

Chapter 5

E-commerce in Africa: issues and challenges

Charlemagne Igue,
Alastaire Alinsato
and Toussaint Agadjihouédé*





Abstract

This chapter analyses the potential for e-commerce activities in Africa. The rapid growth of internet penetration and the use of mobile telephony, along with the adoption of mobile innovations that have greatly boosted financial inclusion and encouraged reliance on electronic payment, have established a strong basis for e-commerce development on the continent. On the other hand, still-low banking rates, fragile laws and regulations governing the sector, and a lack of cross-country harmonization of these rules constrain African e-commerce. Reducing cybercrime, increasing participation in the financial sector and strengthening of the legal framework are key steps to promote e-commerce activities.

** The contents of this chapter are the sole responsibility of the authors and are not meant to represent the position or opinions of the WTO or its members.*

Introduction

Trade improves economic efficiency and contributes to poverty reduction (Krueger, 1998; Stiglitz, 1998; Zahonogo, 2017). Similarly, information and communications technology (ICT) can promote economic and social development (Kauffman and Riggins, 2012; UNCTAD, 2019). Trade and ICT therefore have great potential to reduce poverty by improving, among other things, the production and sale of goods. Currently, there is a growing use of ICT by traditional players and the new, digital firms to confront the many challenges facing trade (Ducass and Kwadjane, 2015; UNCTAD, 2019).

The use of ICT by trading firms has boosted productivity and trade in southern countries. Wolf (2001) notes particularly that, in the 1990s, the use of ICT increased the growth of small and medium-sized enterprises (SMEs) in East Africa. A study of Vietnamese companies shows that the total factor productivity growth of companies marketing their products online is 1.7 percentage points higher than that of companies using the internet but not performing any online sales (World Bank, 2016, cited by UNCTAD, 2017). Wnyoike et al. (2012) back up these results and show that small businesses that adopt e-commerce outperform those that do not, because of the catalytic effect of e-commerce on business skills. These proficiency improvements are driven by the scale and network effects associated with the use of ICT by companies (Corrado et al., 2012).

Africa has several technological advantages that can facilitate e-commerce. In fact, the Global System for Mobile Communications

Association (GSMA) identifies 314 technology clusters in 93 cities in 42 African countries (Mochiko, 2016). The internet is not only increasingly available, but also increasingly used by Africans. For example, the proportion of the population in Africa using the internet rose from 16 per cent in 2013 to 18 per cent in 2016 and to 25 per cent in 2018 (UNECA, 2014; UNCTAD, 2016; World Bank, 2019). The continent accounted for 12 per cent of global internet connections in 2013 compared to 8 per cent in 2010, and the contribution of the internet to the African economy was 5.3 per cent of GDP in 2016 compared to 1.1 per cent of GDP in 2010 (Berger, 2017; CEA/BSR-AC, 2018). In 2018, Africa had more than 206 million Facebook users, or 17 per cent of the population (MediaNet, 2018).

In addition to the internet, many of the building blocks required for the growth of e-commerce, including the spread of mobile telephony and mobile money services, increased use of credit cards and increased access to bank accounts, have shown remarkable growth in recent years. Nevertheless, Africa continues to account for a small share of global e-commerce. The limited development of e-commerce despite improvements in supporting technology and infrastructure underlines the importance of identifying the constraints on e-commerce in Africa. This chapter analyses in a descriptive way the context of e-commerce practices in Africa and provides some insight into this issue.

The rest of the chapter is organized as follows. In the next section, we discuss the growth of mobile telephony and in financial sector participation, which should provide impetus for rapid

growth in e-commerce in Africa. The following section discusses the conditions delaying e-commerce in Africa. The last section concludes the chapter.

Conditions for e-commerce in Africa

Mobile phone penetration

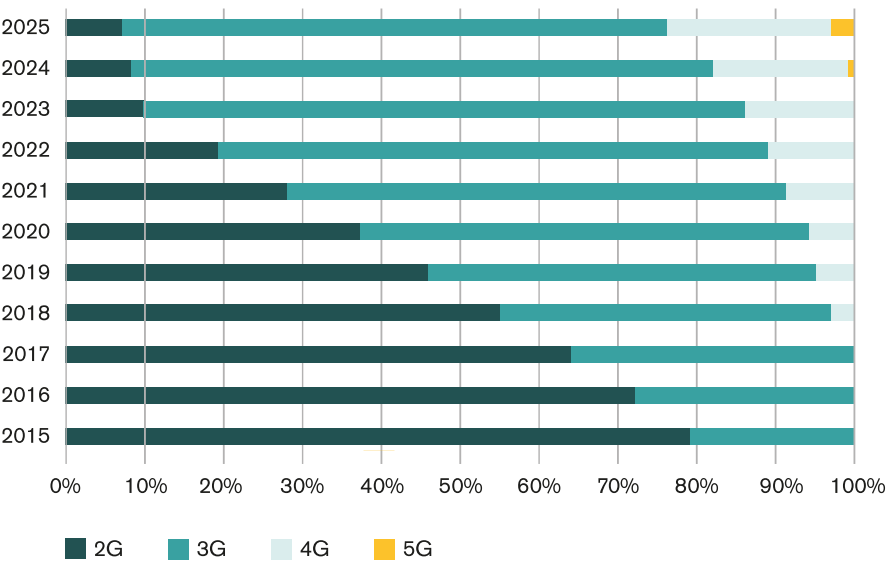
Telecommunications and the mobile industry have experienced significant development in Africa in recent years (Ninot and Peyroux, 2018). In 2017, the number of mobile users was 100 times greater than the number of landline users (World Bank, 2019). Africa is experiencing exceptional growth in mobile connections, and now has the second-largest number among global regions (GSMA, 2011; GSMA, 2018). From 2013 to 2015, the mobile phone coverage rate in Africa rose from 63 per cent to 84 per cent, and the number of subscribers from 800 million

to 906 million; it is anticipated that the number of subscribers will hit 500 million in 2020 (AfDB, 2012; AFD, 2017; Berger, 2017; ECA, 2014).

Moreover, over the past few years the share of 3G and 4G mobile coverage has increased substantially while the share of 2G has declined, and a rapid transition from 2G to more sophisticated technologies is expected over the next five years (Figure 1). For example, the share of mobile connections in Africa using 4G technology is forecast to rise from 5 per cent in 2019 to 21 per cent in 2025. These significant improvements in both the number of mobile users and the quality of the technologies adopted are a major asset for e-commerce development in Africa (Centre Africain de Politique Commerciale (CAPC) (2018).

High levels of mobile phone use have had a significant impact on several economic sectors, including agriculture,

Figure 1: Mobile connections per technology in Sub-Saharan Africa



Source: Authors, from GSMA data, 2018.

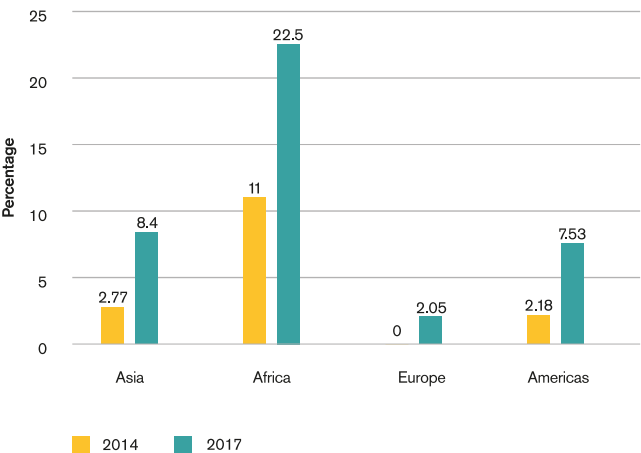
fishing, health, and education, and mobile phone use is strengthening democracy by facilitating electoral monitoring techniques and improving participation (PwC, 2013). Mobile phone use makes the economy more efficient and helps to improve people's well-being by reducing both distances and information cost. Mobile telephony accounted for about 6.5 per cent of GDP in 2017, up from 3.5 per cent of GDP in 2010 (GSMA, 2011; GSMA, 2018). Similarly, the contribution of the mobile ecosystem to Africa's economic growth is expected to increase in relative and absolute terms (GSMA, 2018). Increased use of mobile phones also will have a growing impact on e-commerce, as 46 per cent of customers prefer to buy clothes, electronics, leisure goods and music through their mobile phone, compared to 10 per cent from the computer and 44 per cent in shops (PwC, 2012).

Innovations in mobile telephony

Access to a bank account is still difficult for the majority of the African

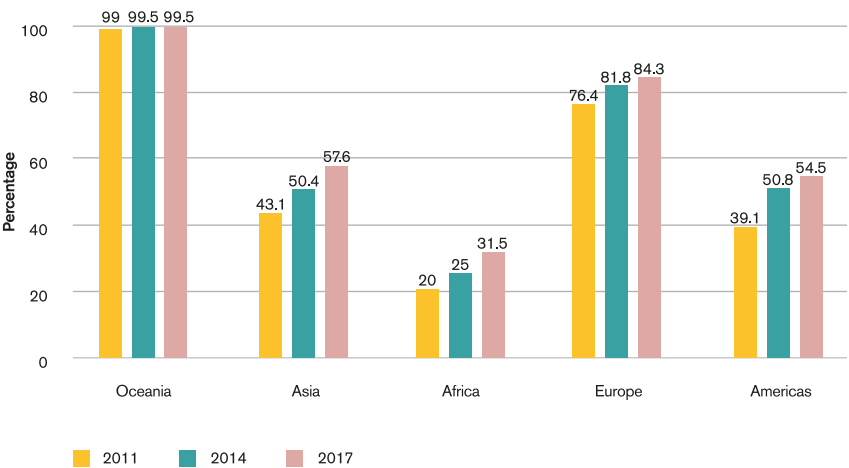
population (PwC, 2013). The factors that explain this low bank rate are manifold, including account opening conditions and high transaction costs (Williamson, 1975). Thus, cash is the dominant mode of payment on the continent. However, the advent of the mobile telephone and its high penetration rate have promoted the use of electronic payments through mobile money accounts and mobile banking. The growth of mobile money providers in Africa exceeds the global average, and Africa has the highest proportion of adults with a mobile money account of any region (Africa eCommerce Week, 2018). Data from Findex shows that the proportion of the population over the age of 15 with a mobile money account in Africa rose from 11.03 per cent in 2014 to 22.56 per cent in 2017, the largest percentage point increase and the highest rate among global regions (Figure 2). At the same time, applications for mobile phones have been developed for marketing, purchasing and selling via the internet. And some banks in Africa promote

Figure 2: The proportion of the adult population with a mobile money account



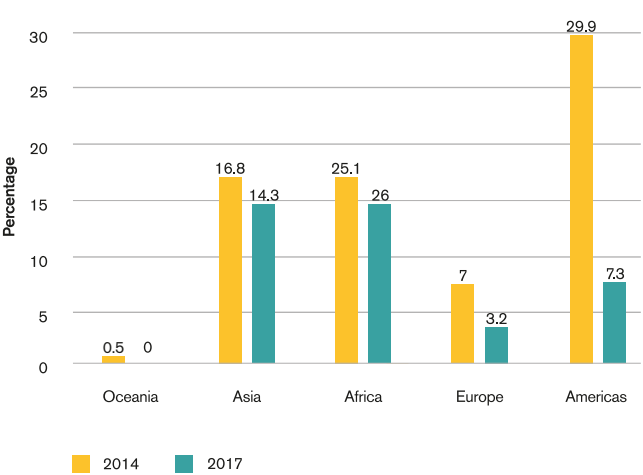
Source: Authors, based on Global Findex data.

Figure 3: Proportion of adults with a bank account or other type of financial institution account



Source: Authors, based on Global Findex data.

Figure 4: Growth rate of bank account opening or other financial institution accounts of adults per continent



Source: Authors, based on Global Findex data.

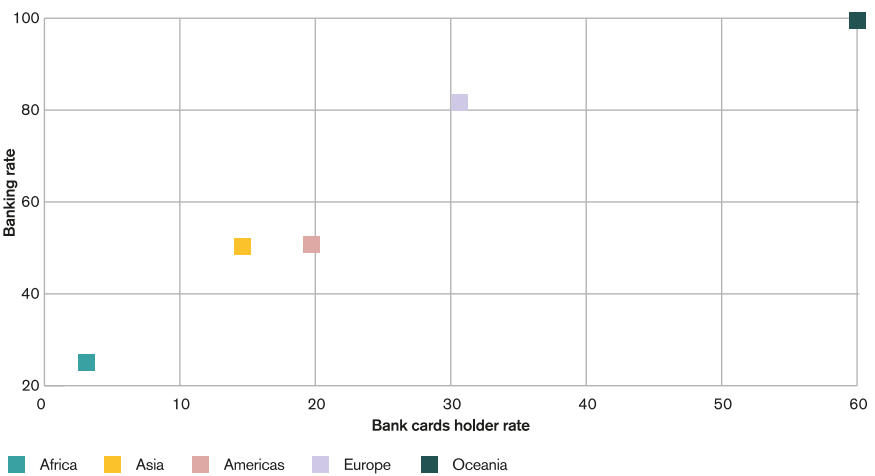
e-banking with applications that allow deposit and withdrawal transactions via mobile phones.

Financial inclusion

Increased use of ICT is believed to improve financial inclusion (World

Bank, 2014), while greater participation in the financial sector is an important prerequisite for the growth of e-commerce. Increased penetration of mobile telephones combined with improved access to the internet has likely contributed to the rapid growth

Figure 5: Correlation between bank account ownership and credit/debit card ownership, by region



Source: Authors, based on Global Findex data.

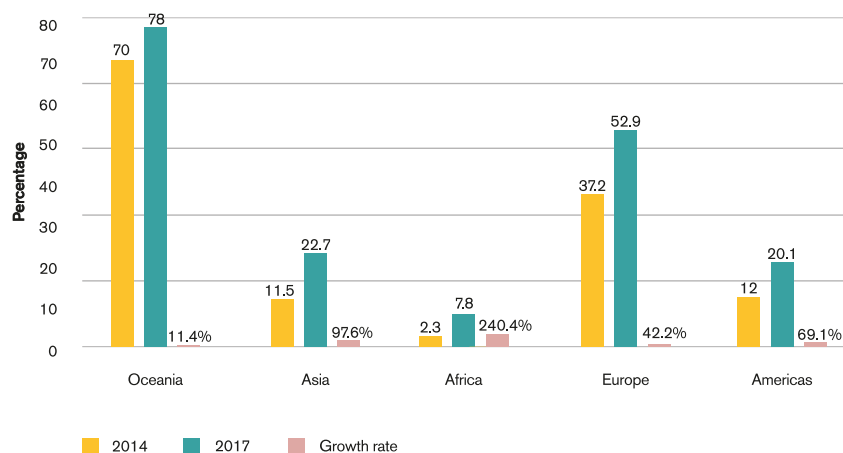
of financial inclusion in Africa. While the share of the population with a financial account in 2017 was lower in Africa than in other global regions (Figure 3), the growth rate of the opening of bank accounts from 2011 to 2017 was higher than in other regions (Figure 4). The number of Africans with a bank account increased from 170 million in 2012 to 300 million in 2017, and this figure is expected to rise to 450 million in 2022 (EcoFin Agency, 2018).

The use of credit cards also is making great progress in Africa. In 2016, 3 per cent of the African population over the age of 15 had a credit card, and this rate has been increasing steadily (UNCTAD, 2017). Bank account ownership is highly correlated with possession of a credit or debit card, the favoured means of payment for e-transactions or e-commerce (Figure 5).

Increases in e-commerce

The rise in mobile telephony and increased participation in the financial

system have been accompanied by rapid growth in the use of the internet for purchases or payments. During the period 2014–2017, online payments or purchases in Africa grew by 240.44 per cent, compared to 97.55 per cent in Asia, 42.20 per cent in Europe, and 69.17 per cent in America (Figure 6). This strong growth in online payments or purchasing reflects a sturdy increase in e-commerce in Africa (CAPC, 2018). However, Africa's share of global e-commerce transactions remained at less than 2 per cent in 2017, and the more than 21 million online shoppers in Africa made up less than 2 per cent of the global total (Ducass and Kwadjane, 2015; UNCTAD, 2019). UNCTAD estimates that the business-to-consumer (B2C) e-commerce market in Africa was worth about US\$ 5.7 billion in 2017, amounting to less than 0.5 per cent of the continent's GDP and below the global average of more than 4 per cent (Africa eCommerce Week, 2018).

Figure 6: Evolution of online payments or purchasing per continent

Source: Authors, based on Global Index data.

ICT and export performance of African SMEs

The use of ICT provides many strategic and operational benefits to SMEs. These include development of closer relationships with customers and business partners, intense integration of internal and external processes, better access to external resources, and improved access to information. These benefits are likely to improve decision-making, strengthen trade relations and, in turn, improve e-commerce development and the international visibility of SMEs (Brynjolfsson and Smith, 1999; St-Pierre, Monnoyer and Boutary, 2017; UNCTAD, 2018; UNCTAD, 2019).

Empirical evidence on the effect of ICT on SME exports is scarce, however, due to the lack of data on SMEs (St-Pierre, Monnoyer and Boutary, 2017; UNCTAD, 2019). St-Pierre, Monnoyer and Boutary (2017) find that for 294 Canadian manufacturing SMEs, the use of ICT stimulates innovation and monitoring

activities but has no effect on collaboration and search for marketing information. In addition, they find that innovation collaboration, and marketing research activities positively and significantly affect exports, while monitoring activities negatively influence exports. For a sample of 43 Sub-Saharan African countries, Wamboye, Adekola and Sergi (2016) conclude that the adoption of ICT by companies is associated with productivity growth through an increase in output, confirming the existence of a network effect.

To develop e-commerce and increase export capacity, an increasing number of African SMEs are working to establish their own digital identity by creating websites and having their own e-mail addresses (Coste, 2017; Dupont, 2018). In Benin, for example, the share of SMEs who owned a website rose by 5 percentage points from 2009 and 2016, and the share with an e-mail address increased by 13 percentage points. In Burundi

Table 1: ICT, e-commerce and export performance of SMEs per country

Country	Year	Website ownership (%)	Possession of e-mail address (%)
Benin	2009	28.00	67.00
	2016	41.00	72.00
Burundi	2013	45.43	53.16
	2016	60.42	67.48
Ghana	2007	8.91	33.00
	2013	33.33	64.44
Kenya	2007	16.13	57.08
	2013	52.11	81.05

Source: Authors, based on Data from Enterprise Survey, 2019.

from 2013 to 2016, the share of SMEs with e-mail rose by over 14 percentage points and the share with a website by 15 percentage points. In Ghana, the share of SMEs using e-mail rose by more than 31 percentage points, and the share with a website by more than 24 percentage points from 2007 to 2013. Finally, in Kenya, the share of SMEs with e-mail rose by 24 percentage points and the share with a website by 36 percentage points. For Africa as a whole, the e-retailers' profile study conducted by Oxatis shows that 28 per cent of e-retailers are SMEs, and that 29 per cent of physical shops also have an online shop; the number of SMEs selling goods retail increased by 30 per cent in 2016 (Coste, 2017).

In Africa, an increasing number of SMEs have their own e-commerce sites and e-mail addresses. As shown in Table 1, the proportion of SMEs who use e-mail addresses in their communication or own their websites is generally and constantly

rising on the continent. This is a good base for e-commerce development in Africa.

Conditions restricting e-commerce in Africa

We have shown that e-commerce has significant potential for growth in Africa. However, substantial barriers to e-commerce development on the continent remain, the most important being cybercrime, a poor legal framework to support e-commerce, and inadequate consumer protection.

Cybersecurity

Transaction security is a major concern for e-commerce participants (UNCTAD, 2018; PayPal, 2013), and cybercrime is a major obstacle to the use of ICT and thus to e-commerce development (Gaidosch, 2018; McAfee, 2018; OECD and WHO, 2017). Cybercrime is hard to control, given difficulties in identifying cybercriminals (their profile is significantly different from that of conventional criminals) and a lack of data or a strong policy

agenda (Aggarwal, 2009; Alinsato, 2012; Giannangeli, 2008; Sutherland, 2008; UNCTAD, 2018; UNCTAD, 2019). Becker (1968) argues that tough laws are essential to fight cybercrime, and over the past 15 years, there have been at least 246 laws or drafts of laws on cybersecurity (UNCTAD, 2018).

Cybercrime continues to have a major impact on Africa (African Cybercrime Forum, 2018; CFAO, 2018; Symantec Corporation, 2013). McAfee (2018) estimates the cost of cybercrime to Africa at 0.20 per cent of its GDP annually. About 80 per cent of Africa's personal computers are believed to be affected by viruses and other malware (CFAO, 2018; Gacy, 2010). Nigeria, Ghana and South Africa are ranked in the top ten in cybercrime worldwide (IC3, 2010). The vulnerability rate of digital infrastructure¹ in Africa is 83 per cent above that of other continents (James, 2019).

The high probability of being a victim of cybercrime severely constrains e-commerce in Africa (African Cybercrime Forum, 2018; Alinsato, 2012; CFAO, 2018; UNCTAD, 2018; UNCTAD, 2019).

The African agenda of laws and texts ignores important aspects of cybercrime, such as the illegal use of services and the electronic payments (CAPC, 2018; Ducass and Kwadjane, 2015), which are holding back online businesses.

The analysis of the legal framework on cybersecurity shows wide inequalities. Only a few African countries, such as Morocco, Senegal and Tunisia, have achieved advances in e-commerce in general and in cybersecurity in particular (Ducass and Kwadjane, 2015). These countries have promulgated laws on the protection of personal data and electronic communications, while others are struggling to enact laws in these fields (UNCTAD, 2015). Thus, the constraint on e-commerce due to cybercrime seems to be easing in these countries compared to other countries on the continent.

Aware of the importance of cybercrime and of the inadequacy of sub-regional cooperation (Bekrou, 2015; Hamel and Triclin, 2017), the African Union adopted the "African Union Convention on Cyber Security and Personal Data Protection" at the 23rd Ordinary Session in Malabo (African Union, 2014) on 27 June 2014 to promote the harmonization and development of cybercrime regulations. Paragraph 1 states that: "States Parties are committed to ensuring that the legislative and/or

"Reducing cybercrime, increasing participation in the financial sector, and strengthening of the legal framework are key steps to promote e-commerce activities."

regulatory measures adopted to combat cybercrime strengthen the possibility of regional harmonisation of these measures and respect the principle of double jeopardy". The creation of the Continental Free Trade Zone (CFTZ) by the African Union will

Table 2: Estimated impact of tax cuts over a 5-year period (2019–2023) for Guinea

	Price of the services	Additional investment in the economy	Total of mobile new subscribers	GDP growth	Number of jobs created	Increased tax revenues up to 2023
Elimination of excise duty on call bonuses (telephone consumption tax (TCT))	-4.4%	+ US\$ 14 M	+ 663,000	+ US\$ 57 M	+ 4,156	+ US\$ 13 M
Removing the US \$0.12 per minute surcharge on incoming international calls (SIIC)	-42.3% (price of entering international calls)	+ US\$ 24 M	+ 927,000	+ US\$ 89 M	+ 13,193	+ US\$ 8 M
80% reduction in annual fee on wireless beams	-4.4%	+ US\$ 9 M	++ 220,00	+ US\$ 22 M	+ 3,798	+ US\$ 2 M

Source: Authors, based on data from Enterprise Survey, 2019.

also support the control of cybercrime. Among the specific objectives of the CFTZ are the implementation of trade facilitation measures and the establishment of a dispute resolution mechanism (Article 3 of the CFTZ Agreement). The CFTZ is an opportunity to fight cybercrime, as it will bring countries to harmonize their various policies, including their electronic payment security policy, and should promote e-commerce development (UNCTAD, 2019). The Executive Council’s President, of the African Union, calls on the countries to promote digital identity and the implementation of digital identification systems across the continent (African Union, 2018). In short, the CFTZ will facilitate the development of a digital economy in African countries (African Union, 2018).

Legislation in the e-commerce field

Most African countries lack many of the basic requirements of a legal framework for e-commerce. For example, apart from Algeria, no country has laws providing for the acceptance of electronic signatures (UNCTAD, 2015). A few countries, including Algeria, Côte d'Ivoire, Ethiopia, Morocco, Senegal and Tunisia, have made progress in establishing a legal framework for e-commerce (UNCTAD, 2015), while the others still lag behind. There also is a lack of harmonization of the legal frameworks of African countries (CAPC, 2018; Ducass and Kwadjane, 2015).

GSMA (2012) identifies major obstacles to the development of the mobile industry and, in turn,

e-commerce in Africa due to the absence, or poor quality, of legislation. These include the high cost of licences, the heavy taxation of mobile phone imports, the lack of clarity on tax and regulatory requirements, and the need for better harmonization of the spectrum for mobile telephony throughout the region. GSMA

(2018) argues that a reduction in taxes in the technology sector would lower prices and spur investment. In Guinea, for example, eliminating the excise duty on call bonuses would reduce the price of services by 4.4 per cent and would boost the number of mobile subscribers by 663,000, leading to an additional US\$ 14 million in investment in the economy and a rise of US\$ 57 million in GDP (Table 2). All this would lead to the creation of more than 4,000 new jobs and an increase in tax revenues of more than US\$ 13 million. Similar effects result from removing the US\$ 0.12 per minute surcharge on incoming international calls and reducing the annual fee on wireless beams by 80 per cent.

Consumer protection

Strong consumer protection is crucial in the development of e-commerce. It gives confidence and encourages consumers to buy online. Many countries in Africa lack any legislation governing consumer protection, and some of the legislation in this area is of poor quality. For example, the laws governing consumer protection in some African countries take into account only the subsidiary aspects of the consumers' rights and neglect aspects such as the inability to return

non-compliant goods, assign responsibility for problems and identify the relevant jurisdiction (Ndiaye, 1999).

Conclusion

This study analyses the challenges facing e-commerce in Africa. Mobile phone penetration, innovations in mobile

telephony, financial inclusion, the CFTZ and the use of ICT by African SMEs that improve their export performance are key factors in the development of e-commerce. Lack of control of cybercrime, defects in the legal framework and inadequate consumer protection are key obstacles to e-commerce development. These issues should be addressed by harmonizing the legal agendas of the different countries on the continent, on the one hand, and by inaugurating new laws on cybersecurity, consumer protection, and the development of e-commerce, on the other hand. In addition, enforcement should be strengthened and efforts made to inform citizens of the legal framework and the opportunities involved in e-commerce. Countries such as Algeria, Morocco, Senegal and Tunisia can serve as models for e-commerce development in Africa, because of their efforts to improve their legal agendas in favour of e-commerce.

Endnote

¹ The vulnerability rate includes a country's resilience to natural disasters and cyberattacks, and its ability to recover in the aftermath.

“Africa has several technological advantages that can facilitate e-commerce.”

References

- Africa eCommerce Week (2018), "Empowering African Economies in the Digital Era", Sommet de Nairobi sur l'économie numérique et le développement inclusif en Afrique tenu du 10–14 décembre 2018.
- African Cybercrime Forum (2018), "Politiques et Législations, Coopération Internationale et Renforcement des Capacités", 15 October 2018.
- African Union (2014), "Convention de l'Union Africaine sur la Cyber Sécurité et la Protection des Données à Caractère Personnel", Instrument Juridique de l'Union Africaine, Adopté à la 23ème Session Ordinaire de la Conférence de l'Union à Malabo, 27 June 2014.
- African Union (2018), "L'Identité Numérique et la Zone de Libre-Echange Continentale Africaine", Document de Synthèse du Comité Technique Spécialisé sur le Commerce, l'Industrie et les Ressources Minérales, Publié par l'Union Africaine, October 2018.
- Aggarwal, V. (2009), "Cyber crime's rampant", *Express Computer*, 3 August 2009.
- Alinsato, A. S. (2012), "Relecture de la rationalité du cybercriminel : quelques éléments d'analyse théoriques", *Revue d'Economie Théorique et Appliquée* 2(2): 155-176.
- Becker, G. (1968), "Crime and Punishment: An economic approach", *Journal of Political Economy* 76(2): 169-217.
- Berger, R. (2017), "Etude sur l'innovation numérique en Afrique et dans les pays émergents", AFD Publications. <https://www.afd.fr/sites/afd/files/2018-05-05-57-55/etude-innovation-numerique-afrique-pays-emergents.pdf> (accessed 7 December 2019)
- Brynjolfsson, E. and Smith, M. (1999), "Frictionless Commerce: A Comparison of Internet and Conventional Retailers", MIT Sloan School of Management Working Paper.
- Centre Africain pour la Politique Commerciale (CAPC) (2018), "Note sur le Commerce Electronique", UNECA. https://unctad.org/meetings/en/Contribution/CEA_UEMOA2018_fr.pdf (accessed 13 December 2019)
- CFAO (2018), "Cyber-Panorama 2018 : Tendances & chiffres clés sur les cyber-menaces", With Africa for Africa Publications.
- Corrado, C., Haskel, J., Jona-Lasinio, C., and Iommi, M. (2012), "Intangible Capital and Growth in Advanced-Economies: Measurement Methods and Comparative Results", Institute for the Study of Labour Discussion Paper No. 6733.
- Coste, G. (2017), "Avantages e-commerce: pourquoi créer son site e-commerce", E-commerce-Avantages, 25 July 2017.
- Ducass, A. and Kwadjane, J. M. (2015), "Le Commerce Electronique en Afrique", *IPEMED*, November 2015.
- Dupont, J. (2018), "Quelles sont les raisons du développement du e-commerce?", *Fiches Pratiques*, 3 October 2018.
- EcoFin Agency (2018), "L'Afrique est le 2ème marché bancaire mondial en matière de croissance et de rentabilité selon McKinsey". <https://www.agenceecofin.com/banque/0103-54813-lafrique-est-le-2eme-marche-bancaire-mondial-en-matiere-de-croissance-et-de-rentabilite-selon-mckinsey> (accessed 7 November 2019)

- Gacy, F. S. (2010), "Foreign policy: Africa's Internet Threat", National Public Radio, 29 March 2010.
- Gaidosch, T. (2018), "La filière bien structurée de la cybercriminalité. Les loups solitaires font place à des entreprises spécialistes du piratage informatique", *Publication de Finances et Développement*, June 2018.
- Giannangeli, M. (2008), "Are we ready for Russian Mafia's crime revolution?", *Sunday Express*, Scottish Edition, p. 3.
- GSMA (2011), "The benefits of releasing spectrum for mobile broadband in Sub-Saharan Africa", *Publication de l'Observatoire de la Téléphonie Mobile en Afrique*.
- GSMA (2012), "Deloitte", *Publication de l'Observatoire de la Téléphonie Mobile en Afrique*.
- GSMA (2018), "L'Economie Mobile de l'Afrique de l'Ouest", *Publication de l'Observatoire de la Téléphonie Mobile en Afrique*.
- Hamel, F. and Triclin, F. (2017), "Etats des lieux de l'espace UEMOA en matière de Technologie de l'Information et de Communications", Polyconseil and UEMOA.
- Internet Crime Complaint Center (IC3) (2010), "Internet Crime Report, 2009". http://www.ic3.gov/media/annualreport/2009_ic3report.pdf (accessed 15 September 2019)
- James, C. (2019), "L'Afrique est le continent le plus exposé à la cybercriminalité", AFP, 4th Africa Cybersecurity Conference, Abidjan, Côte d'Ivoire, 4 October 2019.
- Kauffman, R. and Riggins, F. (2012), "Information and Communication Technology and the Sustainability of Microfinance", *Electronic Commerce Research and Applications* 11: 450-468.
- Krueger, A. O. (1998), "Why trade liberalization is good for growth", *The Economic Journal* 108(450): 1513-1522.
- Kshetri, N. (2010), *The Global Cybercrime Industry: Economic, Institutional and Strategic Perspectives*, Springer-Verlag: Berlin, Heidelberg.
- McAfee (2018), "Statistiques sur les menaces, logiciels malveillants (malwares), incidents, menaces ciblant l'environnement web et les réseaux", Rapport de McAfee Labs sur le paysage des menaces, March 2018.
- MediaNet (2018), "Etude sur les réseaux sociaux en Afrique chiffres clés sur les connectés Facebook, Instagram et LinkedIn". <https://blog.medianet.tn/blog/etude-sur-les-reseaux-sociaux-en-afrique-chiffres-cles-sur-les-connectes-facebook-instagram-et-linkedin/all/3> (accessed 7 November 2019)
- Mochiko, T. (2016), "Online shopping edging up but Sub-Saharan Africans still don't trust e-commerce", *Business Day*, 20 December 2016.
- Ndiaye, A. (1999), "Développement du commerce électronique en Afrique : le cas du Sénégal", *Publication de l'Union Internationale des Télécommunications*.
- Ninot, O. and Peyroux, E. (2018), "Révolution Numérique et Développement en Afrique : une trajectoire singulière", *DOSSIER La nouvelle Afrique, Questions Internationales* 90, March–April 2018.
- Organisation for Economic Co-operation and Development (OECD) and the World Trade Organization (WTO) (2017), "Chapitre 7 : Mettre le commerce électronique au service du développement durable", *Panorama de l'aide pour le commerce : Promouvoir le commerce, l'inclusion et la connectivité pour un développement durable*.

PayPal (2013), "PayPal Insights: E-commerce in the Middle East, September 2012–2015". <https://www.slideshare.net/meaoist/paypal-insights-ecommerce-in-the-middle-east>

PwC (2012), "Doing the Right Thing", Annual Report.

PwC (2013), "10 ans de télécoms en Afrique", Conférence African Business Club.

St-Pierre, J., Monnoyer, M. C., and Boutary, M. (2017), "Le rôle des TIC sur le degré d'exportation des PME : une étude exploratoire", 8ème Congrès International Francophone en Entrepreneuriat et PME.

Stiglitz, J. (1998), "Towards a New Paradigm for Development : Strategies, Policies and Processes", 9th Raul Prebisch Lecture delivered at the Palais des Nations, Geneva (October 1998), UNCTAD.

Sutherland, B. (2008), "The rise of black market data: Criminals who steal personal data often don't exploit it. Instead, they put it up for sale on one of the many vibrant online markets", *Newsweek* (International edition), 152(24). http://www.stilwell.org/news/Newsweek-Black_Market-121508.pdf

Symantec Corporation (2013), "Internet Security Threat", *Report 2013, 2012 Trends*, Volume 18, April 2013.

United Nations Conference on Trade and Development (UNCTAD) (2015), "Libérer le potentiel du commerce électronique pour les pays en développement", *CNUCED Publication sur l'Economie de l'Information*, UNCTAD Publications, UNCTAD: Geneva.

United Nations Conference on Trade and Development (UNCTAD) (2016), "Activités

de la CNUCED en faveur de l'Afrique", UNCTAD Publications, 16-13690 (F) 260916, UNCTAD: Geneva.

United Nations Conference on Trade and Development (UNCTAD) (2017), "Moyens d'optimiser la contribution du Commerce Electronique et de l'Economie Numérique au Développement", UNCTAD Publications, TD/B/EDE/1/2, UNCTAD: Geneva.

United Nations Conference on Trade and Development (UNCTAD) (2018), "Pouvoir, Plateformes et l'illusion du libre-échange", Rapport sur le commerce et le Développement 2018, UNCTAD Publications.

United Nations Conference on Trade and Development (UNCTAD) (2019), "Création et Captation de Valeur : Incidences sur les pays en Développement", Rapport sur l'Economie Numérique 2019, UNCTAD Publications.

United Nations Economic Commission for Africa (UNECA) (2014), "Le Commerce Electronique peut-il favoriser la Croissance des Petites et Moyennes Entreprises en Afrique ?", Note d'Orientation No. NTIS/003/2014.

United Nations Economic Commission for Africa (UNECA) (2018), "Economie Numérique : Impact sur le Développement Socio-Economique de l'Afrique". <https://www.itu.int/en/ITU-D/Regional-Presence/Africa/Documents/Digital%20Economy%20Development%20C.%20Africa/French%20Doc/Presentation/Pr%C3%A9sentation%20CEA-economie%20num%C3%A9rique.pdf> (accessed 7 November 2019)

Wamboye, E. F., Adekola, A. and Sergi, B. (2016), "Labor Productivity Growth and Technology Adoption in Sub-Saharan Africa", *International Labor Review* 155(2): 231-252.

Williamson, O. E. (1975), *Markets and hierarchies: Analysis and antitrust implications*, New York: Free Press.

Wnyoike, D., Mukulu, E. and Waititu, A. (2012), "ICT attributes as determinants of e-commerce adoption by formal small enterprises in urban Kenya", *International Journal of Business and Social Sciences* 3(7).

Wolf, S. (2001), "Determinants and Impact of ICT Use for African SMEs: Implications for Rural South Africa", *Trade and Industrial Policy Strategies*.

World Bank (2014), *Global Financial Development Report 2014: Financial*

Inclusion, Washington, DC: World Bank Publications.

World Bank (2016), "Les Dividendes du Numérique", Rapport sur le Développement dans le monde 2016, Washington, DC: World Bank Publications No. 102724.

World Bank (2019), "Une Analyse des Enjeux façonnant l'Avenir Economique de l'Afrique", *Africa's Pulse*, Publication de la Banque Mondiale, April 2019, volume 19.

Zahonogo, P. (2017), "Trade and Economic Growth in Developing Countries: Evidence from Sub-Saharan Africa", *Journal of African Trade* 3: 41-56.

Comments



PIERRE SAUVÉ*

Major technological advances over the past two decades have led to the development of new business models, an increase in the complexity of production systems and a sharp rise in the volume of cross-border transactions conducted over digital networks. Digitization presents a number of novel regulatory challenges for trade rule-makers. These stem in no small measure from the increasingly blurred distinction between goods and services and the resulting uncertainty as to the applicable trade rules.

World Trade Organization (WTO) rules on goods and services and the trade body's jurisprudence have long confirmed that digital trade is subject to trade law disciplines. At the multilateral level, the 1994 General Agreement on Trade in Services (GATS) and its annexes (particularly that on basic telecommunication services agreed in 1997) are of primary importance for enabling services that underpin the digital world and digitally enabled services. In the case of digitally enabled trade in goods, the General Agreement on Tariffs and Trade 1994 (GATT 1994), including the Trade Facilitation Agreement concluded in 2013, provides important measures while the WTO's Information Technology Agreement

(first reached in 1996 and revised (and expanded) in 2015) has proven key to eliminating tariff barriers on a wide range of information and communications technology (ICT) products.

Provisions dealing more specifically with e-commerce have become an increasingly common feature of contemporary trade governance in recent decades. Launched in 1998 with the aim of building consensus over the key parameters of global digital governance, the WTO Work Programme on Electronic Commerce has, however, produced little by way of tangible progress over the past two decades. Growing frustration over the glacial pace and inconclusive nature of discussions held under the 1998 Work Programme prompted a group of 70 like-minded WTO members to issue a Joint Statement on Electronic Commerce aimed to "initiate exploratory work toward future WTO negotiations on trade-related aspects of electronic commerce" at the Eleventh Ministerial Conference of the WTO (MC11) in December 2017.¹ Following a year of exploratory talks, 76 WTO members accounting for 90 per cent of global trade agreed, on the margins of the January 2019 edition of the World Economic Forum in Davos, on a

* The author is a Senior Trade Specialist within the Macroeconomics, Trade and Investment Global Practice of the World Bank Group. The views expressed in this note are those of the author and should not be ascribed to the World Bank Group or its member countries. The contents of this commentary are the sole responsibility of the author and are not meant to represent the position or opinions of the WTO or its members.

Ministerial Declaration setting out their intention to launch plurilateral negotiations on electronic commerce open to all WTO members.²

The experimental role of preferential trade agreements

In the absence of globally agreed norms on digital trade, preferential trade agreements (PTAs) have served as laboratories in which to experiment with – and adopt – elements of a nascent regulatory regime governing electronic transactions and digital trade (Wu, 2017). While extensive attention has been devoted to the political economy forces underpinning the recent sharp rise in PTAs and their growing influence in norm-setting, research devoted to analysing the digital trade-related provisions found in PTAs and the factors influencing their inclusion and substantive remit remains largely incipient. This can be explained in part by the fact that digital technology for

commercial purposes is itself a relatively recent phenomenon, dating back to the mid- to late 1990s, as can be seen by the scant explicit attention paid to electronic transactions in the relevant legal texts establishing the WTO in 1994. It can further be inferred from the fact that the first PTA featuring specific provisions on e-commerce – on paperless trading – was that entered into by New Zealand and Singapore a mere two decades ago, in 2000.

Studies devoted to the treatment of e-commerce in trade agreements have allowed for a finer understanding of how to identify and classify provisions

relating to digital trade based on their content and scope of application (Herman, 2010; Monteiro and Teh, 2017; Weber, 2015). A range of studies have addressed all disciplines and obligations impacting digital trade, beyond e-commerce (Meltzer, 2015; Mishra, 2016; Wu, 2017). In overall terms, disciplines deemed of direct relevance to digital trade include provisions on data and consumer protection; rules on paperless trade, electronic authentication, and digital signatures; provisions governing cross-border data flows and measures relating to data localization; rules calling for the (temporary or permanent) prohibition of custom duties levied on electronic

transactions; provisions on regulatory cooperation; and treaty language defining e-commerce and digital products. The very fine contribution of colleagues from the WTO Chair in Cotonou devoted in this volume to the African e-commerce landscape recalls how any comprehensive policy response to

e-commerce must of essence tackle a wider range of measures extending beyond trade law to areas such as financial inclusion, payments systems' regulation and battling cybercriminality.

The studies cited above usefully track the evolving scope and depth of disciplines governing electronic commerce in PTAs. Monteiro and Teh (2017, note 3), for instance, found that almost 30 per cent of the 275 PTAs that had been notified to the WTO by May 2017 featured e-commerce provisions. Their work also documented the marked recent rise in the number of PTAs featuring disciplines on e-commerce,

“Digitization presents a number of novel regulatory challenges for trade rule-makers.”

a conclusion shared by Hofmann, Osnago and Ruta (2017).

Wu (2017, note 4) corroborates the above findings, noting that the scope of e-commerce provisions found in PTAs has progressively expanded to encompass an ever broader range of issues. Echoing much recent literature devoted to the study of the comparative remit of PTAs and the WTO (Roy, 2014; Roy, 2019; Roy, Marchetti and Lim, 2006), Wu (2017) finds that PTAs featuring an advanced economy trading partner, such as the United States or the European Union, tend to address a significantly broader and deeper range of digital trade issues than do PTAs conducted along South-South lines.

Much attention has also been devoted in the academic literature to uncovering the underlying political economy of PTAs and the forces influencing a country's recourse to bilateral or regional trade agreements to advance its digital trade policy agenda (Van Grassek, 2011). An important strand of such literature has concerned itself with the study of the role that various economic and geopolitical factors play in shaping the content of specific disciplines found in PTAs. For instance, in assessing the provisions of the PTAs entered into by the European Union and the United States, Horn, Mavroidis and Sapir (2009) determined that the European Union showed an early tendency to use trade policy as a vehicle for "declaratory diplomacy", whereas the United States tended to ensure that any so-called

WTO+ provisions found in its PTAs served the commercial interests of its leading exporting firms and were more likely to be enforceable.

Wunsch-Vincent (2006) and Ferracane and Lee-Makiyama (2017), both of

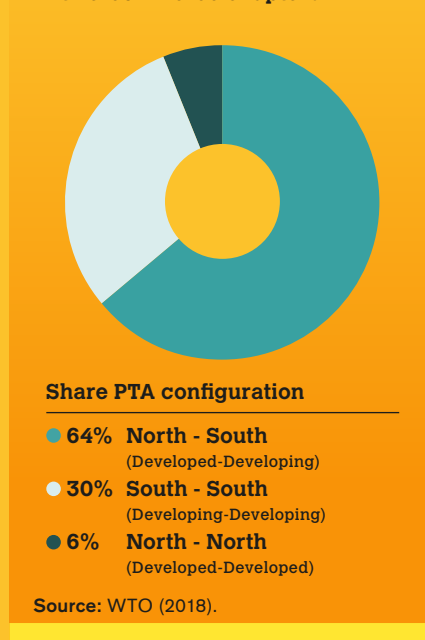
whose work explored the conceptual framework underpinning the negotiation of digital trade disciplines, showed that the European Union and the United States tended to rely on differing negotiating parameters, though a closer look at the latest generation of PTAs entered into by both parties suggests that the "normative distance" between them has been reduced on

"Provisions dealing more specifically with e-commerce have become an increasingly common feature of contemporary trade governance in recent decades."

some key negotiating issues such as data localization while remaining significant on other key negotiating items such as the regulation of cross-border data flows and data privacy. In the case of China, arguably the world's third major player endowed with norm-making influence, Ferracane and Lee-Makiyama (2017) find that the country's more restrictive stance towards information and communications technology and, consequently, its negotiation of disciplines on digital trade are strongly influenced by a set of non-trade considerations, including national security and public order concerns, as well as by the predominance of state-owned enterprises.

Overall, while contemporary PTAs feature a broad set of digital provisions, there remains wide variance across agreements in terms of the depth and breadth of issues covered, with many

Figure 1: Parties to PTAs with e-commerce chapters



provisions framed as “best endeavours” or soft law disciplines not subject to dispute settlement (Meltzer, 2015). The regulatory precaution on display is perhaps less than fully surprising given the extent to which technology tends to outpace regulation in cyberspace.

A closer look at membership in PTAs featuring e-commerce provisions reveals a striking diversity of participating countries. While e-commerce provisions were long found mainly in PTAs involving developed economies (concluded either with developing or other developed economies), provisions dealing with digital trade are today increasingly found in agreements reached among developing countries. In an examination of a sample of 63 recently notified PTAs featuring e-commerce provisions, the WTO found that 30 per cent were concluded among

developing countries, while only 6 per cent were conducted among developed economies (see Figure 1).

In terms of geographical representation, not all regions are represented equally. Among developing economies, economies in South-East Asia and Latin America countries have been far more active in this area, with a recent trend showing South-South agreements involving parties from both regions. On the other hand, African countries are still largely absent. In Africa, only Morocco is party to a PTA with an e-commerce chapter (with the United States). The European Union’s Economic Partnership Agreements (EPAs) with Côte d’Ivoire and Ghana only contain an understanding that the parties will cooperate to facilitate the conclusion of an agreement in trade in services and electronic commerce, as well as other areas.

The above considerations hold important implications for African nations as they contemplate the normative contours of continent-wide disciplines on e-commerce called for under the recently established African Continental Free Trade Area (AfCFTA). As relative latecomers to digital governance, African governments can consider the different regulatory models on offer globally within latest-generation PTAs and adopt those provisions best tailored to the continent’s needs, capacities and policy priorities.

Digital trade governance: African challenges and perspectives

The potential for digital trade to drive economic development and transformation in Africa remains largely

unexplored. While there is still a long way to go to bridge the continent's digital divides, important recent gains in connectivity have helped improve lives in many parts of the African continent. Of all regions of the world, Africa registered the strongest growth in internet use, with the percentage of people using the internet increasing from 2.1 per cent in 2005 to 24.4 per cent in 2018, according to ITU data (ITU, 2019).

While e-commerce is thriving in several individual African countries, has spawned far-reaching gains in inclusiveness, and led to significant innovation, notably regarding electronic payments, all too often advances have been confined to domestic markets and inadequately scaled for regional or continental uptake. Moreover, in many parts of the continent, digital trade proceeds within embryonic regulatory ecosystems still in the process of being established.

The AfCFTA, which came into effect on 30 May 2019 and features a built-in negotiating agenda on e-commerce and digital trade, provides African countries with a ready-made setting in which to design a Pan-African digital strategy and action plan aimed at accelerating the development and regulatory sophistication of the continent's digital ecosystem and enhancing the volume of digitally enhanced cross-border transactions.

As noted above, in coming late to the dance, African governments retain considerable policy space within which to develop a continent-wide governance regime for digital transactions. African countries can in effect learn from the doing of others and reap the late-mover benefits deriving from the normative experimentation of other countries and regional groupings in the digital sphere. By drawing on selected aspects of an evolving mosaic of PTA-embedded rules on e-commerce and digital trade, the AfCFTA's built-in agenda can help governments adopt digital rules that are best aligned to the continent's diverse development, infrastructure, regulation and digital literacy landscapes.

“Building a robust African digital economy will require deepened regional cooperation and the pooling of resources and information sharing on emerging best practices across several key areas.”

Digital trade and its benefits for development can essentially be harnessed in two ways. First, through the growth of e-commerce and its use of digital platforms to facilitate trade in goods and services capable of both physical and digital delivery. Expanded opportunities for African economies can materialize through the increased connectivity of both local and foreign markets that AfCFTA-led integration will help promote on a continental scale.

Growing internet use in Africa has been instrumental in providing new sources of market access for the continent's micro, small and medium-sized enterprises (MSMEs) and entrepreneurs long shackled by weak cross-border connectivity, punitively high trade costs and a host of asymmetries in market information.

Second, and perhaps of even greater importance for Africa's longer-term growth prospects, digital uptake can speed up the adoption and diffusion of innovative technologies, leading to economy-wide gains in efficiency and productivity and boosting the competitiveness of the continent's agricultural and manufacturing sectors.³ Increased digitization in both sectors will also fuel demand for ICT and business services, enhancing the performance of tertiary production and exchange in the process.

Many WTO members from Africa have expressed reservations about ongoing negotiations on e-commerce at the WTO, arguing that considerable uncertainty continues to surround the regulation of digital trade domestically and how it should be governed across borders. For many, engagement in negotiations at the global level appears premature in light of prevailing digital and technological divides and inadequate or incomplete domestic regulatory frameworks. The AfCFTA is seen by most players as offering a more attractive setting in which to pool regional efforts to strengthen capabilities and progressively scale-up digital economies. There is much to learn from and draw on from recent PTA experiments in doing so.

A sophisticated legal and regulatory framework that enables digital transactions is vital for fuller participation in digital trade, be it regionally or globally. To date, only a few African countries have put in place the regulatory toolkit required for secure cross-border transfers of data, the protection of personal data and consumer rights on digital platforms, the policing of cybercrime, and the recognition of electronic transactions,

all of which are critical building blocks for an effective digital economy.

Regulatory frameworks also need to be supported by efficient ICT infrastructures, which provide the critical backbone of the digital economy. As the note by the WTO Chair in Cotonou documents well, Africa needs to close its digital gap with the rest of the world if more of the continent's consumers and businesses are to operate online and for levels of internet connectivity, digital literacy and access to latest-generation ICT infrastructure and broadband are to converge with global norms.

Plurilateral negotiations on e-commerce at the WTO have offered the somewhat disquieting spectacle of non-engagement by a majority of African members who have chosen to stay on the side lines and effectively leave to others the task of developing agreed norms of digital governance. In so doing, they forego the significant learning externalities embedded in a multilateral negotiating journey characterized by considerable normative discovery and to which, as sovereign nations, none need be bound by at the end of the process. Care will therefore need to be taken to ensure that the AfCFTA's potential for strengthening the continent's digital capabilities is harnessed in full and constitutes a key building block for heightened regional and global connectivity.

While there is still time to hop on the digital train and to do so first at the continental level, Africa does not have the luxury of acting slowly. Absent faster digital transformation, African nations will likely not generate the huge number of new jobs needed to match their population growth. Moreover, as noted above, trade rules alone will not suffice.

Building a robust African digital economy will require deepened regional cooperation and the pooling of resources and information sharing on emerging best practices across several key areas, including digital infrastructure, digital literacy and skills, digital financial services, digital platforms and digital entrepreneurship and innovation.

Endnotes

¹ Joint Statement on Electronic Commerce, WT/MIN(17)/60, Eleventh Ministerial Conference, World Trade Organization, 13 December 2017.

² See https://www.wto.org/english/news_e/spra_e/spra300_e.htm.

³ For instance, the combination of the Internet of Things, big data and cloud computing for precision agriculture results in more accurate crop and weather monitoring. For a fuller discussion of sources of innovation in agriculture, see WIPO (2017). See also Fuglie, Gautam, Goyal and Maloney (2020).

References

Ferracane, M. and Lee-Makiyama, H. (2017), "China's Technology Protectionism and Its Non-Negotiable Rationales", ECIPE Working Paper.

Fuglie, K., Gautam, M., Goyal, A. and Maloney, W. (2020), *Harvesting Prosperity: Technology and Productivity Growth in Agriculture*, Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/32350>

Hofmann, C., Osnago, A. and Ruta, M. (2017), "Horizontal Depth: A New Database on the Content of Preferential Trade Agreements", Policy Research Working Paper No. 7981, Washington, DC:

World Bank Group. <https://undatacatalog.org/dataset/hofmann-claudia-alberto-osnago-and-michele-ruta-2017-horizontal-depth-new-database-content>

Herman, L. (2010), "Multilateralising Regionalism: The Case of E-commerce", OECD Trade Policy Papers No. 99.

Horn, H., Mavroidis, P. and Sapir, A. (2009), "Beyond the WTO? An anatomy of EU and US preferential trade agreements", *Bruegel Blueprint Series* 7.

International Telecommunication Union (ITU) (2019), "Boosting Africa's digital economy: How tech is transforming Africa", *ITU News*, 27 March 2019, Geneva: ITU. <https://news.itu.int/boosting-africas-digital-economy-how-tech-is-transforming-africa/>

Meltzer, J. P. (2015), "A New Digital Trade Agenda", E15 Initiative. <http://e15initiative.org/publications/a-new-digital-trade-agenda/>

Mishra, N. (2016), "Data Localization Laws in a Digital World: Data Protection or Data Protectionism?", *The Public Sphere*.

Monteiro, J.-A. and Teh, R. (2017), "Provisions on Electronic Commerce in Regional Trade Agreements", WTO Staff Working Paper, No. ERSD-2017-11.

Roy, M. (2014), "Services commitments in preferential agreements: surveying the empirical landscape", in Sauvé, P. and Shingal, A. (eds.), *The Preferential Liberalization of Trade in Services: Comparative Regionalism*, London: Edward Elgar, 15-36.

Roy, M. (2019), "Elevating Services: Services Trade Policy, WTO Commitments, and their Role in Economic Development and Trade Integration", G-24 Working Paper, Washington, DC: Intergovernmental Group of Twenty-Four. <https://www.g24.org/>

wp-content/uploads/2019/02/Roy_G24_paper__Jan_2019.pdf

Roy, M., Marchetti, J. and Lim, A. H. (2006), "Services Liberalization in the New Generation of Preferential Trade Agreements (PTAs): How Much Further than the GATS?", WTO Staff Working Paper, No. ERSD-2006-07. https://www.wto.org/english/res_e/reser_e/ersd200607_e.pdf

VanGrasstek, C. (2011), "The Political Economy of Services in Regional Trade Agreements", OECD Trade Policy Papers No. 112.

Weber, R. H. (2015), "The Expansion of E-Commerce in Asia-Pacific Trade Agreements", The E15 Initiative. <http://e15initiative.org/blogs/the-expansion-of-e-commerce-in-asia-pacific-trade-agreements/>

World Intellectual Property Organization (WIPO) (2017), *Global Innovation Index 2017: Innovation Feeding the World*, Geneva: WIPO. https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf

World Trade Organization (WTO) (2018), "E-commerce in Regional Trade Agreements (RTAs)", Background Note prepared for structured discussions on e-commerce, Geneva: WTO.

Wu, M. (2017), *Digital Trade-Related Provisions in Regional Trade Agreements: Existing Models and Lessons for the Multilateral Trade System*, RTA Exchange, Geneva: ICTSD and the IDB.

Wunsch-Vincent, S. (2006), *The WTO, the Internet and Digital Products: EC-US Perspectives*, Oxford: Hart Publishing.