

Chapter 4

The digital trade era – opportunities and challenges for developing countries: the case of Kenya

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Abstract

E-commerce has grown rapidly in Kenya, supported by laws governing information and communications technology (ICT) services, e-commerce transactions, data protection and access to information. The government has established one-stop shops for the provision of government services to citizens and for trade logistics. The country is well positioned to expand its digital trade with the establishment of the Africa Continental Free Trade Area (AfCFTA), given the policies outlined in the government's Digital Economy Blueprint. The growth of digital trade will open up new opportunities for the provision of online services, promote export diversification, boost efficiency and growth in manufacturing, improve competition in the financial sector, increase access to market-relevant information and increase market access for micro, small and medium-sized enterprises (MSMEs). However, the potential of digital trade is constrained by lack of access to financial services, low income, limited broadband and fibre coverage, inadequate transport infrastructure and skills gaps. Kenya's legal and regulatory framework is insufficient to protect against cybercrime, ensure privacy, support the interoperability of mobile money platforms and banks, promote consumers' trust in online transactions, protect intellectual property and protect digital sites from liability for customers' posts.

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Status of digital trade in Kenya

Digital trade and digitally enabled transactions of trade in goods and services have been increasing globally. In Kenya, the growth of digital trade and digitally enabled transactions has been phenomenal, and digitization¹ has become an integral part of numerous day-to-day activities and service delivery. The importance of digitization of the Kenyan economy is expected to continue, especially since the country has recently developed and published a Digital Economy Blueprint (Republic of Kenya, 2019b). Adoption of technology and the diffusion of digitization are key drivers of the growth of digital trade and of digitally enabled transactions in the country. The proliferation of information and communications technology (ICT) services in Kenya provides opportunities to leverage business innovations to increase exports and imports (in part through improvements in trade facilitation), enhance service delivery and improve access to information, all contributing to the ease of doing business for the general public and for international traders. E-government has helped strengthen the business environment, particularly by reducing the number of procedures, and hence the time and costs, involved in starting a business and by reducing the time required to pay taxes, as evidenced in the country's Doing Business indicators (World Bank, 2019).

E-commerce has increasingly been used by both government institutions and private enterprises in Kenya, which ranks 89th globally and 7th in Africa in business-to-consumer (B2C) e-commerce readiness (UNCTAD, 2018), with the share of individuals

using the internet at 39 per cent. Government institutions increasingly use the internet, including through e-mail and instant messaging, for receiving feedback from the public, providing public services, collecting data, conducting research, training staff, purchasing or ordering goods and services, advertising, performing banking and other financial services, making phone calls (Voice over IP (VoIP)), tracking goods and services, and recruiting internal and external employment candidates. The digitization of government processes was recently taken to another level, when the National Population Census was in 2019 through a digital system that improved efficiency and enabled a more rapid release of the final tally, when compared to previous population census rounds. A public sector ICT survey by the Communications Authority of Kenya (CAK) and the Kenya National Bureau of Statistics (KNBS) in 2017 (CAK and KNBS, 2018a) shows that over 43 per cent of government institutions offer e-government services, about 20 per cent have websites with facilities for online payments, and over 49 per cent use e-procurement systems. Notably, e-government has contributed to improvements in the business environment in terms of access to government documents and information on line, easier and faster delivery of government services, improved interaction between government, industry and citizens and so on (World Bank, 2019).

The use of e-commerce by enterprises also has been increasing. The national enterprise ICT survey (CAK and KNBS, 2018b) shows that 39 per cent of private enterprises are engaged in e-commerce. About 27 per cent of

enterprises receive orders over the internet, while approximately 33 per cent (including micro, small and medium-sized enterprises (MSMEs)) place orders over the internet. About 35 per cent of enterprises use the internet to access banking services, 33 per cent to access other financial services, 36 per cent to provide customer services, approximately 17 per cent to deliver products online, 34 per cent to track goods and services, 55 per cent to research information about goods or services (excluding the government website) and 40 per cent to research and advertise. Additionally, about 93 per cent of enterprises use e-government services to file tax returns, obtain trade licences, register businesses, make enquiries and obtain information, among other business-related services.

At the heart of growth in digital trade in Kenya is the increased access to and use of ICT. The availability of internet services, for instance, has been driven by the development of internet infrastructure, particularly fibre optic and mobile broadband, but also the availability of affordable data-

enabled devices. As of June 2019, data/internet subscriptions stood at 49.9 million, with mobile data internet subscriptions accounting for over 99.9 per cent of these subscriptions (CAK, 2019a). Broadband subscriptions are about 44.5 per cent of the total data/internet subscriptions in the country and have increased five-fold since

2014, to over 22 million as of June 2019 (CAK, 2019a), enhancing access to high-speed internet for better service delivery, communication, and accessibility of information including that needed for international trade.

The use of mobile cellular services has also increased. About 91 per cent of the population used a cell phone as of June 2019 (CAK, 2019a), higher than the 80 per cent average for Africa in 2018 (International Telecommunication Union, 2018). Mobile telephony, in addition to voice and short message service (SMS), is used to provide various services, including money transfers and

payments. Mobile money transfer services have particularly gained popularity, mainly due to the ease of using smartphones. For the period April–June 2019, Kenya had over 32.6 million mobile money service subscriptions that averaged over 270 transactions and US\$ 7.28 billion (CAK, 2019a) per month. During the same period, mobile-commerce transactions averaged 197 million and KES 1.95 trillion (US\$ 19.5 billion) per month (CAK, 2019a). Mobile internet

access has also risen, with about 41 per cent of enterprises in 2016 accessing the internet through mobile broadband (CAK, 2018).

ICT has changed financial sector operations in Kenya, leading to a greater volume of transactions and faster transactions, including

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payments. The Global Findex database (World Bank, 2018) shows that in Kenya from 2014 to 2017 the share of the population (over 15 years of age) who made or received digital payments increased from 69 per cent to 79 per cent, the share who owned a credit card increased from 5 per cent to 7 per cent, and the share with a mobile money account increased from 58 per cent to 73 per cent. These increases in access to financial services have taken place in both urban and rural areas, among older adults and youths, and among both men and women, thus contributing to a more inclusive financial sector.

Policies supporting digital trade in Kenya

ICT is identified as an enabler for socioeconomic transformation in Kenya (Republic of Kenya, 2007). The Kenya ICT policy (Ministry of Information and Communications, 2006) and a recent draft revision promote ICT as a developmental tool, through increased use of information technologies, the development and use of e-government to improve efficiency and the quality of public service delivery, and the development of IT infrastructure. The ICT policy is based on the principles of keeping pace with changes in technology, providing universal service access at an affordable cost, ensuring adequate competition, encouraging innovation, standardizing ICT products and services for quality, maintaining global connectivity and safeguarding privacy and security. The policy has provided a framework for enhanced use of ICT in both government and private enterprises. Over 48 per cent of government institutions have an IT policy (CAK and KNBS, 2018a). The new Digital Economy Blueprint

(Republic of Kenya, 2019b) is expected to build on this foundation. Furthermore, in 2019 the country enacted a modern data protection law (Republic of Kenya, 2019a), which is compliant with the European Union's General Data Protection Regulation. The new data protection law will go a long way towards creating the right environment² for investments in digital services, as well as the use of these services by individuals and firms.

In 2013, the Kenyan government implemented the Huduma (service) Kenya programme, which aims to transform public service delivery by providing access to various public services and information. The programme, through its integrated technology platform, provides one-stop shop citizens' service centres (Huduma Centres) at various counties in the country. In 2014, the government rolled out an e-Citizen web portal to enable public online access to government services, including filing returns and payment of taxes, renewing drivers' licences, registering businesses and applying for passports and birth and death certificates, among other services. The platform also offers options for payment, including through mobile money, debit cards and e-Citizen agents. These programmes have made access to the various public services and information much easier, while also improving service delivery efficiency, convenience and timeliness.

For cross-border trade, the government has promoted digitization and automation of trade transaction processes through the establishment of the National Electronic Single Window System (authorized under the National Electronic Single Window System Act, 2016),³ which aims to

address challenges related to processing of import and export cargo documentation. This online cargo clearance platform, launched in 2014, interfaces with and integrates automated export and import information from business and government agencies, issuing documents such as export and import permits, licences, and certificates, among others. The system is also linked to financial institutions, including banks and mobile payment options, through the Kenya Revenue Authority's online taxation system and the Government's e-Citizen platform, hence providing a complete electronic cargo documentation platform. The system has facilitated trade by increasing transparency in export and import processes, reducing the number of processes and documents required for processing, providing a paperless (electronic) application by traders on a 24/7 basis, and allowing for multiple payment channels. This improvement in services has reduced the costs and time required to complete trade transactions. In addition, the platform accelerates communication, thus facilitating both payments and cross-border trade. The single window system is the main reason why Kenya achieved one of the largest improvements in the World Bank Doing Business indicators (World Bank, 2019), including improvements in trading across borders.

Additionally, the government of Kenya has promoted implementation of digitization programmes under the 2018 Amendment of Registration of Persons Act (Republic of Kenya, 2018b), which provides for establishment of a National Integrated Identity Management System (NIIMS)

for the mandatory registration of all Kenyan citizens and foreigners resident in the country. Implementation began in 2019. A single register became the depository for personal information under different government documentation processes, providing a national identification number (Huduma Namba, i.e., service number) to be used when accessing all government services. In addition, the system aims at ensuring the preservation, protection, and security of this information, including national identification cards, foreigner certificates, birth and death certificates, driving licences, foreign national's work permits, passports, foreign travel documents and student identification documents. The digital identity effort is seen as a foundation, which the government and the private sector can use to strengthen other programmes, including electoral management, public financial management, payment systems, health, and social security, among others. NIIMS has, however, raised several concerns, among them security with regards to access to private data and a possible exclusion of the marginalized in the country.

The Kenya Information and Communications Act of 2009, amended in 2013 (Republic of Kenya, 2013), governs e-commerce transactions in Kenya, allowing and recognizing electronic contracts for digital transactions. The Act creates an electronic signature and provides for CAK to regulate e-commerce and protect consumers. The Consumer Protection Act of 2012, revised in 2016 (Republic of Kenya, 2016a), provides for the protection of consumers and prevention of unfair trade practices in consumer transactions.

Data protection in Kenya is provided under various laws. The Registration of Persons Act prohibits the publication or communication of data for reasons other than those allowed for official purposes. The Information and Communications Act provides for adequate cybersecurity for government systems, such as the NIIMS.

The Access to Information Act provides for protection of personal data and the right to privacy, and the Data Protection Act, 2019 (Republic of Kenya, 2019a) seeks to protect personal data. The government of Kenya has also undertaken several measures to enhance cybersecurity at the national level. In 2018, the country enacted the Computer Misuse and Cybercrimes Act, 2018 (Republic of Kenya, 2018a), which governs offences relating to computer systems; facilitates the timely and effective detection, prohibition, prevention, response, investigation and prosecution of computer and cybercrimes; and facilitates international cooperation in dealing with computer and cybercrime issues. This legislation also responds to the African Union's convention on cybersecurity and personal data protection (African Union, 2014), which requires African Union parties to adopt cybersecurity legislation and regulatory measures against criminal activities related to confidentiality, integrity, availability and survival of ICT technology systems' data processing and network infrastructure. Additionally, this convention requires that African countries ensure that e-commerce activities are exercised freely, except for gambling and prohibited activities. The country has also established the National

Response Team – Coordination Centre (National KE-CIRT/CC) at the CAK, which coordinates the response to cyberattacks and remediation of cybersecurity incidents.

Opportunities for digital trade in Kenya

The Africa Continental Free Trade Area (AfCFTA) offers digital trade opportunities for its members, Kenya included. The AfCFTA brings together all 55 member states of the African Union, covering a market of more than 1.2 billion people, including a growing middle class, and a combined gross domestic product (GDP) of more than US\$ 3.4 trillion. The AfCFTA offers Kenyan small and medium-sized enterprises (SMEs) an alternative route to market their goods, especially those SMEs and entrepreneurs who were previously hindered by a lack of connectivity, high transaction costs and information asymmetries. Integrating Africa into a single digital market will create economies of scale and opportunities to grow both local and regional economies. Compared to many other African countries, Kenya is in a good position to benefit from the AfCFTA due to the Digital Economy Blueprint (Box 1), launched in May 2019, which could set a precedent for a new digital Africa and encourage wider cooperation between African nations.

Through its disruptive technologies,⁴ a digital economy could spur economic development in Kenya. For example, M-Pesa⁵ was one of the first banking applications to be embedded in mobile SIM toolkits. The mobile money infrastructure has created a new



Box 1: The Digital Economy Blueprint

The five pillars of the Blueprint are digital government, digital business, digital infrastructure, innovation-driven entrepreneurship and digital skills and values. The digital government pillar comprises an interactive government portal offering e-government services, along with security of data and processes. The goal is to simplify government's interactions with its citizens, facilitate greater involvement of businesses and the general public in decision-making and improve the business environment. This requires having a solid ICT infrastructure.

The digital business pillar emphasizes the development of a robust marketplace for digital trade, financial services and content. This entails having an affordable, efficient and safe payment system; encouraging an improved legal framework; and developing regional markets for cross-border trading. This pillar calls for e-commerce to go beyond national borders and for Africa to integrate into a single digital market, thus creating economies of scale.

The digital infrastructure pillar entails the development of reliable, affordable and secure broadband connectivity. This includes logistics infrastructure, appropriate and affordable devices, management of digital assets, payment systems

and data centres. The Blueprint acknowledges the digital divide in Kenya and proposes an improvement generated by investment from private sector operators and government initiatives. This will include the National Optical Fibre Backbone Infrastructure (NOFBI), investment in broadband network infrastructure and initiatives by the CAK.

The innovation-driven entrepreneurship pillar is concerned with a system that supports local enterprises in producing competitive products and services. This would require setting aside funding for research, giving tax support to enterprises, providing access to public procurement for innovation products and supporting business models that leverage open access and intellectual property systems, incubators and accelerators for innovation.

The digital skills and values pillar highlights the development of a digitally skilled workforce based on sound ethical practices and socio-cultural values. It emphasizes the importance of artificial intelligence, robotics, coding in relevant tools, cybersecurity, the Internet of Things and mobile app development.

Source: Republic of Kenya (2019b).

market and disrupted the financial industry ecosystem to become a major competitor for the traditional banking sector. Mobile money enables transferring money from person to person, buying airtime, paying utility bills, and so on. M-Pesa connected a population that was hitherto unbanked (people who did not use traditional banking services).

Disruptive technologies such as artificial intelligence, robotics,

blockchain, drones, the Internet of Things, big data and software-enabled industrial platforms have great potential to impact economic development. For example, M-Pesa transformed the financial sector by significantly increasing financial inclusion, as well as opening up the possibilities of new business models and opportunities such as PayGo, digital credit and (for better or worse) mobile betting (Republic of Kenya, 2019b). Digital technology creates opportunities for innovation. New

technologies give access to markets that were previously closed and remove distortions in demand by giving customers direct access to products that were previously controlled. Rapid technological developments have created new markets that now connect consumers, lower transaction costs and reduce information asymmetry.

The internet in Kenya has opened up new opportunities for B2C and business-to-business (B2B) transactions in educational, financial, logistics and other services delivered online.

The use of personal computers and mobile phones to access the internet has provided a convenient channel for accepting orders from retail customers or other businesses, making it a useful means of delivering products and services to many customers. Kenya has a young,

tech-savvy population and a fast-expanding middle class who have computers, mobile phones and access to internet services either at home or at work.

These groups provide a huge market for digital goods and services, internet banking, international payments and the purchase and sale of goods and services online.

According to the CAK, the percentage of the Kenyan population using the internet was 98.1 per cent in June 2019 (CAK, 2019a), having risen from 45 per cent in 2016 (Internet Live Stats, 2016).

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Digital platforms can give MSMEs – which make up 98 per cent of all businesses in Kenya, create 30 per cent of the jobs annually and contribute 3 per cent of the GDP (Central Bank of Kenya, 2018) – the opportunity to enter new markets and to strengthen their (currently limited) linkages with larger and more productive firms.

This enables them to supply goods and services that they otherwise would have been unlikely to do, owing to location constraints and prohibitive marketing costs.

Digital platforms are effective channels for the exchange of value/financial exchanges either in the form of goods or services. Using digital platforms reduces the use of intermediaries and rent seekers⁶ between producers and consumers, enabling a more equitable distribution⁷ of accrued value to the different participants along the value chain.

For example, Travelstart is a digital travel-booking platform in Kenya that customers can use to book domestic and international flights. They can also hire vehicles and make hotel reservations without going to a physical travel agency or using a travel agent.

E-commerce offers great opportunities for Kenya, with the possibility of trading platforms designed for the Kenyan user. Increased availability of broadband internet has enabled the digitization of the retail sector and enhanced online retailers such as Jumia.co.ke, Kilimall.co.ke, jiji.co.ke, Cheki.co.ke, Shopit.co.ke, Mamamikes.co.ke, MIMI online shop (www.mimi.co.ke), Electrohub.co.ke, Amanbo.co.ke, and so on. Firms use digital platforms to offer commercial products and services such as e-commerce (e.g., Amazon, Alibaba, Jumia), search engines (e.g., Jumia, Masoko by Safaricom), content platforms (e.g., Mdundo, Iroktv, Waabeh) or ride-sharing applications (e.g., Mondo Ride, SafeBoda, Little Cab) (Republic of Kenya, 2019b).

E-commerce and the use of digital platforms afford Kenya the opportunity to diversify its export markets and move into higher value-added production segments, rather than concentrating on traditional exports (e.g., coffee, tea, fruits and vegetables). Export opportunities provided by e-commerce may help to ensure longer-term firm survival in Kenya. Chacha and Edwards (2017) find that only a few Kenyan exporters survive beyond the first year, and that selling to a larger number of destination countries (among other factors) is associated with longer survival in international markets.

At the same time, Suominen (2017a), in a study conducted in 14 developing economies (Argentina, Bangladesh, Brazil, Chile, Colombia, Ghana, India, Kenya, Mexico, Nigeria, Pakistan, the Philippines, South Africa and Uruguay), shows that on average 63 per cent of online sellers sell to two or more markets, while only one third of offline sellers who export sell to more than one market. Thus it is not surprising that data from eBay suggest that 80 per cent of online exporters survive as exporters after their first year, compared to only one third of offline exporters.

Digitization of production presents important opportunities for Kenyan manufacturing firms in terms of growth and employment creation. Banga and te Velde (2018) find that digitization has helped to boost Kenya's GDP growth by supporting retail electronic payment systems and financial inclusion, and increasing the vitality of the financial sector. The authors contend that the use of digital technologies and robotics by Kenyan manufacturing firms would improve efficiency and boost their output

and exports, and thus employment. Growing digitization in Kenya can lead to the establishment of service industries for the repair and maintenance of these machines, as well as industries for data storage and information processing services, including cloud computing, computer systems design, programming, and computer-aided design and digital cutting (Banga and te Velde, 2018).

ICT has supported increased trade in services in Kenya. For example, some health services are now delivered over the internet due to ease of internet access. Blockchain technology can be used to track the pharmaceutical supply chain. Such tracking capability would help tackle the issue of counterfeit medication, which kills approximately 100,000 people in Africa every year (Ministry of Information, Communications and Technology, 2019).

The increasing availability of mobile phones in Kenya has led to a rise in SMS-based information dissemination services that could improve access to information and empower farmers with weather, market and other relevant information. Digitization has transformed the lives of farmers and others in agricultural value chains by providing near real-time agricultural and market information. Farmers get information from markets, and they also receive payments for the sale of their agricultural output using online platforms. In other words, the digitization of the agricultural sector offers new opportunities through innovations that can upscale the agricultural value chain. Trade platforms have been established that bring farmers closer to the traders by reducing the number of intermediaries

between farm and plate. Another benefit to be garnered from a digital economy is precision agriculture, where computer-guided aerial mapping, data collection on soil and weather, and the use of global positioning systems (GPS) and GPS-computer-guided implements such as tractors and harvesters can be used by farmers, hence making farming much more efficient (Ministry of Information, Communications and Technology, 2019).

Digital trade challenges for Kenya

Limited access to finance and infrastructure gaps constrain the ability of individuals and firms to purchase digital technologies. While larger firms in Kenya are in a better position to leverage new technologies, MSMEs are unable to do so, mainly due to their lack of creditworthiness and the cost of deploying these technologies (Were, 2016). Although Kenya has made great strides in mobile phone ownership, there is still a significant proportion of the population that does not have access to broadband internet services to benefit from the digitization of trade. Key digital infrastructure constraints include limited access to fibre and broadband connectivity due to the high costs of installation and use, low availability of spectrum for wireless, low availability of public access points and shared access to devices, as well as the inability for persons with disabilities (PWDs) to access and use digital infrastructure. Low-quality roads⁹ and the limited extent of the rail network, airports and harbours, coupled with the many informal settlements and un-numbered houses and streets in the formal settlements, result in high delivery costs and lengthy delays in the delivery of goods bought

online. In addition, postal services in Kenya are very unreliable, especially in remote areas (Wanyonyi, 2018). All of this severely limits the reach of e-commerce in the country.

Poverty and high rates of illiteracy limit participation in digital commerce. About 36 per cent of Kenyan households live below the poverty line, which makes paying for the internet subscription required for online shopping unaffordable. Some 38.5 per cent of the Kenyan adult population is illiterate, which results in communication challenges and lack of access to information. For example, the inability to read can make it hard to obtain information on digital investment opportunities or capitalize on the availability of information (for example, it is difficult to benefit from SMS alerts if you cannot read). Education, capacity building and citizen sensitization on the usefulness of information contained in the digital alerts are therefore crucial in order for Kenya to benefit from digital trade.

The use of enhanced, advanced digital technology in the automotive industry is limited by gaps in skills and low investment in training as evidenced by enrolments in science, technology, engineering and mathematics (STEM),⁹ credit constraints, the high costs of electricity and steel compared with those costs in neighbouring countries such as Uganda (Muchira, 2018; Shiundu,

2017), and trading delays due to non-tariff barriers, slow customs procedures and poor logistics (Republic of Kenya, 2017). Targeting skills development to increase the capabilities of the workforce and lowering the cost of electricity (Muchira, 2018; Shiundu, 2017) are crucial to promote the use of digital products and platforms.

Cybersecurity threats, poor governance and instability constrain the success of the digital economy in Kenya. Insufficient regulation, uncontrolled access to digital infrastructure, and lack of digital hygiene¹⁰ predispose all participants in the digital economy to cybersecurity risks and threats (Australia Computer Society, 2016).

To address the issues of cybercrime, Kenya has established under the CAK the National KE-CIRT/CC, which forms the national cybersecurity management framework and is Kenya's national point of contact on cybersecurity matters. Under this framework, about 51.9 million cyberthreats were detected in Kenya during the 2018–2019 period (CAK, 2019b). The National KE-CIRT/CC coordinates responses to cybersecurity matters at the national level in collaboration with

relevant actors locally and internationally, detecting, preventing and responding to various cyberthreats while interfacing with both local and international ICT service providers and with the Judiciary for the investigation and prosecution of cybercrimes. Kenya has also enacted

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Table 1: Kenyans' level of concern about online privacy

Response	Weighted sample	Proportion (%)
Much more concerned	540	54
Somewhat concerned	148	15
No more or less concerned	102	10
Somewhat less concerned	70	7
Much less concerned	134	13
Total	994	100¹¹

Source: CIGI-Ipsos (2019).

the Data Protection Act, 2019 (Republic of Kenya, 2019a). Additionally, the African Union's cybersecurity treaty, known as the African Union Convention on Cyber Security and Personal Data Protection, imposes an obligation on Kenya to establish legal, policy and regulatory measures to promote cybersecurity governance and control cybercrime.

Consumers' lack of trust in products and services sold online, delivery systems, online payments and other online services remains an important challenge to the development of digital trade. For example, threats to privacy appear to be a growing concern. A survey in November 2019 by the Centre for International Governance Innovation (CIGI) (2019) finds that 54 per cent of Kenyans are much more concerned about their online privacy than they were in 2018, while 13 per cent are much less concerned (Table 1).

While the private sector has its own interest in building consumer trust and confidence in e-commerce and online services, balanced consumer protection laws can also support consumer confidence. Hence Kenya

needs to establish a legal framework for online consumer protection that enables consumers to seek legal redress in case of breach of trust. In its Digital Economy Blueprint, the Government has committed itself to develop a legal framework to enforce digital contracts, resolve disputes and protect consumers. The legal framework would establish a level playing field between providers and customers, and advance consumer protection through improved supervision, transparency and digital/financial literacy.

Lack of protection of intellectual property (IP) constrains participation in digital trade. IP that can be digitized is hard to protect since consumers can copy and use online content without paying for it or without receiving permission from the rights holders. Since a majority of Kenyans are not aware of how they can protect their ideas and earn income from these ideas through trade, the development of internet services and platforms has underlined the need to strengthen the legal framework to protect trademarks and copyrights in the internet era.

Digital platforms such as e-commerce sites depend on user reviews of goods and services sold on such sites, and these platforms need to be protected from liability for the content generated by the reviewers. Hence, in order to encourage digital platforms to serve both the local and international markets, the Kenyan Government and its East African counterparts should create and modernize safe harbours that limit the liability of digital platforms from user-generated content.

Digital trade and especially cross-border, online trade are enhanced by the existence of secure and reliable online payment systems. In Kenya, there are several national online payment platforms for both domestic and regional transactions.¹² Credit cards, mobile money transfers and other forms of internet-enabled payments facilitate e-commerce and robust commercial activities within Kenya and enable the country to trade seamlessly with other Common Market for East and Southern Africa (COMESA) and East African Community (EAC) countries. However, for Kenya to enhance digital trade with the rest of the world, cross-country collaboration is still needed to fuel interoperability and integration among mobile money platforms and banks, so that the payment systems of buyers and sellers can work seamlessly with each other. Enhanced interoperability will reduce friction in e-commerce transactions, increase ease-of-use for consumers and reduce costs for platform operators.

The African Union's Digital Transformation Strategy for Africa addresses transboundary challenges, especially interoperability of systems, as well as harmonization of digital

identity systems. The Strategy commits member countries to promote open standards and interoperability to enhance trust in cross-border transactions, personal data protection and privacy (African Union, 2019). Improvements in digital infrastructure, which is one of the pillars in the Digital Economy Blueprint, would increase Kenya's ability to meet these challenges.

Conclusion

Kenya has made significant progress in digital trade. Various opportunities abound. In particular, the launch of the AfCFTA will provide a huge market for goods and services that is also a huge digital economy. However, a lot remains to be done, including in ICT development, in order for the country to become a competitive global player in such trade. Considerable efforts are required to strengthen transport infrastructure (such as railway systems, roads, airports and harbours), the postal system and trade logistics, all of which are important for the operation of digital platforms. Continued digitization of border procedures, the establishment of blockchain¹³ transport corridors in customs and other border agencies in the EAC member countries, strengthened surveillance of cybercrime and more effective data protection are equally important. The launching of the African Union's Digital Transformation Strategy for Africa and Kenya's Digital Economy Blueprint, increasing domestic efforts to enhance universal access to and utilization of ICT services and addressing cybercrimes in collaboration with international players will support Kenya's march towards a truly digital economy and to becoming a global player in e-commerce.

Endnotes

¹ The process of converting analog information (pictures, text, sound, etc.) into a digital format that can be processed by a computer.

² For example, few procedures in registering business, shorter time in transacting business, efficiency of government regulations and so on.

³ The site, <https://www.kentrade.go.ke>, is meant to simplify trade processes for the private sector.

⁴ Disruptive technologies are innovations that significantly change the way that consumers, industries or businesses operate. They sweep away the systems or habits they replace because they have attributes that are much more superior.

⁵ M-Pesa is a mobile banking service that allows users to store and transfer money through their mobile phones. The service is a blend of two entities where M means mobile and Pesa means money or payment in the Swahili language.

⁶ Rent seekers are people who manipulate public policy or economic conditions as a strategy for increasing profits. However, digital platforms connect sellers with buyers without the need for physical stores or distributors, and they allow space for competition among the sellers to the benefit of the consumers.

⁷ However, bigger and well-established digital platforms such as Amazon, Google and Facebook can acquire monopolistic tendencies and undermine the smaller and younger online platforms.

⁸ Kenya has a road network of about 177,800 km, of which only 63,575 km are classified as in good condition and maintainable (Kenya National Highways Authority, 2019).

⁹ According to the Commission for University Education and Kenya National Bureau of Statistics, only 1 in 4 undergraduates studied STEM courses in 2017 compared to 43 per cent in Business and Humanities (Commission for University Education (2018)). KES 404 billion (US\$ 378 billion) was spent by African countries on hiring expatriates in the STEM fields.

¹⁰ The cleanliness or uncleanliness of a person's digital habitat for example, posting material such as photos online, one's desktop icons, file structure, folder trees, Photoshop files or hard drive, Facebook, Twitter, Instagram pages or digital persona, etc.

¹¹ The percentages have been rounded up to 100.

¹² The Kenya Electronic Payment and Settlement System (KEPSS) is a real-time gross settlement (RTGS) system, meaning that transactions are cleared and settled on a continuous basis. The East African Payment System (EAPS) and the Regional Payment and Settlement System (REPSS) aim to facilitate cross-border payments and settlements within the East African Community (EAC) and Common Market for East and Southern Africa (COMESA) regions, respectively.

¹³ Blockchain refers to a type of data structure that identifies and tracks transactions digitally and shares this information across a distributed network of computers, thus creating a sort of distributed trust network (Okazaki, 2018).

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Comments



NASSIM OULMANE AND MUSTAPHA SADNI JALLAB*

There is a large and growing consensus on the role of trade in support of economic development and economic growth. It is also generally recognized that having a predictable and transparent rules-based multilateral trading system is an important condition that needs to be met in the fight against poverty (World Bank Group and WTO, 2018). The trading system is evolving rapidly, with new forms of trade emerging. The development of information and communications technology (ICT) can further support the goal of economic development: e-commerce (Deardorff, 2017). As argued by the World Bank Group and the WTO (2018), trade and technology are closely related, and technologies are considerably reducing trade costs (Fink, Mattoo and Neagu, 2005). E-commerce has the potential to be a major game changer and, subsequently, an engine for trade and economic development within the context of the United Nations' Sustainable Development Goals 2030 agenda (UNCTAD, 2017). Indeed, e-commerce has important implications, as business-to-business e-commerce represents roughly US\$ 15 trillion annually and business-to-customer transactions around US\$ 1 trillion. In addition, the value of e-commerce transactions

totalled US\$ 27.7 trillion (UNECA, 2018b; WTO, 2018).

Africa is also experiencing the rapid growth of e-commerce, with an estimated annual rate of 40 per cent. As a result, the digital economy in Africa is expected to grow to over US\$ 300 billion by 2025 (McKinsey, 2013). However, important issues remain to be addressed. In 2020, internet availability in Africa improved, but it remains at 39.3 per cent, which is low compared to the world average of 58.8 per cent.¹ Fixed broadband availability remains below 1 per cent for Sub-Saharan Africa (ITU, 2019; Statista, 2019). Beyond these average figures, a key issue is the connectivity of all actors and groups, and the most vulnerable, to opportunities through existing institutions that enable economic activities (banks, financial institutions, certifications, markets, insurance, etc.). Women do not fully benefit from access to the internet, compared to men. The digital gender gap is quite significant: in 2019, 33.8 per cent of the men had access to the internet while only 22.6 of women did. At the global level, the gap is less significant, as we observed 58.3 per cent and 48.4 per cent internet access, respectively (ITU, 2020).

* This commentary represents the opinions of the authors. It is not meant to represent the official position or opinions of the United Nations Economic Commission for Africa (UNECA) or the United Nations African Institute for Economic Development and Planning (IDEP) or its members or any additional and respective institutional affiliations of the authors. It is also not meant to represent the position or opinions of the WTO or its members.

The literature recognizes that ICT has an important role to play in sustaining economic growth and contributing to the resilience of economies, especially during crises, as witnessed today, with most economies in lockdown or slowly emerging from lockdown due to the COVID-19 pandemic and a looming global macroeconomic recession (UNECA, 2020; IMF, 2020; WTO, 2020). As the pandemic is having systemic effects and in order to ensure the social distancing required by health authorities, economic operators, including consumers and producers, are increasingly using e-commerce for their transactions. This trend is observed in Africa as well, where certain online platforms have recorded huge increases, thus significantly facilitating domestic consumption. This is also the case in Kenya, where the use of e-commerce multiplied by a factor of three during the current crisis (CNBC Africa, 2020).

“Africa is also experiencing the rapid growth of e-commerce, with an estimated annual rate of 40 per cent.”

One important and timely aspect that this chapter highlights is the way in which e-commerce can support economic transformation and contribute to increasing market opportunities while reducing trade costs. E-commerce and relevant innovations supported by appropriate digital applications can promote entrepreneurship, contribute to developing the private sector, and create a new set of jobs (ITC, 2018). Empirical evidence from the WTO (2018) shows that the reduction of trade costs could be particularly beneficial to micro, small and medium-sized enterprises (MSMEs), including

firms in developing countries. This is particularly true, as the authors argue, when a conducive environment is created and appropriate relevant and sectoral policies are implemented. WTO estimations suggest that developing countries' share in global trade could grow from 46 per cent in 2015 to 57 per cent by 2030 (WTO, 2018). Technological breakthroughs and e-commerce are expected to have a profound impact on labour markets, thus affecting the dynamics of future job markets. To illustrate this point, currently 60 per cent of the African population is under the age of 25, and it is estimated that between 10 to 15 million young people join Africa's labour market annually. E-commerce and digital economies can contribute to developing new opportunities and generating decent jobs, especially for women and youth (ILO, 2018). This requires adjusting policies relating to education, training and vocational training in order to better match people's skills with the evolution of job requirements.

This chapter underscores the increasing importance of e-commerce in Kenya, which is strongly facilitated by the government's proactive policies in support of economic development. These policies are geared towards expanding trade within the Africa Continental Free Trade Area (AfCFTA), as outlined in the government's Digital Economy Blueprint. The authors clearly identify the huge potential gains the AfCFTA could generate for the Kenyan economy and how the AfCFTA could facilitate

economic transformation through deeper regional integration and better access to regional and global value chains. The growth of digital trade in Africa will open up new opportunities for the provision of online services, promote export diversification, and boost efficiency and growth in manufacturing. It will also improve competition in the financial sector, increase access to market-relevant information and enhance market access for MSMEs. This trend will most likely be accelerated by the COVID-19 pandemic and its impacts on human behaviour and interaction, such as social distancing and remote work, thus transforming working methods, accelerating innovations and boosting the supply of new digital solutions to support and develop e-commerce.

It is important to recall, however, that many challenges are still present in Africa to translate the expected gains from e-commerce into tangible economic benefits. For instance, addressing the infrastructure gap and establishing enforceable, relevant and appropriate regulatory frameworks remain strategic to protect society against cybercrime, ensure privacy, support the interoperability of mobile money platforms and banks, promote consumers' trust in online transactions, protect intellectual property and protect digital sites from liability for customers' posts (UNECA, 2018b).

While this is a real challenge, the blockchain technological revolution has

the potential to lead Africa on a path of inclusive and sustainable growth. To respond to those challenges, many initiatives have been deployed. For example, the United Nations Economic Commission for Africa (UNECA) has developed a Centre of Excellence for Digital Identity, Digital Trade and Digital Economy (DITE) in partnership with the African Union Commission to support African countries to have better access to technologies. This could facilitate the smooth implementation of trade agreements such as the AfCFTA Agreement or the measures implemented under the WTO's Trade Facilitation Agreement, with a reduction in administrative trade procedures expected to be cost-effective. Also technical support on

digital strategy or legal frameworks should be provided by relevant stakeholders. The work on the African Continental Digital Transformation Strategy (DTS) is another illustration of the efforts made at the continental level to address those challenges.

The authors highlight another important constraint that results

from a lack of access to finance, particularly when considering the importance of MSMEs in the Kenyan economy and on the African continent. Emerging technologies such as financial technology (FinTech) may help to reduce financial exclusion on the continent. This is particularly relevant for Africa – according to the World Bank (2019), despite a significant improvement recently, the continent is facing a low rate of

“E-commerce can support economic transformation and contribute to increasing market opportunities while reducing trade costs.”

bank access, with 56 per cent of adults on the continent not having access to formal banking services in 2017. It is therefore encouraging to note that in recent years, Africa has seen a boom in FinTech start-ups across the continent (UNECA, 2018a). FinTech has had a positive impact on e-commerce, and mobile money remains the most advanced platform today for financial inclusion in Africa through the variety of services offered to users (UNECA, 2018b). To promote the development of these innovations, many issues related to regulatory frameworks

need to be addressed to increase the coverage and accessibility of FinTech services.

To conclude, this chapter evidences and underscores the importance of e-commerce for Kenya and East Africa as a tool for economic development and fuller integration in the world economy. It clearly demonstrates how access to new technologies, which is especially relevant during the current disruptive time due to the outbreak of COVID-19, has the potential to offer tangible opportunities for achieving inclusive growth.

Endnote

¹ See www.internetworldstats.com/stats1.htm.

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