-commerce for sustainable development. In addition to the absence of national legislation to support cross-border e-commerce, developing countries in Asia face barriers related to poor ICT infrastructure, trade facilitation and logistics, e-payments, and inadequate skills development. National strategies to understand the underpinnings of e-commerce are also lacking in many countries. Even as Asia's developing countries further strengthen their capacity for e-commerce, most of them face institutional issues, such as complicated border clearance procedures and red tape, and disharmonized customs requirements between states hinder intra-regional trade. Market related risks—such as fraud, costs of adaptation, and a risk of crowding out—also serve as barriers to entry." Asian Development Bank

Source: OECD-WTO aid-for-trade monitoring exercise (2017), Public sector case story 124, <http://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-124-Asian-Development-Bank-A-snapshot-of-e-commerce-in-Central-Asia.pdf>

## HOW CAN AID FOR TRADE SUPPORT E-COMMERCE READINESS?

This final section considers how aid for trade can support the strengthening of e-commerce readiness in developing countries. In this context, it presents the multi-stakeholder initiative eTrade for All. It also discusses how to create synergies and greater scale in the overall efforts of the international community to enable more countries to engage in and benefit from e-commerce.

As noted in previous sections, there is a need for additional capacity-building and technical support to enable more countries to engage in and benefit from e-commerce. Assistance from the international community can help in several ways. Support may include the provision of training, policy advice, strategy formulation and other forms of assistance. At the country level, specific support from development partners may address areas such as e-commerce readiness assessments, financing of infrastructure investment, support for the development of legal and regulatory frameworks, and capacity building among diverse stakeholder groups.

To scale up the contribution of e-commerce to sustainable development, a concerted, holistic, cross-sectoral and multi-stakeholder approach is needed. Numerous development partners, foundations and private sector actors already offer successful models for facilitating greater connectivity, lowering costs and addressing regulatory issues. These models can help unlock the development potential of digital trade. However, these efforts generally target specific areas, such as broadband expansion, payment systems, logistics, trade facilitation, ICT skills development and regulatory improvements. They are seldom holistic or aimed at facilitating e-commerce or digital trade in general. A more concerted effort is therefore needed to ensure that the shift to online transactions does not leave any people, enterprise or country behind.

One way to capitalize on existing knowledge and maximize synergies with partners is to tap into the eTrade for All initiative. Launched in July 2016 at UNCTAD's 14th ministerial conference in Nairobi, this global initiative aims to improve effectiveness in channelling assistance to developing countries wishing to engage in and benefit from e-commerce and digital trade.<sup>10</sup> The eTrade for All initiative pulls together public and private parties to improve the ability of developing countries to use e-commerce by raising awareness, enhancing synergies and scaling up existing and new efforts.

The eTrade for All initiative addresses seven policy areas that are of particular relevance to the development of e-commerce (Figure 7.6):

1. e-commerce assessments
2. ICT infrastructure
3. trade logistics
4. the legal and regulatory environment
5. e-payments
6. skills development
7. financing of e-commerce ventures.

The main tool of eTrade for All is a dynamic, online platform. This interactive, knowledge-sharing tool helps developing countries and donors navigate the supply of technical and financial support available to foster e-commerce and digital trade, learn about trends and best practices, and raise visibility for their various initiatives and resources. The online platform was officially launched in April 2017 and is organized around the seven policy areas described above. It also has a dedicated space where partners can upload, find and share relevant e-readiness indicators, as well as research on the seven main policy areas. Member states, donors, international organizations and the private sector can all participate in and contribute to this resource. It also helps them to find the latest information on e-commerce technical assistance in a given region or country and to identify the best partners and donors for putting together an e-commerce facilitation project.

In 2017, the G20 made another significant contribution to the available knowledge base through the publication of a number of discussion papers on digital trade, including e-commerce related issues. These discussion papers present the views of international organizations and member states on the role of e-commerce in international trade and considering the development dimension.

**Figure 7.6. The eTrade for All analytical framework for e-commerce**



Source: UNCTAD (2016c), e-Trade for All, Policy areas, [http://unctad.org/en/Pages/DTL/STI\\_and ICTs/eTrade-for-All/eTrade-for-All-Policy.aspx](http://unctad.org/en/Pages/DTL/STI_and ICTs/eTrade-for-All/eTrade-for-All-Policy.aspx) (accessed 15 May 2017).

The Global Aid for Trade Review in July 2017 can contribute a great deal to raising awareness of the benefits and challenges of e-commerce for development from the perspective of the trade policy community. It can help shed light on the rules applicable to e-commerce, both from new and previously existing trade agreements. Increased knowledge and transparency in this area will benefit all stakeholders involved in e-commerce, allowing for safer, more predictable transactions.

## CONCLUSIONS

Further research and dialogue are needed to better understand the implications of e-commerce for sustainable development and to recognize the needs of developing countries in their efforts to make the most of e-commerce opportunities. In this sense, there are a number of recognized international fora for multi-stakeholder dialogue, which offer a suitable neutral platform for exchanging information, establishing contacts and voicing concerns. These include the UNCTAD Intergovernmental Group of Experts on E-commerce and Digital Economy, the UNCTAD E-commerce Week, the UNCTAD E-Trade for All Initiative, the World Summit on the Information Society Forum, various OECD bodies and the WTO Global Aid for Trade Review.

To make the most of existing and upcoming initiatives, better data and monitoring are sorely needed. This will make possible more comprehensive assessments of the various aspects of e-commerce readiness and will help to understand better the impact of government strategies, policies, rules and regulations. ■

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WSJ (16 September 2014), "After Alibaba's IPO, 4 of the 10 most valuable web companies will be from Asia", Wall Street Journal, <http://on.wsj.com/1qV8hDV>

## NOTES

1. For the definition of e-commerce please refer to Chapter 2.
2. See for example: [www.huffingtonpost.com/peter-diamandis/rising-billion-consumers\\_b\\_7008160.html](http://www.huffingtonpost.com/peter-diamandis/rising-billion-consumers_b_7008160.html) and [www.computerworld.com/article/3084312/internet/the-next-billion-how-to-best-serve-the-internet-s-new-users.html](http://www.computerworld.com/article/3084312/internet/the-next-billion-how-to-best-serve-the-internet-s-new-users.html).
3. OECD, UNCTAD, the Universal Postal Union (UPU) and WTO launched an initiative to improve the measurement of cross-border e-commerce in 2016. A first technical note takes stock of the very scarce available data and trends (UNCTAD, 2016b).
4. Across developing countries and LDCs, a range of e-commerce players have emerged in recent years offering new payment solutions (e.g. Alipay, JamboPay), e-commerce platforms (e.g. MercadoLibre, Zoom Tanzania, TriniTrolley, Kapruka) and innovative logistics (e.g. Giao Hang Nhanh and Grasshoppers).
5. For more information see: Summary of Adoption of E-commerce Legislation Worldwide [http://unctad.org/en/Pages/DTL/STI\\_and\\_ICTs/ICT4D-Legislation/eCom-Global-Legislation.aspx](http://unctad.org/en/Pages/DTL/STI_and_ICTs/ICT4D-Legislation/eCom-Global-Legislation.aspx).
6. The G20 members are Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, The Republic of Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States and the European Union.
7. For more information, see ASYCUDA - Automated SYstem for CUstoms Data, [www.asycuda.org/](http://www.asycuda.org/).
8. See also Sunlightfoundation (16 January 2014), OpenGov Voices: How Georgia is handling procurement transparency, <https://sunlightfoundation.com/2014/01/16/opengov-voices-how-georgia-is-handling-procurement-transparency/> (accessed on 17 May 2017).
9. In the United Kingdom, for example, Amazon participated in a 2012 hearing organized by the Parliamentary Public Accounts Committee. Whereas Amazon had reported a turnover for its company in the United Kingdom of £207 million (USD 335 million) in 2011, it had shown a tax expense of only £1.8 million (USD 2.9 million). Moreover, the European-wide turnover of Amazon EU Sarl, which was reported as €9.1 billion (USD 11.6 billion), resulted in taxes of only €8.2 million (USD 10.4 million). Amazon also stated that for 2011, sales from the United Kingdom accounted for 25% of all international sales outside the United States, yet despite having over 15,000 staff and physical inventory in the United Kingdom, the company paid little corporate tax in that country. See minutes from the Committee, available at [www.publications.parliament.uk/pa/cm201213/cmselect/cmpubacc/716/71605.htm](http://www.publications.parliament.uk/pa/cm201213/cmselect/cmpubacc/716/71605.htm).
10. See <https://etradeforall.org/>. As of April 2017, eTrade for All comprised: the African Development Bank, Consumers International, Enhanced Integrated Framework, E-Residency (Estonia), International Association of Prosecutors, International Civil Aviation Organization, International Islamic Trade Finance Corporation (on behalf of the Islamic Development Bank Group), International Telecommunication Union, International Trade Centre, Internet Society, Organisation for Economic Co-operation and Development, United Nations (UN) Conference on Trade and Development, UN Economic Commission for Africa, UN Economic Commission for Europe, UN Economic Commission for Latin America and the Caribbean, UN Economic and Social Commission for Asia and the Pacific, UN Economic and Social Commission for Western Asia, UN Social Impact Fund, Universal Postal Union, World Bank Group, World Customs Organization and World Trade Organization. The initiative is also supported by a number of private sector entities through the Business for eTrade Development Council, which comprises the following entities: Alibaba Group, African Alliance for E-commerce, Bangladesh Association of Software and Information Services, BiziSol, Burundishop, DHL, eBay, Ecommerce Association of Bangladesh, EMOTA, Etsy, Fedex, GfK, Google, Grasshopper, Huawei, Impact Enterprises, International Council of Swedish Industry, Kapruka, King and Spalding, Latin American Ecommerce Association, Nextrade Group, Paypal, Ringier Africa, TCS Holdings, Tradekey, UPS, vTex, World Information Technology and Services Alliance and the World SME Forum.

