



Information and communications technologies (ICT) services and digital trade in the African Continental Free Trade Area (AfCFTA)

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Introduction

Digitally delivered or information and communications technologies (ICT)-enabled services are defined as services delivered remotely over ICT networks. With telecommunications and computer services becoming more easily available and affordable, more services are increasingly tradable and possible to deliver remotely. This has given rise to an expansion of the outsourcing and offshoring of a range of business services (such as marketing and management consulting), and has lowered barriers and entry costs for businesses in developing countries to produce and export such services (UNCTAD, 2019).

New technology, online platforms and e-commerce provide a relatively easy and inexpensive way of allowing small businesses to enter foreign markets, of expanding women-owned businesses and of facilitating women's entrepreneurship. According to the International Telecommunication Union (ITU), a digital gender divide persists in many countries, with women having less access than men to the internet, with the global internet user gender gap being at about 12% in 2019. Women and the Web report - Intel Corporation, points out that bringing women online would contribute up to USD 18 billion to the annual GDP of 144 developing countries.

A large share of the micro, small, and medium enterprises (MSMEs) in African countries are informal. Many women who are informally employed are owners of micro or small enterprises. The majority are very small in size with either zero or 1–5 employees. Women's businesses tend to be smaller than those of men. Therefore, empowering MSMEs has a direct impact on women, as one-third (10 million) of the world's MSMEs are women-owned. Trade has increased incentives for girls to attend school. In countries, such as Ghana, where services outsourcing has increased employment opportunities for young women, girls are more likely to be in school because of such trade links. However, the informal status of women businesses confronts women entrepreneurs with several disadvantages, including low productivity.

Women entrepreneurs face several challenges when starting and growing their businesses. They lack access to credit, technology, and other productive resources. They have limited access to business and skills training, as well as to information and markets. They also face expensive and difficult regulations and administrative requirements. While women have generally high levels of participation in economic activities in Africa, they still retain responsibility for the care of their families. Women's unpaid care work can constrain their options for employment and income earning activities. Women workers and entrepreneurs are also subject to sociocultural norms, pervasive stereotypes, and a lack of family support—all factors that hold them back economically. The presence and recognition of customary laws in some countries creates legal barriers to women's rights and economic participation. A lack of clarity concerning key labor laws puts women in relatively weaker positions in the labor market.

The AfCFTA needs to fully embrace the digital economy and should work to leverage digital technology to enhance trade and investment, provide an e-based business platform, promote good governance, and facilitate green technology for the continent. The vision should be for a digitally-enabled economy that is secure,

sustainable and transformative which can promote and develop an innovative, inclusive and integrated Africa. A plan should be articulated to clearly set out the role of ICTs (i.e., digital technology) as follows:

- Digitally-enabled economy: Programs for continual education and upgrading to equip African citizens with the latest infrastructure, technology, digital skill sets, information, applications, and services;
- Secure: A safe and trusted ICT environment in Africa, providing reassurance in the online environment by building trust in online transactions via a robust infrastructure;
- Sustainable: Responsible and environmentally friendly use of ICT;
- Transformative: A progressive environment for the disruptive use of technology for Africa's social and economic benefits;
- Innovative: A supportive entrepreneurial environment that encourages innovative and novel uses of ICT; and
- Inclusive and integrated: Empowered and connected citizens and stakeholders.

Embracing the digital economy entails an economy-wide transformation that will impact all sectors. Digital technology provides many benefits. It is estimated to boost GDP across the African continent by: increasing broadband penetration; raising worker productivity; and creating new digital industries (e.g., e-commerce). In addition to boosting productivity, the digital economy achieves efficiency gains while allowing global reach. It facilitates faster, easier, and cheaper trade within Africa and with external partners. It enables individual and small businesses to reach markets anywhere in the world. Digital trade is bringing previously unconnected MSMEs to regional marketplaces for cross-border retail trade and is linking them to global value chains. Digital finance has the potential to extend financial services to the unbanked, underbanked, and MSMEs. Digital technologies are expected to support smart cities to address the challenge of rapid urbanization in Africa's major cities.

Digitally delivered or ICT-enabled services, sometimes called "digitally deliverable" services include insurance and pension services, banking and other financial services, charges for the use of intellectual property, telecommunications, computer and information services, other business services, and audiovisual and related services.

Trends in ICT Services and Digital Trade

Increasing digitalization of an economy can be measured by the faster growth of exports of ICT services and digitally deliverable services in comparison with total services export. In Africa, exports of digitally deliverable services have been growing, but they have remained significantly lower than in the other regions. Available statistics from UNCTAD's Digital Report 2019 indicate that in 2018, exports of digitally deliverable services amounted to \$2.9 trillion, or 50 per cent of global services exports. Over the period 2005–2018, they grew at a rate of 7 per cent annually, as compared to 6 per cent, on average, for all services exports. Business services exports are by far the largest category, with a global value of \$1.2 trillion. Exports of digitally deliverable services increased substantially across all regions during the period 2005–2018, with a compound annual growth rate ranging between 6 and 12 per cent. For African countries, telecommunications, computer and information services constitute the largest share of digitally deliverable services.

Service providers in African countries, especially women, can benefit from the use of global digital platforms to provide economic value creation and connect different parts of the same country or with other countries, which could result in improvements in efficiency and increased access to domestic and international markets. Facebook is often used as a means to market domestic services to potential customers. New digital solutions, including for e-commerce, are creating opportunities for companies of all sizes to engage in domestic and international trade, notably by increasing market access for customers, supply chains and competitors, and by lowering trade costs. In addition, by reducing transaction and search costs, as well as frictions, digital platforms enable those offering assets or services to connect more easily with (potential) consumers.

This has not only resulted in new types of trade (in digitally traded products, services and tasks); it has also enabled more traditional trade to move online and leverage different digital platforms to better match buyers and sellers, and make their products more visible. This can have a positive impact on micro, small and medium enterprises (MSMEs) in countries at all levels of development, but in different ways. Potential benefits for African countries' companies and consumers range from greater efficiencies to deeper specialization and division of labour, gains from variety and predictability for all players, as well as lower costs and prices of inputs and final

products. However, in order to be able to benefit from e-commerce, developing countries need to address a number of areas, notably: fostering the provision of affordable ICT infrastructure and services, offering payment solutions, improving trade logistics and trade facilitation, creating appropriate legal and regulatory frameworks, promoting e-commerce skills development, and facilitating access to financing (UNCTAD, 2019). All these will contribute to improving the readiness of African countries to trade online. Moreover, for development purposes, global e-commerce platforms should be leveraged in African countries not only for buying and importing foreign products, but also for supporting domestic production and exports.

Available information indicates that, so far, global e-commerce platforms in African countries have been more effective in facilitating imports of foreign products than in enabling domestic products to be exported. Consequently, many African countries are increasingly concerned that a greater reliance on global e-commerce platforms will mainly result in higher consumer spending and imports. For African countries to benefit fully from global platforms, their entrepreneurs and enterprises need to have easy access to them, both as buyers and sellers. Firms in African countries are sometimes restricted in their use of platform services, and access to many platforms remains uneven (UNCTAD, 2019). A common factor limiting access to e-commerce platforms is the lack of cross-border payments solutions. While global e-commerce platforms provide integrated payments solutions, in many African countries, companies are unable to use them if they lack the requisite foreign bank account or subsidiary, this is also true with regard to selling mobile applications. Moreover, the largest advertising platforms, such as Google AdSense, do not accept advertisements in African languages other than Arabic, English, French and Portuguese, which limits the potential to monetize new services. Global digital platforms, if accessible, may be useful by providing a sort of infrastructure on which innovation and digital enterprises can be developed, thereby serving as building blocks for local entrepreneurship, and enabling creativity to be exploited.

Understanding the distinction between transaction and innovation platforms is relevant in this context to take advantage of opportunities arising in the digital economy. While transaction platforms create a virtual environment to facilitate direct interactions between users, innovation platforms create environments for code and content producers to develop applications and software. Transaction platforms (e.g. AirBnB or Facebook) seek to engage as many end users as intensely as possible, mining and processing user data to monetize value (Srnicsek, 2017). These kinds of platforms have captured most of the public and policy attention, most likely because they are better known and they offer more immediate interaction between end users and workers. However, innovation platforms (such as Android or iOS operating systems) are arguably at least as important for examining the relationship between the digital economy and development. They are building blocks, and highly interconnected gatekeepers, for generative digital innovation processes. Innovation platforms pursue different and often more complex design strategies directed at innovators (e.g. focusing on application programming interfaces (APIs) and technological standards), with the ultimate goal of establishing extensive, yet seamless, innovation ecosystems. Providers that combine innovation and transaction platforms are referred to as “integrated platforms” (e.g. Google and Apple) (UNCTAD, 2019).

It is therefore important to distinguish between companies and products: a single company (Google) may offer a range of products that can be both transaction platforms (e.g. Google Search or Gmail) and innovation platforms (e.g. Android or Google APIs) in their own right. As digital innovation often happens generatively, foundational digital building blocks remain in use without entailing any further action and cost for their creators. Especially when a digital product becomes embedded in global digital infrastructure, it can scale together with the overall digitization process (Henfridsson and Bygstad, 2013). This scaling mechanism applies to innovation platforms that create ecosystems for both combinatorial digital innovation (e.g. iOS, Android, Microsoft, WordPress, Salesforce, Ruby on Rails, GitHub) and other digital infrastructure products (such as those offered by Intel, Akamai, Huawei, Tencent, Amazon Web Services, Qualcomm, Ericsson, Oracle, Adobe and Mozilla). Hence, it is important for entrepreneurs and innovators to have the necessary access and skills to leverage these critical digital building blocks.

Opportunities And Challenges

Opportunities for establishing digital platforms for African countries

Country-wide, regional and continental digital platforms, can offer potential advantages to the domestic real economy, including convenience for local consumers and businesses through shorter shipping times, flexible payment options, relevant products and local language interfaces, better linkages with local industries and suppliers, reduced reliance on imports and greater openness to support exports. However, they often face a number of constraints due to weaknesses in the local economic environment. This helps to explain why digital platforms originating in African countries have remained fewer and smaller than their counterparts in the more advanced economies.

Most of the digital platforms originating from Africa are transaction platforms rather than innovation or integrated platforms. The rising number of platforms fall wholly in the transaction platform category, and they have relatively low levels of market capitalization. Among these, e-commerce platforms, sites for classified advertising and job boards, as well as emerging financial technology companies accounted for most of the cumulative market valuation. Two African investment companies have major shares in many of the leading platforms: Naspers (including OLX, Konga, and Takealot) and One Africa Media Group (including Cheki, Jobberman, and BrighterMonday). Another example is Rocket Internet (through its holding company Africa Internet Group), based on a more controlling yet flexible venture builder model (Baumann et al., 2018). It has invested in a number of e-commerce platforms, such as Carmudi, Lamudi, Hellofood and Easy Taxi, many of which have been consolidated under the Jumia Group brand. African digital platform entrepreneurs face specific market and infrastructure challenges that require critical adaptations compared with business models used by global platforms. The following are examples of such adaptations:

- Having a person to function as the customer's interface with the digital platform. This may involve sales or extension agents using tablets to facilitate data entry, allowing cash payments on delivery, building up local call-centre capacity for quick call-backs and customer service.
- Establishing physical supply-chain and logistics services, such as distribution centres, payment points, warehouses, drivers and delivery vehicles.
- Consolidating and sharing physical supply chain and logistics services across different e-commerce verticals.
- Using text messages and Unstructured Supplementary Service Data (USSD) codes (i.e. analog-era communications technology), for offline orders and confirmations, for example.
- Investing in the development of human capital (e.g. project managers and software engineers).
- Investing in the development of entrepreneurial and managerial knowledge, such as understanding Africa-specific launch and competitive strategies or pricing.

Due to the weaknesses in the local ecosystem (e.g. poor bandwidth and reliability, or inefficient payment systems) and low technological capacity of customers and employees, and/or issues with physical logistics (e.g. delivery services), digital platforms in African countries have to employ a range of business-model innovations to be viable. The value proposition for the end user on digital platforms in African countries is often the same as for the global digital platforms (for example, ordering an electronic item for home delivery on Konga vs. Amazon). However, the way they assemble the value proposition differs significantly. The value chain of the former involves intricate and cumbersome offline development of capacity, supply chain processes and logistics infrastructures. This increases the operating costs and reduces the potential for shared value creation and digital scaling (e.g. letting users independently upload content, or automated analysis of user data).

Accordingly, African platform businesses face a tough challenge: they may have to seek higher margins (e.g. charging higher commission fees on transactions) in an environment where the willingness, and most importantly the capacity, to pay is relatively low. In effect, this makes user-base scaling difficult. As a consequence, many digital platforms in African countries have to internalize a greater share of the overall value creation, and cannot afford to be as "physical-asset light" as their global counterparts. Online-offline dynamics have been identified as a key feature of platforms in Africa (Insight2Impact, 2019). From around 2012, when broadband Internet became more widely available, companies started to occupy verticals, such as food delivery, travel, car purchases, real estate and electronics, in large and fast-growing markets, including in Ghana, Kenya and Nigeria. While most of these companies span most of Africa, their operational centres are found in only a few locations, such as Lagos for West Africa, Nairobi for East Africa and Cape Town for Southern Africa (David-West and Evans, 2015).

E-commerce providers in Africa have rolled back their activities adopting a of prioritizing growth over immediate profits. Indeed, Jumia has emerged as the main e-commerce platform in Africa, operating in more than a dozen countries, though it may face scaling problems due to lack of interoperability among countries. In 2016, it was the first African start-up company to achieve a valuation of \$1 billion, and in April 2019 it became the first company in Africa to launch an initial public offering (IPO) in the United States (UNCTAD, 2019). In terms of competitiveness, the numerous analog challenges are both a blessing and a curse for regional digital platform providers in African countries. In a range of verticals, regional platforms are already competing with global incumbents, especially for e-commerce (Jumia vs. Amazon), travel and accommodation (Jumia Travel vs. AirBnB, Hotels.com), multimedia entertainment (iRokoTV, Viusasa vs. YouTube, Netflix), and ride-sharing (LittleCab vs. Uber, Bolt). In these segments, the fact that the digital ecosystems in African countries' cities are

not at par with the conditions that global platforms rely on, can open up somewhat “protected” market niches for local and regional platforms. On the other hand, the scope for African-country competitors to achieve exponential growth via user-base scaling is greatly constrained.

The lack of digital innovation platforms in many African countries has significant development implications. One possible outcome is that the dominance of global innovation platforms will further fortify technological innovation pathways that may be poorly aligned with local market needs in African countries. Furthermore, digital enterprises in African countries may find themselves at a competitive disadvantage, thus hindering their ability to scale. And locally appropriate digital technologies may continue to be hard to create due to a lack of (or weak) suitable foundational digital building blocks for combinatorial innovation. Global innovation platforms are likely to remain at the technological frontiers that offer the greatest relevance and payoffs at a global scale.

Moreover, the opportunities for local digital innovation platforms to emerge in African countries may also become slimmer over time as the market and innovative powers of global platforms are reinforced. Countries trailing in the digital economy may not only find it virtually impossible to catch up with the more advanced economies; they may also lose the ability to develop indigenous innovation ecosystems if the critical mass of resources (e.g. users, financial capital and data) and developer capacity are increasingly concentrated on technology designed primarily for the needs of other geographical areas. The African mobile money and smartphone app, M-Pesa, can serve as an example. It is a widely celebrated success story of an African innovation with mass adoption and clear wealth effects (Mbiti and Weil, 2011; Morawczynski, 2009). Yet in interviews, digital entrepreneurs have expressed concerns about the low degrees of openness and functionality of M-Pesa’s application programming interfaces (APIs), which prevents them from introducing digital innovations that would build on its platform.

Outside Kenya, the situation is even more challenging, with the electronic payment landscapes being fragmented between mobile operators with awkward APIs, international payment providers requiring credit cards or bank accounts (or being entirely blocked), and fintech start-ups lacking a user base, capital and influence. Another complication is the many different generations of feature phones and smartphones that are in circulation, often running on obscure or outdated versions of Google’s Android or Nokia’s Symbian operating systems. Furthermore, smartphones and related applications are often ill-suited to African cities, with batteries overheating, thus shortening their lifespan, and having apps that require too much bandwidth and lacking in offline functionality. In such an environment, digital innovation cannot be conducted by scattered actors, and it cannot unfold its combinatorial potential as easily. The existing agreed upon standards and facilitating virtual environments (i.e. innovation platforms) may not be suitable for local conditions. Moreover, localized standards and platforms are fragmented so that they are unable to function as digital infrastructure and reach the critical mass needed to benefit from network effects.

Digital platforms in African countries are on the rise in terms of numbers, size and scope, some of them even reaching billion-dollar valuations, for example Jumia. However, various factors related to geographically layered competitive dynamics in digital platform markets may affect their continued expansion. Given the scaling economies and lock-in effects of digital platforms, African-country startups often find it hard to compete effectively for markets/product categories that are offered through the physical-asset-light expansion strategies of global competitors. Consequently, the main growth options left to them are either to enter a new product category (digital innovation), or to look for niche markets that globally operating platforms are unable or unwilling to serve (differentiation). In the absence of adequate regulations and protections, competing head-on with platform incumbents is rarely an option. Paradoxically, the distance-bridging potential of digital technologies may therefore have the opposite of a levelling effect on platform market opportunities.

The more a product category is dependent upon a transnational user base and/or generativity scaling, the more likely it is to be dominated by digital enterprises starting in places with higher levels of financial resources, entrepreneurial knowledge and human capital. Instead, it is in digital product categories that depend on incomplete and fragmented analog infrastructures that African countries’ digital platforms stand a chance to compete. In this case, they may provide a value proposition, albeit at a higher operating cost, that would not otherwise be available to local customers. As foreign incumbents do not find it cost-effective to deal with local analog constraints on a worldwide scale, regional enterprises may be able to localize the digital platform business model, which can lead to the creation of sizeable markets. This implies, however, that regional digital platforms are inherently constrained to adopting asset-heavier business models (e.g. using kiosks in the case of mobile finance providers such as M-Pesa or Nigeria’s Paga) and to slower scaling across more fragmented markets.

Due to self-sustaining growth and lock-in effects in digital product categories, such as digital payments, online search and operating systems, head-on competition and catching up by African-country platforms is expected

to become harder over time as platform markets become oligopolies or monopolies, leading to a widening of the digital gap. This may be particularly true for innovation platforms, where the potential for combinatorial innovation and generativity scaling depends on standardization, interoperability and the mobilization of developer contributions across the widest geographical expanse possible. Becoming an innovation platform has so far proved elusive for digital enterprises in African countries. Instead, their best opportunities lie in focusing on those product categories where they enjoy a competitive advantage and protections from global incumbents in domestic and international markets. An additional concern from a long-term development perspective is the risk that, once successful digital platforms in many developing countries acquire a certain scale, they will become attractive acquisition targets for bigger players.

Challenges faced by African women entrepreneurs in ICT Services and Digital Trade

The digital economy “encompasses all sectors of the economy that rely upon or use Internet Protocol (IP)-enabled networks and platforms as part of the embedded infrastructure of society.” As the internet increasingly becomes a “fundamental input and driver of all other sectors in the economy” the line between the traditional economy and the digital economy will disappear.

Women can engage with or be affected by the digital economy as economic actors in a variety of ways. Women are not a homogenous group. Their economic opportunities and constraints are shaped by a variety of factors: age, class, education level, marital status, race, and location, etc. Socio-cultural factors are also at play related to religion, ethnicity, and country. These factors can intersect to further advantage or disadvantage women. For example, older, less educated women working in agriculture face constraints that young college educated women living in cities do not encounter. Four general profiles of women in the digital economy can be identified:

- Women owners of MSMEs using digital technologies
- Women entrepreneurs leading digital technology firms
- Women workers engaged with digital technologies
- Women workers impacted by digital technologies

Challenges for Women Owners of Micro and Small Enterprises

The use of digital and ICT technologies can allow women entrepreneurs to: reach out to customers; communicate better with others in their value chain; and access government e-services, information, and online trainings. ICT is now a necessary tool for running a business. The digital economy has also created demand for services related to information technology, the internet, mobile phones, and digital finance. In addition, it has created an opening for technology-based start-ups.

E-commerce provides new opportunities and many potential benefits for women entrepreneurs. Yet, women who wish to start up an e-business encounter many hurdles. Misconceptions about the nature of e-commerce keep some entrepreneurs, including women, from entering this type of business.

To take advantage of the benefits that are possible with digital technology and to engage in e-commerce, women entrepreneurs need effective access to technology. For micro and small entrepreneurs, this begins with mobile phones, but it also requires the infrastructure for effective use of the phones, including reliable network coverage and electricity.

Women face several barriers to the uptake and use of ICTs such as mobile phones and the internet. These include the capacity to afford handsets and data plans, the ability to use the technology (which is in some cases hindered by difficulties in reading and writing), and the perception that these technologies are not relevant to their lives. Concerns about safety and security, both offline and online, also prevent some women from using mobile phones or the internet.

In addition to the barriers to women's uptake of ICTs, women entrepreneurs who want to engage in e-commerce face external challenges to conducting business online. E-commerce activity is curbed to some extent by the lack of digital payment systems that would allow seamless payments, limited logistics infrastructure for delivering goods to customers, and a lack of demand due to customers being unfamiliar with or lacking trust in e-commerce to varying degrees. Where digital payment services exist, women may have difficulty accessing existing digital financial services due to a lack of official identification which is required for know your customer (KYC) purposes.

Challenges for Women Entrepreneurs Leading Digital Technology Firms

The AfCFTA emphasis on the development of MSMEs is also expected to enable the African continent to become more globally competitive, innovative, inclusive, and resilient. Women entrepreneurs who aspire to start up and grow tech firms have the potential to create significant value and contribute to the achievement of the AfCFTA. Very few entrepreneurs in any country are growth-oriented. Women-owned businesses rarely grow from micro to small or medium-sized companies. Yet, promotion of women-owned, growth-oriented enterprises is important as these firms are more likely to create jobs.

In addition to the many challenges facing typical women-owned MSMEs, growth-oriented entrepreneurs are hampered by the fact that almost all interventions to promote women-owned businesses are focused on low-income or poor women with micro businesses. Few entrepreneurship development programs work with women who have higher human and social capital (OECD, 2017). Growth-oriented entrepreneurs also need other types of support. For one, growth-oriented business women are less likely to benefit from traditional classroom-based business trainings. They need programs tailored to the type and stage of their business and which can provide the information and skills needed to support business growth.

Business incubators and accelerator programs increasingly emphasize growing tech-oriented businesses. Women's organizations in Africa need to set up women's business incubators and accelerators, especially as women tend to be under-represented in the larger, government-supported accelerator programs.

In Africa, technology-focused firms face barriers related to "poor protection and promotion of intellectual property rights; lack of broadband infrastructure; underdeveloped science/industrial parks and competitive cluster arrangements; and insufficient financial incentives for technology development and research and development." Additionally, at the policy level, there is a "lack of strategic innovation policies for SMEs; poor innovation support services; a lack of technology support in universities, research and development labs and incubators; and weak linkages between these and SMEs." From the policy side, promoting women-owned tech businesses in Africa may be challenging. As earlier mentioned, African entrepreneurs have fairly low levels of capacity for innovation.

Challenges for Women Workers in the Digital Economy

The impact of technology and ICTs will fall disproportionately on employed women as they are in sectors and occupations that are at high risk of displacement from automation. United Nations Women reports that the groups that will be left behind as the economy transitions to digital economy will be those with weaker basic skills, older workers, the poor, those in rural areas, and women. New jobs will require skills and education that many workers do not have. To successfully navigate this changing environment, women workers will need skills development and retraining, as well as social protection to provide a safety net in case of unemployment. It is most likely that displaced workers who have low skills and low levels of education will join the informal sector and pursue entrepreneurship or less secure and less remunerative jobs.

At the same time that more traditional jobs are disappearing due to automation, there is an increased demand for jobs that require ICT skills. However, women in general will not be able to fill these jobs. Several factors hold back women who wish to pursue careers or businesses which require significant ICT or digital technology skills. These include lack of educational preparation for an ICT career, a lack of digital literacy, and barriers to entry and advancement in the ICT industry. Social and cultural norms and stereotypes affect women's access to both education and ICT careers. Role models and mentors who could inspire and support women in their studies and careers are lacking. Companies, which could provide flexible working arrangements to accommodate women's schedules, are not doing so. The digital economy also demands increasingly advanced technical abilities that require workers to continually upgrade their skills. Women face disadvantages when it comes to training and skills upgrading due to a bias toward investing in men's education before women. However, the actual situation of women in the African continent and the magnitude of the challenges facing them are not entirely known.

Conclusion

Women in the African continent face a range of barriers to their economic activities, whether they are formal sector workers, owners of small and medium enterprises, or micro entrepreneurs in the informal sector. With the rise of the digital economy, women have new opportunities at work and in business, but with these new opportunities come additional challenges. Women who are already in the workforce need access to training and reskilling to prepare for new jobs. Digital technology is creating new opportunities for accessing finance through new channels and from new sources, but women face several barriers to acquiring the financial services they need.

Additionally, as financial services are increasingly made available through ICTs, women will need valid forms of identification to access these. A paperless KYC process, also known as eKYC, compliant means of identification would allow women to not only access financial services but also a host of online government services including cash transfers. Women entrepreneurs will continue to need traditional business development support, including access to markets and networks, and an enabling environment to help their businesses thrive. These services, however, need to be better tailored to women entrepreneurs' needs and circumstances. They will also need to use digital technologies to remain competitive, whether they are in e-commerce or a traditional business. Women who seek to establish tech start-ups will require tailored support, access to tech incubators and accelerators, as well as more supportive government policies. All women will need digital literacy to engage with the digital economy. This is particularly salient as cyber safety and privacy are becoming increasingly important.

The objective of mainstreaming is to make women's concerns an integral part of the design, implementation, monitoring, and evaluation of programs and policies under the AfCFTA. This requires that policy analysis and formulation are informed by considerations of gender differences and inequalities. Additionally, it implies identifying and taking advantage of opportunities to narrow gender gaps and promote greater equality between women and men. The ultimate goal is to achieve gender equality in outcomes. Importantly, the pursuit and achievement of gender equality is expected to contribute to the achievement of other social and economic achievements such as economic growth and efficiency.

The digital economy is of specific interest to AfCFTA as it seeks to promote inclusive economic growth and greater international integration. The world economy is being transformed by the interconnection of the internet globally, which has enabled an increasing amount of economic activity and international trade. The digital economy should be viewed as a key driver of economic and social transformation, through enhanced trade and investments, and good governance.

A foundational requirement for expanding women's role as entrepreneurs in the digital economy is that they be digitally literate. Among other things, digital literacy is increasingly required for access to financial services. Therefore, promotion of digital literacy for all African citizens needs to be a top priority of the AfCFTA to ensure equitable and inclusive development.

Suggestions for the AfCFTA and the BIAT/SSDP

Principal components for consideration in mainstreaming women in ICT and the digital economy in Africa are:

- a. Adopt concrete and measurable actions to address the barriers that impede maximizing women's full economic potential in five areas;
- b. Promote women's participation and skills development in science, technology, engineering, arts, and mathematics (STEAM), including information and communication technologies (ICT);
- c. Invest in programs which provide enabling environments for women micro, small and medium enterprises (MSMEs) to prosper;
- d. Increase women's representation and leadership in the workforce at the executive and managerial levels; and
- e. Encourage public and private sector collaboration for advocacy, networking.