

E-COMMERCE FROM A GENDER AND DEVELOPMENT PERSPECTIVE



**United
Nations**

E-COMMERCE FROM A GENDER AND DEVELOPMENT PERSPECTIVE



United Nations

Geneva, 2023

© 2023, United Nations

This work is available through open access, by complying with the Creative Commons licence created for intergovernmental organizations, at <http://creativecommons.org/licenses/by/3.0/igo/>.

The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Mention of any firm or licensed process does not imply the endorsement of the United Nations

Photocopies and reproductions of excerpts are allowed with proper credits.

This publication has been edited externally.

United Nations publication issued by the United Nations Conference on Trade and Development

UNCTAD/DITC/2023/1

eISBN: 978-92-1-002612-3

ACKNOWLEDGEMENTS

This study was prepared under the overall supervision of and with coordination by Simonetta Zarrilli, Chief of the Trade, Gender and Development Programme of the United Nations Conference on Trade and Development (UNCTAD). The UNCTAD drafting team was comprised of Simonetta Zarrilli and Carlotta Schuster, with inputs from Nadira Bayat and Mariangela Linoci (UNCTAD), as well as from Chiara Piovani (academic expert). Comments and suggestions were provided by Torbjörn Fredriksson, Daniel Ker, Matfobhi Riba, Benjamin Banda (UNCTAD), Rishaber Dhir and Uma Rani (International Labour Organization), Federica Falomi (United Nations Technology Bank for Least Developed Countries), Nathan Menton (International Telecommunication Unit), Nursel Aydiner-Avsar and Vanika Sharma (trade and gender experts) and Mia Mikic (academic expert). Inputs, comments, and suggestions are gratefully acknowledged.

The text was edited by Dave Brooks.

The study provides the basis for an online course that UNCTAD will develop in partnership with, and with the financial support of the Enhanced Integrated Framework.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iii
1. INTRODUCTION	1
2 DIGITAL DIVIDES AND GENDER DIGITAL DIVIDES	3
2.1. Digital divides between country groups	3
2.2. The gender digital divide	5
2.3. Compounding divides	7
3. E-COMMERCE: DEFINITION AND RECENT TRENDS	9
4. E-COMMERCE OPPORTUNITIES AND CHALLENGES FOR WOMEN-LED SMALL ENTERPRISES	12
4.1. The opportunities	12
4.2. The impact of COVID-19 on women-led digital small enterprises	12
4.3. The challenges	13
5. THE ROLE OF DIGITAL PLATFORMS	17
5.1 E-commerce via business platforms	17
5.2. E-commerce via social media platforms	18
6. DELIBERATIONS, INITIATIVES AND NEGOTIATIONS ON E-COMMERCE	20
6.1. The World Trade Organization framework	20
6.1.1. <i>The Declaration on Global Electronic Commerce and the Work Programme on E-Commerce</i>	20
6.1.2. <i>The Joint Statement Initiative on E-Commerce</i>	20
6.2. A gender perspective on the World Trade Organization framework	21
6.3. Developments regarding e-commerce in regional trade agreements, and gender implications	22
6.4. A gender perspective on bilateral development	23
7. CONCLUSIONS AND POLICY RECOMMENDATIONS	25
REFERENCES	28

1. INTRODUCTION

This policy review provides the basis for a teaching module that will form part of the UNCTAD teaching material on trade and gender. The purpose of the teaching material is to enhance the capacity of policymakers, civil society organizations and academics to examine the gender implications of trade flows and trade policy and develop gender-responsive policies.¹ The main teaching manual on trade and gender is divided into three modules that provide a review of theoretical frameworks and empirical studies on the two-way relationship between trade and gender. Further modules, including the present one, illustrate how the framework presented in the teaching manual can be applied to examine specific case studies and how overcoming gender inequalities can contribute to achieving sustainable development.

This policy review considers the opportunities e-commerce offers to women-led and women-owned small enterprises² in developing and least developed countries (LDCs), and the challenges such enterprises face to engage in e-commerce.³ While a vast literature is available on e-commerce and UNCTAD has contributed to it, looking at e-commerce through a gender lens is a more recent endeavour. This publication aims to contribute to it. It is addressed to a variety of stakeholders, but especially to policymakers, with the aim of providing guidance on how to design policies and measures that enhance women's beneficial participation in the economy by leveraging e-commerce. Nevertheless, private sector

stakeholders are encouraged to examine the findings of this policy review to determine opportunities for collaboration with government, including through public-private partnerships.

Despite the huge potential for business growth and for the internationalization of companies – including small ones – that e-commerce brings, initial evidence indicates that women-led small enterprises face compounded digital and gender-specific disadvantages when they seek to unlock the benefits of e-commerce and are at risk of being left behind. Moreover, e-commerce, and digitalization more broadly, risks inadvertently re-enforcing pre-existing development and socioeconomic inequalities (e.g., North–South, urban–rural, income, education).

This policy review argues that overcoming existing North–South disparities by supporting the technological capabilities of developing countries (especially the 46 LDCs) and addressing gender discrimination in society and in the economy, and more specifically gender digital divides, is vital if e-commerce is to support sustainable development and contribute to the achievement of the Sustainable Development Goals (SDGs). The shift to digitalization is a societal change, not only a change in the way companies trade and individuals connect with one another. It has an impact on countries' economic growth and overall development and therefore needs to be accompanied by policies that create enabling conditions for all.

¹ Genders include men, women, and people who do not identify themselves as either men or women. Each person's deeply felt internal and individual experience of gender may or may not correspond to the sex assigned at birth (European Institute for Gender Equality, Glossary and Thesaurus). However, for purposes of simplification this study refers to men and women. One's gender is, for the purposes of the present study, different from one's gender identity.

² This policy review applies a broad definition of these and related terms, encompassing women-led and women-owned micro and small enterprises as well as own-account workers in the formal and informal economies. There are considerable variations in what is thought to constitute women-owned and women-led businesses. The International Organization for Standardization (ISO) defines a women-owned business as one that is at least 50 per cent owned by one or more women, the management and control of which lie with one or more women, where a woman is a signatory of the business's legal documents and financial accounts, and which is operated independently from businesses that are not owned by women. Women-led businesses are those at least 25 per cent owned by one or more women, whose management and control lie with one or more women, which have, where a board of directors exists, at least one third of the board comprised of women, in which a woman is a signatory of the business's legal documents and financial accounts, and which are operated independently from businesses that are neither led nor owned by women. See International Organization for Standardization (2021) for ISO definitions and general criteria in this regard: <https://www.iso.org/obp/ui/fr/#iso:std:iso:iwa:34:ed-1:v1:en>

³ This policy review follows the United Nations country group classification (United Nations, 2021), which splits countries into three categories along the development axis: 67 developed countries, 46 LDCs, and other developing countries. The LDC classification looks not only at income per capita, but in addition takes the human asset index and the economic vulnerability index into account when assessing whether a country is eligible for graduation to the category of other developing countries. The LDC category was established by the United Nations General Assembly in 1971.

Given the limited availability of data on e-commerce⁴ and the paucity of gender-disaggregated statistics, specifically in the LDCs, this policy review uses a mixed-methods approach that combines a systematic review of available international data with anecdotal evidence from business case studies to highlight the intersectionality of potential opportunities and obstacles.

The policy review is structured as follows: Section 2 reviews digital divides between countries at different levels of development and gender digital divides and their impact on accessing and using information and

communications technology (ICT) Section 3 presents conceptual foundations and reviews recent global trends in e-commerce as well as related indicators. Sections 4 and 5, respectively, look at the potential opportunities that e-commerce may offer women-led small enterprises in developing countries, but also at the challenges they face. Section 6 assesses the role of different e-commerce platforms, and the types of opportunities they offer and possible risks they pose for women-led small enterprises. Section 7 looks at the debate and at rule-making around e-commerce at the multilateral, regional and bilateral levels. Section 8 concludes and offers policy recommendations.

⁴ To overcome this problem, UNCTAD is hosting an Intergovernmental Working group on measuring e-commerce and the digital economy, which aims to advance cooperation on measuring e-commerce and the digital economy and enhance the availability, quality, comparability, usability and relevance of statistics on e-commerce and the digital economy, with a view to supporting evidence-based policymaking, in particular in developing countries.

2 DIGITAL DIVIDES AND GENDER DIGITAL DIVIDES

2.1. DIGITAL DIVIDES BETWEEN COUNTRY GROUPS

Opportunities in e-commerce are closely linked to the availability of the Internet, its affordability, and the skills required to use it. These preconditions are in turn linked to several factors, a country's developmental stage being an important one.

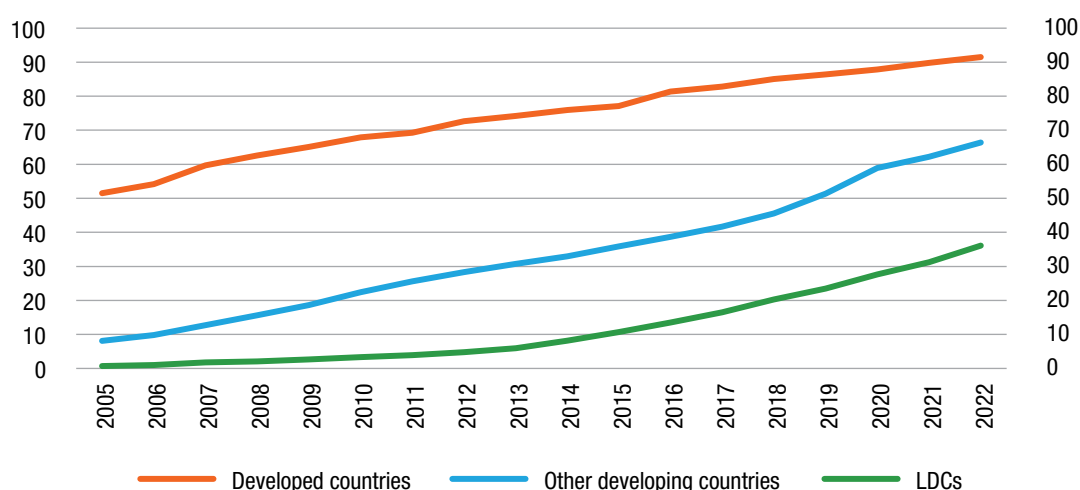
Digital opportunities are far from being equally distributed, and the digital divide between developed and developing countries persists. It is estimated that 5.3 billion people, or 66 per cent of the world's population, use the Internet (International Telecommunication Union (ITU), 2022). Almost all (96 per cent) of the 2.9 billion people still offline live in developing countries (especially in rural areas) (ITU, 2021a). Figure 1 compares country groups over time. In 2022, 90 per cent of the population of developed countries used the Internet. The figure for other developing countries is almost 66 per cent and only around 36 per cent of the population of the LDCs used the Internet.

Even though 95 per cent of the world's urban population are now living within the range of a

mobile broadband network, important "blind spots" remain. For example, 30 per cent of Africa's rural population still lack mobile broadband coverage (ITU, 2021a). In addition, the widespread availability of broadband coverage does not translate to Internet use, confirming the "usage gap". Having access to the Internet does not automatically mean using it, let alone using it for personal and business development.

An ITU survey identifies lack of digital literacy, limited understanding of the benefits of Internet usage, and high cost as the main reasons for not using the Internet (ITU, 2022). Two additional factors play a role in the limited "appetite" for the Internet and in the comparatively more widespread use of mobile phones for voice and text services in the LDCs. First, a lack of access to smartphones; second, a lack of relevant content in terms of local community needs and language (ITU, 2022). The empirical evidence shows a strong correlation between the development of network infrastructure and the growth of local content, even after controlling for economic and demographic factors (Organisation for Economic Co-operation and Development, Internet Society and

Figure 1 Individuals using the Internet (% of population)



Source: UNCTAD calculation based on ITU World Telecommunication/ICT Indicators Database, Jan 2023.

Notes: Internet users are individuals who have used the Internet (from any location) in the last three months, when being surveyed. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV, etc. Time series data are not yet available for enough developing countries to allow the calculation of group averages for 2022, but ITU forecasts are used.

Table 1 Key information and communications technology indicators by country group, 2021
(Percentage of overall population)

	Fixed-broadband subscriptions	Active mobile-broadband subscriptions	Population covered by a mobile-cellular network	Population covered by at least a 3G mobile network
Developed	35.7	131.0*	99.7	98.6
Developing	13.0	73.9	96.4	94.3
LDCs	1.4	38.8	90.1	83.2

Source: UNCTAD calculation based on ITU data.

Note: * The figure in excess of 100 percent indicates more than one subscription per person.

United Nations Educational, Scientific and Cultural Organization, 2013). In many LDCs access barriers remain, as indicated by their lack of information and communications technology (ICT) infrastructure (see table 1). This indicates the importance of investments and policy interventions to create and support a widely available and affordable network (UNCTAD, 2022b).

As stated, there is a lack of comprehensive data on e-commerce, since globally only a limited number of countries produce estimates on e-commerce and a common measurement system is lacking (for a review of available data see UNCTAD 2022a). But trade in ICT goods may provide an indication of the importance of digitalization in a nation's economy, and its integration into global and regional digital value chains.

In the UNCTADStat classification, ICT goods include computers and peripheral equipment, communication

equipment, consumer electronics equipment, electronic components and other information and technology goods. Table 2 compares exports and imports of ICT goods prior to the COVID-19 pandemic with exports and imports during the early stages of the pandemic. The pandemic appears to have exacerbated the international divide in ICT goods trade – a worsening that may be indicative of a widening technological divide between the LDCs and more developed regions (ITU, 2021b; UNCTAD, 2022b).

These digital divides along the development axis are compounded by within-country inequalities that impact an individual's capacity to access the Internet and use it in a productive manner including by seizing e-commerce opportunities. Some businesses, such as women-led small enterprises in rural areas, face multiple barriers to access and use the Internet.

Table 2 Information and communications technology goods exports and imports by region type, 2019–2020

	Information and communications technology goods			
	Exports		Imports	
	millions of US dollars	2019–2020 (percentage) change	millions of US dollars	2019–2020 (percentage) change
Developed countries	536 679	-1.7	1 008 351	0.2
Other developing countries	1 818 221	5.1	1 485 346	1.7
LDCs	115	-81.8	1 632	-48.7

Source: UNCTAD calculation based on UNCTADstat.

2.2. THE GENDER DIGITAL DIVIDE

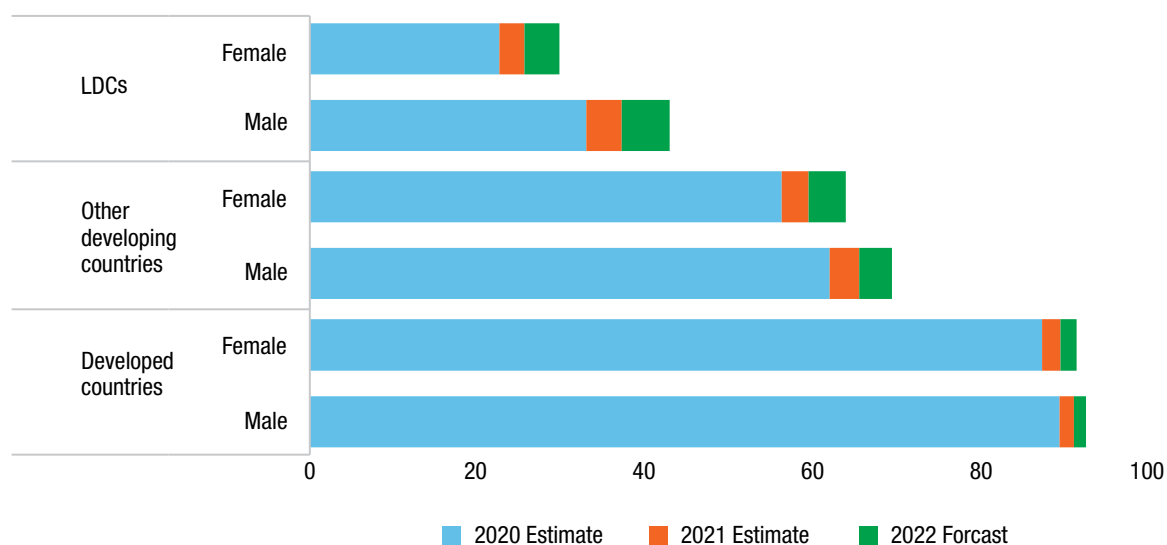
Another key factor that determines an individual's level of access to and use of the Internet is gender. Use of the Internet differs between women and men, as do the benefits each individual can derive from such use. These differences are the result of pre-existing gender gaps and gender digital divides in society and the economy. The gender digital divide is defined by Thystrup (2018) as “impaired access to IT infrastructure or IT skills education based on gender” (p. 3).

Globally, in 2022, 69 per cent of men used the Internet, compared with 63 per cent of women (ITU, 2022). Gender gaps in Internet use have almost been

eliminated in developed countries with more than 90 per cent of men and women using the internet in 2022. However, large gaps persist especially in the LDCs, both in comparison to developed and other developing countries. In the LDCs 43 per cent of men but only 30 per cent of women used the internet in 2022, compared to 64 per cent of women and 69 per cent of men in developing countries (figure 2). The gender gap in Internet use was estimated in 2022 at 1 per cent in developed countries, below 6 per cent in other developing countries and 13 per cent in LDCs.

The links between ICT, sustainable development and women's empowerment have been highlighted in several high-level commitments that countries have made over the last two decades (box 1).

Figure 2 Individuals using the Internet (percentage of male and female population)



Source: UNCTAD calculation based on ITU (2022); Estimates for 2020 and 2021, forecasts for 2022.

Note: Internet users are individuals who have used the Internet (from any location) in the last three months, when being surveyed. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV, etc.

Box 1 Sustainable development and women's empowerment through information and communications technology

At the start of 2000, it became clear that a common vision among countries and other stakeholders regarding the new prospects offered by ICT was required, and commitments were made to make such technologies accessible to all, both as users and creators. In response, the World Summit on the Information Society (WSIS) was set up as a two-phase United Nations Conference⁵ to define the issue and the policies and frameworks required to employ ICT as a tool for development. In 2015, the United Nations General Assembly called for a close alignment between the WSIS and the 2030 Agenda for Sustainable Development, stressing that ICT could be instrumental to the realization of several SDGs.⁶ Because of the need to address gender digital divides and gender discrimination in the digital world, gender mainstreaming was singled out as a cross-cutting issue across all WSIS action lines, strategies and plans. The gender track at the WSIS Forum is meant to ensure that the information society facilitates women's empowerment and their full participation based on equality in all spheres of society and in all decision-making processes.

Measuring the impact of the ICT sector on development was one of the main concerns of the WSIS. Data on the degree of women's participation in e-commerce are important when seeking to determine whether a country is making full use of its human capital and is providing equal opportunities to all. At present, there are no gender-disaggregated indicators among the 12 core indicators on ICT use in business and this makes it difficult to assess gender differences between the ways women-owned and men-owned enterprises use ICTs and benefit from new digital solutions. This lack of data jeopardizes the effectiveness of policies (UNCTAD, 2021g).⁷

With regard to specific SDGs, SDG 5 aims to achieve gender equality and to empower all women and girls. Target 5.b establishes a clear link between ICT and women's empowerment: "Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women". Progress towards this target is tracked by assessing the "proportion of individuals who own a mobile telephone, by sex". SDG 8 promotes sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. Digital trade and solutions can prove instrumental to the achievement of higher levels of economic productivity through diversification, technological upgrading and innovation (Target 2). They can also contribute to promoting productive activities and decent jobs, spurring entrepreneurship, and encouraging the formalization and growth of micro, small and medium-sized enterprises (MSMEs) (Target 3). SDG 9 aims to foster industrialization and innovation. Digital solutions can be leveraged to increase MSMEs' access to financial services and markets and enable their integration into value chains (Target 3). Finally, digital trade can play an important role in fulfilling Target 11 of SDG 17 – Partnerships for Sustainable Development – by increasing exports from developing and least developed countries.

The Doha Programme of Action for the Least Developed Countries for the Decade 2022–2031⁸ extensively addresses gender and digital divides, and in some cases links them, recognizing that one divide can amplify the other. The Programme includes a specific Section on "Achieving gender equality and the empowerment of all women and girls and young people to address inequality and drive economic growth". The actions that involved countries have committed to take include providing universal and affordable access to the Internet and ensuring that the benefits of new technologies are available to all (paragraph 100), as well as increasing LDCs' cyber resilience and making their cyber ecosystems more secure, including for women and children, so that they can serve national priorities and maximize socioeconomic benefits (paragraph 104). Similar commitments to improving human and institutional capacity regarding the use of digital tools and to strengthening the related infrastructure are listed as preconditions for the integration of LDCs into digital value chains and the global economy (paragraphs 186 and 187).

Source: UNCTAD secretariat.

⁵ The first phase took place in Geneva in December 2003, the second in Tunis in November 2005. WSIS Forums are organized on a yearly basis.

⁶ In September 2015, during the United Nations Summit on Sustainable Development, 193 United Nations Member States officially adopted a sustainable development agenda – built on social, economic, and environmental considerations – to be attained by 2030. This universal and transformative framework includes 17 interlinked goals (the SDGs) and 169 targets, which aim to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

⁷ The Geneva Summit highlighted the importance of benchmarking and measuring progress towards the information society using internationally comparable statistical indicators. The Tunis Summit recognized that the development of ICT indicators is important for measuring the digital divide and called upon countries and international organizations to allocate appropriate resources for the provision of ICT statistics, as well as to develop effective measurement methodologies including basic ICT indicators and an analysis of the state of the information society (UNCTAD, 2021g).

⁸ The Programme of Action was adopted in March 2022 at the Fifth United Nations Conference on the Least Developed Countries.

From a gender perspective, the availability of quantitative and qualitative data on a number of issues is crucial for evidence-based policymaking. Quantitative data would include the number of women-owned enterprises in domestic and cross-border e-commerce, the value of their business, the sectors in which they operate, and the proportion of women-owned MSMEs using the Internet and/or mobile phones by type of activity. Additional information would include data on existing discriminatory laws and practices related, among other matters, to women's access to land, capital and credit, and on women's levels of literacy and digital literacy more specifically.

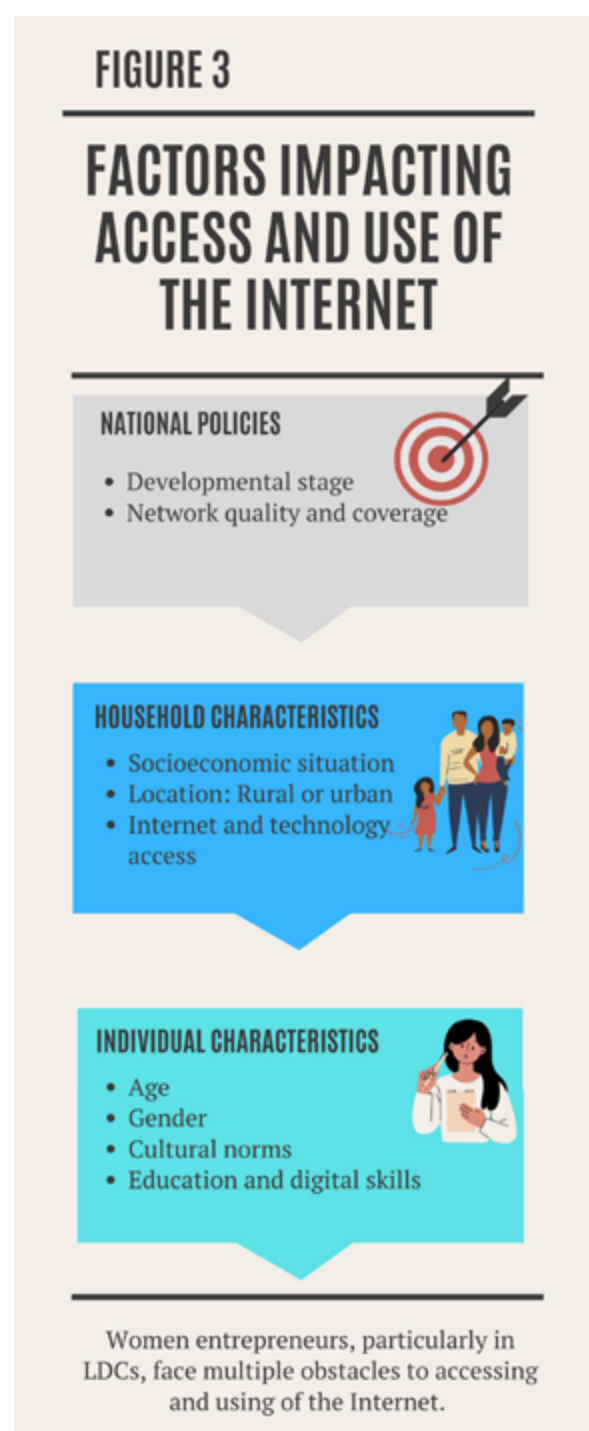
2.3. COMPOUNDING DIVIDES

The realization that globalization – trade, financial and technological – has created different opportunities for different countries and for different segments of society within countries is not new. Individuals' ability to access productive resources is driven by various aspects of their identities, gender being one of them, along with socioeconomic background location and others (BC Society of Transition Houses, 2021). Some individuals face multiple and compounding interrelated obstacles to using technology for business purposes. Conceptually these obstacles can be classified into three groups (van Dijk, 2021).

1. Coverage and access

Internet coverage and access are mainly driven by geographical factors, as almost all people in developed and other developing countries are covered by at least a 3G network (99 per cent in developed countries and 94 per cent in other developing countries), compared to about 80 per cent in the LDCs. Important blind spots in coverage remain in rural areas (ITU, 2021a).

To engage in e-commerce, access to the Internet and a smartphone or a computer are the minimum requirements. Some low-income households face binding financial constraints in this regard. Even though 80 per cent of people in the LDCs have network coverage, only a fraction uses the Internet – low use figures being driven by multiple factors, including affordability. It is estimated that in East Africa only 10 to 20 per cent of informal cross-border traders (a particularly vulnerable societal group) own a smartphone (Hadley and Aoko, 2022). The type and quality of the device used to access the Internet also impacts use and outcomes, as mobile phones are



Source: UNCTAD secretariat

inferior to computers for a variety of educational, skill development and business uses. Some scholars talk about the emergence of a “mobile underclass” in both developed and developing countries, an underclass made up of people who can only access the Internet via a mobile phone (Napoli and Obar, 2014).

II. Use

Gender divides in Internet usage have almost closed in developed countries but persist in developing countries. Around four fifths of women in the LDCs are still to go online (ITU, 2021a).

Figure 3 summarises in a stylised fashion the different factors at the national, household, and individual level that impact a person's ability to access and use the internet.

III. Beneficial use for women entrepreneurs

Using the Internet for personal communications or entertainment is different from making productive use of it. The World Wide Web Foundation distinguishes between individuals who merely access information and those who are active participants in digital society and the economy. For the latter, meaningful connectivity is required, defined as (i) 4G-like speed, (ii) an appropriate device, (iii) an unlimited broadband connection at home or in the place of work or study, and (iv) daily access to and use of the Internet (World Wide Web Foundation, 2020). There may be several obstacles to meaningful connectivity and use of the Internet for productive purposes, including affordability, unsuitability of content and/or language used, lack of digital skills and lack of awareness of the benefits of use (Hosman and Pérez Comisso, 2020).

For example, women-led MSMEs are less likely to seize the opportunities offered by the Internet, even when coverage and access are not constraints. A study conducted by the World Wide Web Foundation (2015) estimates that women who are already online are 30 to 50 per cent less likely than men to use the Internet for income-generating activities. A survey carried out by UNCTAD in 2019 among women farmers across various supply chains in Myanmar reveals that respondents were reluctant to use the Internet to seek information about prices and potential new markets for their produce, despite having mobile Internet access (UNCTAD, 2020). Using the Internet to improve skills and knowledge and to find business-related information and opportunities would constitute beneficial use for women entrepreneurs.

According to some literature, more education and a higher income leads to more informational, educational, and career-enhancing Internet use (Zillien and Hargittai, 2009). Factors beyond development and gender – including social class, age, ethnicity, income, assets, and cultural origin – may determine how and for which purposes people use the Internet. Younger people, for example, exhibit the highest frequency and diversity in Internet use (Zillien and Hargittai, 2009). Thus, while providing opportunities digitalization also has the potential to further entrench pre-existing socioeconomic inequalities within society (van Dijk, 2021; World Wide Web Foundation, 2020).

3. E-COMMERCE: DEFINITION AND RECENT TRENDS

E-commerce emerged with the rise of the Internet in the 1990s, and – with the advancement of technology and greater global integration – has grown rapidly since. E-commerce is a subset of the digital economy.⁹

The OECD defines e-commerce as “the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods and services do not have to be conducted online” (OECD, 2019a, p. 14). Based on this definition, whether a commercial

transaction falls under the heading e-commerce is determined by the ordering method rather than by the characteristics of the good or service sold, the mode of payment or the delivery channel. E-commerce, just like offline trade, can be domestic or cross-border. The relative importance of these domestic and cross-border components varies by country. For example, it is estimated that in developed countries such as Canada and Spain around 80–90 per cent of e-commerce transactions (by value) are domestic (UNCTAD, 2022a). Box 2 lists the potential benefits of e-commerce, for businesses, consumers and employment.

Box 2 E-commerce and its potential benefits for businesses, consumers and employment

Benefits for businesses

There are several benefits that e-commerce can bring to businesses, the most relevant being the opportunity to reach customers beyond the geographical limits that offline trade imposes. Lower operational costs are an additional advantage of e-commerce, especially because there is no need for a physical point of sale. Other costs, meanwhile, including those related to inventory, storage, transport and the delivery of products, remain relevant, along with those related to Internet connection and the use of commercial digital platforms. Online transactions can be easily monitored and customers’ preferences recorded, and products can therefore be adapted to customers’ needs. While being able to collect information on customer behaviour represents a benefit for sellers since it reduces marketing costs, there are concerns about how personal data are handled, the marketing power that ownership of data entails, and the potential for digital platforms to have an unfair advantage over other sellers.

Benefits for consumers

The most cited advantages of online shopping for the consumer are that it saves time, saves money, helps consumers find goods and services that best match their needs, and provides entertainment. Efficient and easy return policy for unwanted products also plays a role toward online shopping (Punj, 2011; Rao Katta and Sekhar Patro, 2017). Buyers can visit e-commerce platforms, find detailed information on the products available (possibly including customer reviews) and buy at any time of the day from wherever they currently are. E-commerce may provide them with access to a marketplace much larger than the one they could access in person, with advantages in terms of choice, quality and price. Nevertheless, the availability of a larger market does not always translate into the ability or willingness to benefit from it. There may be many reasons for this, including customer mistrust of foreign firms, and hurdles related to the delivery of a product sourced from abroad (e.g. import formalities, and additional costs if the product needs to be returned).

Benefits for employment

E-commerce has the potential to contribute to business growth and as a result to employment creation. Employment opportunities are growing, for example, for experts in marketing, logistics, social media, technical solutions, digital payments and data-processing, and for trainers. Opportunities are also growing at lower skill levels, including to meet needs related to keeping inventory, storage, transport, and the delivery of products, and for aftersales service.

⁹ There is no precise agreed definition of “the digital economy”. Broadly though, the term refers to “all economic activity reliant on, or significantly enhanced by the use of digital inputs, including digital technologies, digital infrastructure, digital services and data. It refers to all producers and consumers, including government, that are utilising these digital inputs in their economic activities” (OECD, 2020, p. 5).

The employment and income-earning opportunities created by e-commerce should be assessed against the quality of that employment, both in terms of remuneration, regularity of work and social protection, and in terms of what tasks these positions entail and whether there is an appropriate match between them and the education levels of those performing them. Since the jobs provided by e-commerce platforms might fall outside the range of regular employment relationships, they may further increase informality, especially in developing countries, including for highly educated and skilled workers. This situation may be contributing to the difficulty young people experience in finding suitable alternative employment opportunities (International Labour Organization, 2021a).

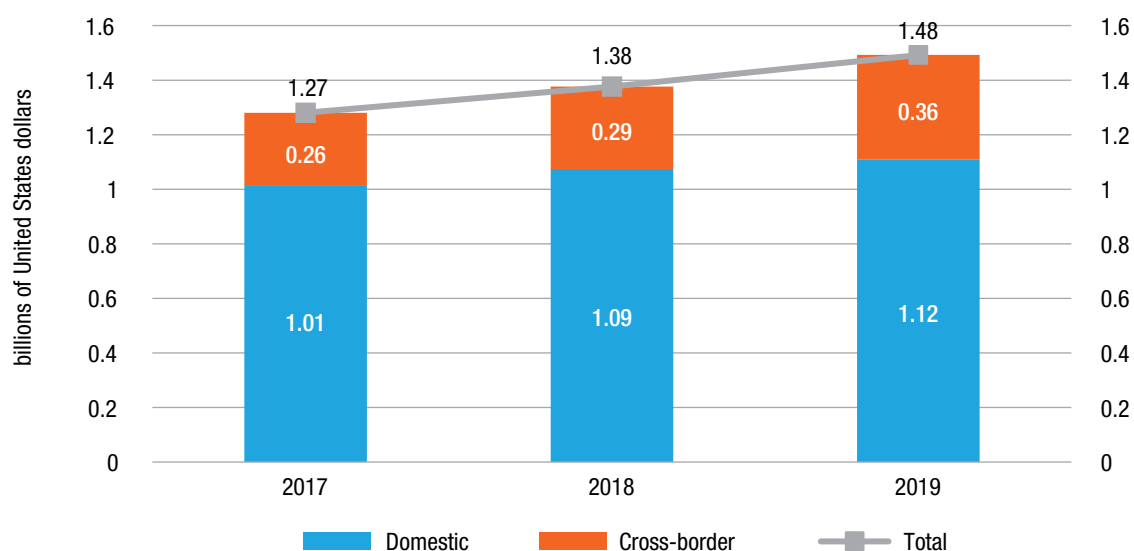
Source: UNCTAD secretariat.

E-commerce can be divided into a range of different categories depending on the nature of the buyer and seller. For example, business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C) or consumer-to-business (C2B). “B2B” refers to commercial activities between two companies; for example, sales involving a manufacturer and wholesalers or retailers. “B2C” means online sales by businesses to consumers. “C2C” refers to transactions between two private individuals. Consumers are in direct contact with each other. No company is involved. “C2B” refers to individuals selling goods or services to companies;

for example, freelance interpreters or photographers selling their goods or services to a company (for more details on the measurement of the value of different categories see UNCTAD 2022a).

As this review focuses on the role of e-commerce for women-led small enterprises, the categories B2B and B2C are of particular relevance.¹⁰ According to UNCTAD estimates (2021a), the global value of e-commerce sales reached almost US\$ 26,700 billion in 2019. The figure for global B2B and B2C e-commerce is, US\$ 21,800 billion, representing 82 per cent of overall e-commerce sales.

Figure 4 Global e-commerce estimates, 2017–2019



Source: UNCTAD estimate, based on national data.

Note: Cross-border refers to purchases sourced from outside the purchaser's country of residence. Following the transaction, the goods are delivered from overseas to the purchaser's location.

¹⁰ Nevertheless, individuals and businesses are not the only actors in the e-commerce space. All kinds of institutions, including governments, can engage in e-commerce, as buyers, sellers, or both.

Based on available data, UNCTAD estimates that more than one quarter of the world's population aged 15 and older (so, 1.48 billion people) shopped online in 2019 (figure 4). Globally, domestic suppliers remained the main source for online shoppers; but one in four consumers also made cross-border purchases in the same year.

The COVID-19 pandemic played a catalytic role in accelerating the role of digitalization and pushed entrepreneurs to adapt their business models rapidly. With a growing number of people shifting to e-commerce to buy goods and services, the pandemic also incentivized businesses to transition to online operations in an effort to maintain continuity despite the limitations imposed on physical purchases (UNCTAD, 2021c; 2021e; 2021f).

Around 60 per cent of the adult population of developed countries shopped online in 2021 compared to 20 per cent in developing countries and 5 per cent in the LDCs (figure 5a). Since 2017, the proportion of people that shop online has increased from 45 per cent to 58 per cent in developed countries, from 13 per cent to 21 per cent in other developing countries, and from 2 per cent to 5 per cent in the LDCs. These figures reveal stark differences between country groups and that the trend of increasing engagement in e-commerce has concerned the

LDCs only marginally. The digital divide between the LDCs and other developing countries widened during the pandemic, as many LDCs faced challenges in terms of digital infrastructure and policies to support the digital transition and the uptake of e-commerce (UNCTAD, 2021g).

Figure 5b presents data on the use of digital payments and merchant payments, which can be indicative of engagement in e-commerce. Quite a large share of the population made or received a digital payment in 2021 – namely, 90 per cent in developed countries, 55 per cent in other developing countries and 36 per cent in the LDCs. These figures are, however, much smaller for digital merchant payments (made for online or offline purchases), which can be linked more directly to e-commerce: 64 per cent of the population in developed countries, 28 per cent in other developing countries, and 7 per cent in the LDCs. Cash payment upon delivery for online purchases is more prevalent in the LDCs.

These data reveal significant differences between countries at different stages of development with regard to the overall use of digital technology to engage in e-commerce as a consumer, and the relative importance of different payment mechanisms (digital merchant payment for an online purchase versus cash on delivery, for example).

Figure 5a Individuals that used a mobile phone or the Internet to buy something online (percentage of population age 15+)

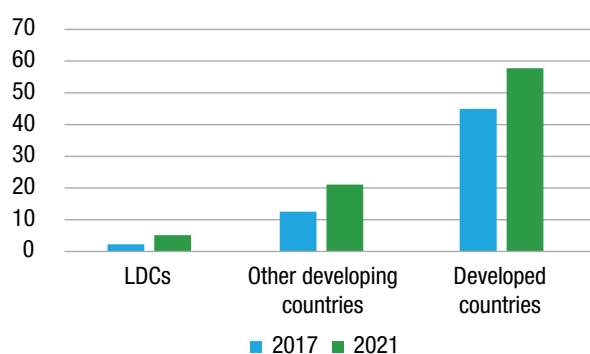
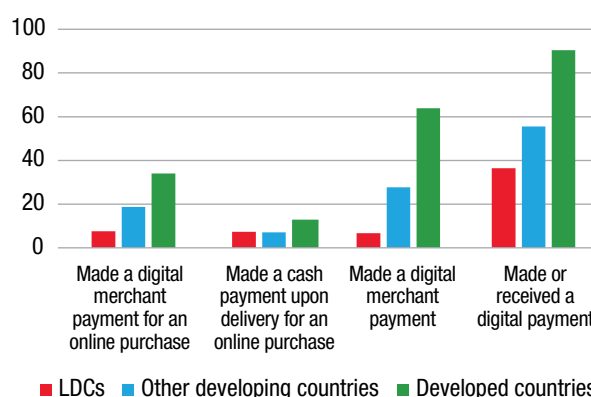


Figure 5b Individuals that used digital payments in 2021 (percentage of population age 15+)



Source: UNCTAD calculation based on World Bank Global Findex Database 2021.

Note: The difference between “Made a digital merchant payment for an online purchase” and “Made a digital merchant payment” is that the latter includes merchant payments for online and offline purchases.

4. E-COMMERCE OPPORTUNITIES AND CHALLENGES FOR WOMEN-LED SMALL ENTERPRISES

4.1. THE OPPORTUNITIES

E-commerce presents opportunities for women's economic empowerment and can have a positive impact on women's livelihoods by supporting business growth and diversification, particularly in the aftermath of the COVID-19 pandemic.

Women, however, do not constitute a homogenous group. Not only is there a divide separating women in developed countries from those in developing countries, individual women living in the same country or region also have varying skills, levels of education, entrepreneurial capacity, locations and access to productive resources.

MSMEs provide 80 to 90 per cent of employment in developing countries, and two thirds of employment worldwide (United Nations, 2022). On average, women own 27 per cent of enterprises in the Caribbean and Latin America, 24 per cent in East Africa, 21 per cent in the Middle East and North Africa (MENA), 14 per cent in West Africa and 16 per cent in Asia (International Trade Centre, 2015). There is some evidence that these figures increase when we look specifically at e-commerce. For example, according to International Finance Corporation (IFC) data women constitute between one third to one half of online vendors on Jumia, a pan-African platform – a figure that is higher than that for women's ownership of formally registered businesses (IFC, 2021b).¹¹ The proportion of businesses on ConnectAmericas¹² whose owners are female is larger than that reported in the World Bank Enterprise Surveys, for the same countries and sectors (Fernández Ortiz et al., 2022).

E-commerce can help small businesses – many of which are, in developing countries, owned by women reduce the initial investment needed to begin operations. It can also help increase customer numbers by making it possible to reach distant markets.

E-commerce platforms provide an ecosystem of services, including marketing tools, payment services and logistics. This can lower barriers to entry, especially for small companies, and assist in overcoming the challenges posed by last-mile delivery. Further, online trade can provide more time flexibility compared to offline trade, which is particularly valuable for women who are time constrained by unpaid household and care tasks. Working from home can also appeal to women since it allows one to combine paid work with household responsibilities. As women-led enterprises on average have limited capital, e-commerce presents an opportunity to enter markets and high value sectors that are usually associated with higher entry costs (IFC, 2021b).

E-commerce can foster the service economy, in which many women are employed, and can improve knowledge, skills and access to information about entrepreneurial opportunities. Overall, digital solutions that remove the need for face-to-face interactions for a transaction to take place can help women overcome mobility constraints and discrimination, and even reduce exposure to violence (World Trade Organization (WTO) and OECD, 2017; World Bank and WTO, 2020).

4.2. THE IMPACT OF COVID-19 ON WOMEN-LED DIGITAL SMALL ENTERPRISES

The pandemic boosted the expansion of digitalization and e-commerce in many economies. But understanding both the magnitude and the potential persistence of this expansion is difficult given the lack of data on e-commerce for most developing countries. Also, the lack of gender-disaggregated quantitative and qualitative data on women entrepreneurs makes it difficult to assess whether this expansion has granted equal opportunities to both male and female entrepreneurs.

¹¹ The Jumia platform was launched in 2012 in Nigeria. It presently covers 11 countries: Algeria, Côte d'Ivoire, Ghana, Egypt, Kenya, Morocco, Nigeria, Senegal, South Africa, Tunisia and Uganda.

¹² ConnectAmericas is a matchmaking and information platform aimed at facilitating the internationalization of small firms. The platform does not enable direct transactions. Though all companies can join, Latin American countries, especially Colombia, Brazil, Mexico, Peru and Argentina, account for the largest number of firms. ConnectAmericas was developed by the Inter-American Development Bank, Google, DHL, Sealand (Maersk), Mastercard, and Facebook, and was launched in 2014.

Globally, the COVID-19 pandemic was especially detrimental for female workers since they tend to work in sectors that were badly affected by lockdowns and social distancing measures, such as the hospitality sector or the garment industry. More women than men left the labour market entirely in 2020 (UNCTAD, 2021c).

E-commerce has provided women negatively impacted by job loss with the opportunity to kick-start an entrepreneurial activity even with a little capital, and thus to earn a living outside the sectors in which they had previously been employed. But e-commerce also came to the rescue of women entrepreneurs running small-scale, established businesses, who saw in online markets a way to remain afloat during the COVID-19 crisis.

The Bangladesh Association of Software and Information Services reports that 300,000 people were doing business through Facebook as of February 2022, and that half of them were women. During the pandemic, women's sales on the platform doubled (Mimi et al., 2022). In a survey conducted among women doing business online in the country, most respondents reported several reasons for having engaged in e-commerce during the pandemic: to become independent (60 per cent), to support family income (44 per cent), to spend their free time during lockdowns (51 per cent), and to secure an income after losing their jobs (16 per cent). All respondents conducted their business through social media platforms. Business support groups such as the Dhaka-based Women & e-commerce Forum play a key role in boosting the use of e-commerce among female entrepreneurs, providing training and advisory services (Mimi et al., 2022).¹³

In countries across sub-Saharan Africa, when social distancing measures and border closures made travelling to neighbouring countries difficult, small-scale cross-border traders were forced to devise new strategies in order to remain in business. According to qualitative information gathered by UNCTAD, some women traders in Southern and Eastern Africa turned to social media platforms to set up networks to advertise their products and to make transactions online. This included creating Whatsapp groups with

people they knew and whose needs and preferences they could easily meet (UNCTAD, 2022b).

In Southeast Asia the COVID-19 crisis proved both beneficial and detrimental to women entrepreneurs. In the Philippines for instance, the share of women-owned businesses active on the Lazada platform rose from 60 per cent pre-COVID to 66 per cent during the pandemic. Despite this stronger online presence, however, the overall sales made by women's businesses dropped by 27 per cent during the pandemic. Likewise, in Indonesia although there was no change in the proportion of online women sellers on Lazada (stable at 33 per cent), women's sales dropped by 44 per cent (IFC, 2021a). According to IFC data relating to Cote d'Ivoire, Kenya and Nigeria (2021a), the pandemic resulted in an average drop in sales on the Jumia platform of seven percentage points for women but had just the opposite effect for men, who recorded a seven-percentage point increase in sales (IFC, 2021b).

In conclusion, the COVID-19 pandemic accelerated women's participation in e-commerce, which in some instances has provided them with a viable alternative way of keeping their businesses afloat amidst lockdowns and border closures. Yet data show that in some cases the pandemic affected women entrepreneurs' online sales performance, mirroring the overall negative impact of the health crisis on women's participation in the economy.

4.3. THE CHALLENGES

Gender gaps in society and in the economy and digital gender divides lead to women entrepreneurs facing compounding disadvantages when seeking to leverage the potential benefits of e-commerce. This is particularly the case in the LDCs, where women-owned enterprises can often experience limited access to credit and other productive resources, and greater barriers to entry into high value-added sectors. Such obstacles can result in more women-owned businesses be represented in high volume but low value-added activities with limited capabilities to leverage e-commerce. Other wide-spread obstacles faced by women entrepreneurs, such as limited business networks, lower levels of entrepreneurial

¹³ The population for the survey is comprised of women e-commerce entrepreneurs in Bangladesh who operate their businesses through various online platforms. Sample size was determined from this population using the non-probabilistic sampling method, which is set at 100 users.

skills, negative gender stereotypes and time poverty tend to also be found in online trade (figure 5).

A common obstacle that women entrepreneurs face in offline trade is lack of information on a broad range of issues, including market access and market entry requirements, customs procedures, customs and shipping costs, market intelligence and data, and beyond. Women entrepreneurs trading online would benefit from having access to this information and other information specific to the digital space, for example e-payment options. The experience of ConnectAmericas is positive in this sense. The platform, which does not allow direct transactions, provides firms with relevant trade and commercial information, training materials, access to trade data sets and a free space in which to connect, make announcements, ask questions and find business opportunities.

According to a survey of entrepreneurs using Jumia, Africa's largest e-commerce platform, women-owned businesses tend to be smaller, with lower revenues and fewer employees than those owned by men. Women-owned shops tend to sell simple products, in sectors with lower profit margins and higher competition, such as clothing, shoes, and cosmetics. Women mainly rely on their personal savings to start their business and

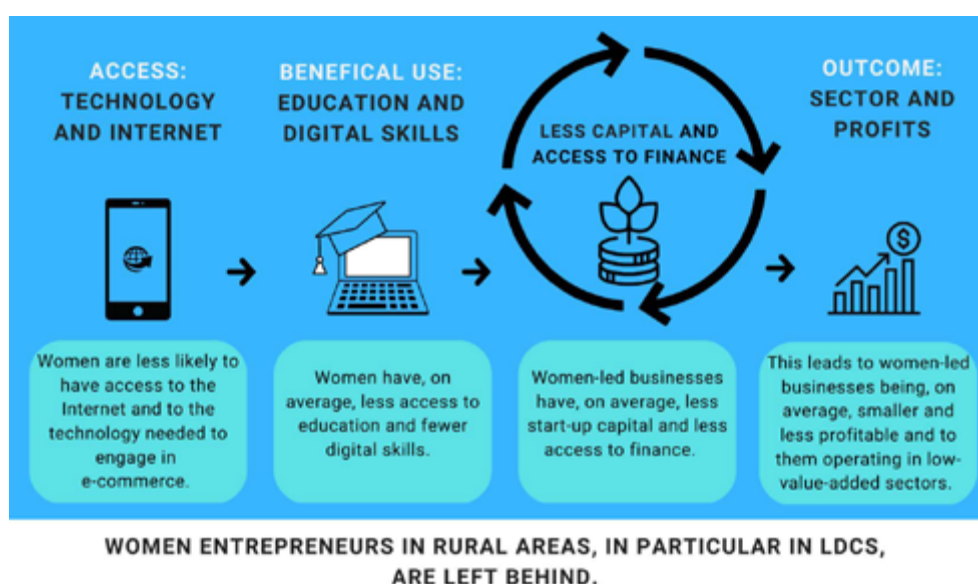
when they approach a financial institution they tend to apply for small loans (IFC, 2021b).

Figure 6 summarises in a stylised fashion the gender-specific challenges small-scale women entrepreneurs face in accessing the opportunities provided by e-commerce. They are a combination of pre-existing gender gaps and are compound by gender digital divides.

Common constraints underlying such findings include women's lower rates of technological literacy and awareness, their lack of skills and knowledge about e-commerce, and their marginal role in decision-making within the tech industry. Women's comparatively limited participation in the disciplines of science, technology, engineering and mathematics (STEM) has repercussions on their familiarity with digital technologies and on their capacity to influence technological developments (United Nations Educational, Scientific and Cultural Organization, 2020).¹⁴

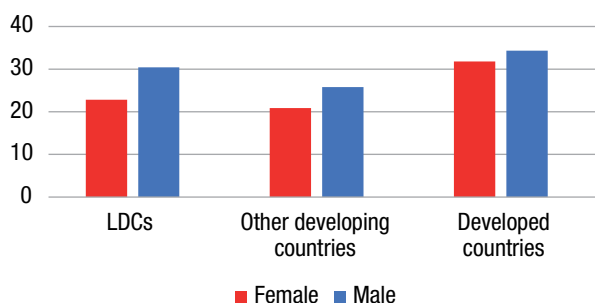
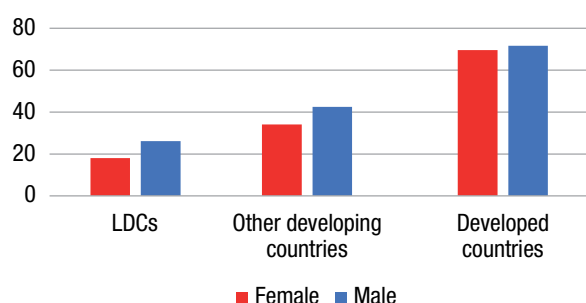
There are gender-disaggregated indicators on digital financial inclusion that can be used to measure whether women have the tools necessary to trade online (World Bank Global Findex Database). As is the case for data on international trade in ICT goods, these indicators are not intended for the measurement of e-commerce but

Figure 6 Gender-specific challenges to access e-commerce opportunities



Source: UNCTAD secretariat.

¹⁴ Within the STEM disciplines the lowest level of female enrolment is observed in engineering, manufacturing, and construction (8 per cent), ICT (3 per cent) and the natural sciences, mathematics and statistics (5 per cent).

Figure 7a Individuals that have a mobile money account in 2021 (percentage of population age 15+)**Figure 7b Individuals that received a digital payment in 2021 (percentage of population age 15+)**

Source: UNCTAD calculation based on World Bank Global Findex Database, 2021.

can prove useful in partially compensating for the lack of more specific, e-commerce data. Figure 7 shows gender-disaggregated statistics for mobile money account ownership (figure 7a) and digital payments (figure 7b). In the LDCs, more men and women have mobile money accounts than in other developing countries as such accounts play an important role where a large share of the population has no access to formal financial institutions. The gender gap for mobile money account ownership is, meanwhile, larger in the LDCs (7 per cent) than in developing LDCs (5 per cent) or developed countries (2 per cent) (figure 7a). Fewer women compared to men have received digital payments in all three country groups (figure 7b). The gender gap for the receipt of digital payments is the largest in other developing countries at around 8 per cent; the figure is only about 2 per cent in developed countries. All this serves to highlight the compounding disadvantages that women-led small enterprises face in the LDCs.

The burden of domestic chores and care work that women globally shoulder limits the time they can devote to paid activities, including e-commerce, and their ability to quickly respond to orders, which can arrive at any time of the week or day. This is one of the reasons why male-owned enterprises tend to generate more online sales than women-owned enterprises, even when there are more women than men among online sellers (APEC and USAID, 2020).

Performance metrics¹⁵ that are used by digital business platforms to rank sellers include a business's capacity to quickly respond to queries from customers and resolve issues, customer feedback, competitive prices and free shipping. Women-owned business, which

tend to be small and operate with small margins, low quantities and little capacity for aftersales service, may then be disadvantaged.

Women may be vulnerable to gender-based violence and harassment. This is also true online. A survey by Pew Research Center (2014) found that women disproportionately experience severe types of cyber harassment, including cyber stalking and online sexual harassment. The European Institute for Gender Equality estimates that one in ten women have experienced a form of cyber violence (European Institute for Gender Equality, 2017). In a survey of women entrepreneurs in Bangladesh who conduct their business online, gender-based abuse was listed as the fourth most prominent challenge in the start-up phase by almost half of respondents. In an environment of gender-based inequalities, women become victims of hate speech and sexually violent dialogue and targets for fake information campaigns (United Nations Economic and Social Commission for Asia and the Pacific, 2021).

A lack of sufficient gender-disaggregated data impedes efforts to quantify women's contribution to economic growth through e-commerce. It also undermines efforts to understand and address the specific obstacles they face in this area. Several developing countries still lack comprehensive national digitalization strategies, and developing countries very often have insufficient data on digitalization as they do not conduct surveys on ICT access and use. For countries that do have digitalization strategies, gender considerations have seldom been mainstreamed, and monitoring mechanisms to assess women's engagement in digitalization and its impact on them are absent. For example, just 24 countries in

¹⁵ Performance metrics are numbers that help monitor performance and progress. Metrics apply only to past performance, and not to future action. See Finances Online (n.d.).

Africa and Asia submit gender-disaggregated data on Internet access to ITU (World Wide Web Foundation, 2020). The absence of reliable data negatively affects the design of sound policies.

Slow adaptation to the digital transformation by MSMEs has high economic costs, both at the individual and the country level. For example, e-commerce markets in Southeast Asia and Africa could grow by an estimated US\$ 280 billion and US\$ 14.5 billion, respectively, between 2025 and 2030 if better training were provided to women digital entrepreneurs (IFC, 2021a; 2021b).

Positive initiatives have been taken to redress women's lower rates of technological literacy and awareness and their lack of skills and knowledge about e-commerce. They include the following. Jumia's Women & Youth Empowerment Program is designed to help women and youth build the local e-commerce market (IFC, 2021b). It equips all women and all Nigerians younger than 30 years old with the training and support needed to access e-commerce opportunities. In Bangladesh, the Women Chamber of Commerce and Industry and the Women & e-commerce Forum are playing a key role in boosting engagement in e-commerce among female entrepreneurs by providing training and advisory services. In Côte d'Ivoire and in Madagascar, mobile network operators have implemented training programmes on digital and financial literacy, as well as on overall IT skills, to improve the professional prospects of women (UNCTAD 2022c).

Development partners are also active in this field. A few examples follow. EIF and the United Nations Economic and Social Commission for Asia and the Pacific have joined forces in a project targeting women MSMEs in South Asia with the aim of developing their capacity to trade digitally and to participate in local, regional and global value chains.¹⁶ UNCTAD eTrade for Women provides masterclasses that equip women entrepreneurs from developing countries with the skills

necessary to operate in the digital landscape. The initiative also helps participants better understand the policy contexts of their respective countries by facilitating dialogue with policymakers and other key stakeholders in the digital economy at the national and regional levels.¹⁷ The EQUALS Global Partnership for Gender Equality in the Digital Age programme Her Digital Skills aims to provide access to digital skills training and e-mentoring for one million women and girls by 2026. EQUALS also provides guidance to governments and other stakeholders on making training in digital skills available to women and girls throughout life.¹⁸ The International Trade Centre ecomConnect programme focuses on helping MSMEs develop their e-commerce capabilities. Its platform brings together MSMEs, start-ups, organizations and experts in e-commerce to build participants' networks and to help them acquire digital expertise through online courses, e-commerce tools and live webinars, also giving them the opportunity to discuss the latest e-commerce developments.¹⁹ The World Bank has launched a project aimed at increasing the knowledge and skills of women-led SMEs in the MENA region, thus enabling them to better conduct business online. A particular target is small companies unable to access, or with limited access to, markets beyond their immediate area. The project provides women-owned SMEs with hands-on coaching to help them join e-commerce platforms. The project also includes activities in its target countries aimed at strengthening national e-commerce ecosystems and reforming regulations to better enable e-commerce activities.²⁰ HerVenture, a programme of the Cherie Blair Foundation for Women, has developed a mobile app to support women's MSMEs by providing them with the knowledge and skills required to operate successfully. It features nine learning tracks, including launching a business, accessing finance and expanding market access and e-commerce. By 2022 it had provided support to 65,000 women entrepreneurs, including Guyana, Kenya, Nigeria, South Africa and Viet Nam.²¹

¹⁶ A virtual training platform guides participants, including in creating profiles of their products and firms online and registering with various e-commerce platforms. The platform – Wesellonline – allows registered entrepreneurs to showcase their products; transactions, however, are not allowed on the platform. See World Trade Organization and United Nations Economic and Social Commission for Asia and the Pacific (2021).

¹⁷ See <https://etradeforall.org/et4women/>.

¹⁸ EQUALS was set up in 2014. The founding partners are ITU, UN-Women, the Global System for Mobile Communications Association, the International Trade Centre and the United Nations University. See <https://www.equalstitech.org/her-digital-skills>.

¹⁹ See <https://etradeforall.org/dev-solution/itc-ecomconnect/>.

²⁰ See World Bank (n.d.).

²¹ See <https://cherieblairfoundation.org/what-we-do/programmes/herventure/#:~:text=Fun%20and%20flexible%2C%20HerVenture%20fits,market%20access%20and%20e%2Dcommerce.>

5. THE ROLE OF DIGITAL PLATFORMS

Digital platforms are online entities that provide digital services. These services facilitate “interactions between two or more distinct but interdependent sets of users (whether firms or individuals) who interact through the service via the Internet” (OECD, 2019b, p. 21). These interactions can include the exchange of labour, products (e-commerce) or software (International Labour Organization, 2021a). Platforms can be divided into profit-oriented and non-profit-oriented. The size of non-profit-oriented platforms tend to be marginal compared with profit-oriented platforms (UNCTAD, 2019).

5.1 E-COMMERCE VIA BUSINESS PLATFORMS

Benefiting from economies of scale and network effects, a few major online marketplaces have captured significant parts of the overall market (UNCTAD, 2019). The performance of global platforms – as opposed to regional or local ones – varies across countries and regions. Amazon Marketplace²², for example, is estimated to have cornered around 14 per cent of the global market for e-commerce, including a majority market share in the United States of America and a 30 per cent share in the United Kingdom of Great Britain and Northern Ireland. In China, JD.com, Pinduoduo and Alibaba’s Tmall service between them control around 80 per cent of the retail e-commerce market. Lazada (now owned by Alibaba) and Shopee (based in Singapore) are widely used in Southeast Asia. Mercado Libre, meanwhile, is popular in Latin America, where it operates in 15 countries. Some two thirds of online purchases in Saudi Arabia are made from websites based in the Gulf region rather than from global platforms; regional platforms also predominate in the e-commerce market of Egypt (UNCTAD, 2021b).

Digital platforms provide sellers with improved visibility and increased demand and expand their customer base. Compared to offline trade, digital platforms help reduce informational frictions and search costs for firms by facilitating contacts with potential business partners and the sharing of information about prevailing

conditions in foreign markets. The trade-increasing effect of digital platforms is strengthened when they offer additional services – such as customs clearance and international shipping and handling, delivery, customer service support, payments, and translation – that sellers would otherwise have to source separately from third parties (Carballo et al., 2022; IFC, 2021a).

MSMEs may also enjoy these benefits. However, small firms find it difficult to compete on global digital platforms as such platforms control multiple business elements and may, for example, own and sell their own goods while also investing heavily in increasing consumer engagement. Moreover, MSMEs bargaining power regarding the conditions of access to these platforms is limited. (UNCTAD, 2019; Goel, 2021). Using them implies paying commission fees, contracts between sellers and the platforms may include exclusivity clauses, while effective dispute settlement mechanisms may be elusive. The way in which algorithms are used by the platforms to rate companies often penalizes small sellers who have tiny stocks and only limited capacity to quickly respond to queries or to offer free shipping and aftersales service. MSMEs, especially in the poorest countries or in rural areas, face additional difficulties related to unstable Internet connections and high subscription costs.

The dominance of global platforms, their control of data, and their capacity to create and capture the resulting value tend to accentuate concentration and consolidation rather than reduce inequalities between and within countries. Global platforms can enter markets and expand rapidly as they are backed by large levels of funding, with the risk of a “winner takes all” model (UNCTAD, 2019; International Development Research Centre, 2018; Rani and Singh, 2019).

Concerns have emerged in some developing countries that platforms are not locally owned and that at times they have “bought” their local “presence” simply by buying a local platform. Indeed, the division between local and foreign platforms is becoming increasingly difficult to determine. Moreover, once domestic e-commerce platforms reach a certain scale, they may

²² Amazon Marketplace is an online platform as there are multiple buyers and sellers (a prerequisite for online platforms) and Amazon does not own the product being sold, it just acts as an intermediary that facilitates the transaction. Amazon, though, has different business models, also functioning as an online retailer. In the case of online retail, the company owns the goods it sells and is the sole seller, and these activities thus fall outside the definition of a digital platform.

become targets for acquisition by global players, as happened, for example, in the case of Lazada that was bought by Alibaba (UNCTAD, 2019). Moreover, global platforms may also not source locally, which limits the extent to which they contribute to local economic growth and diversification

There are, however, platforms that privilege local products and businesses owned or led by women. A few examples follow. WEConnect International is a member-led, global non-profit organization that brings large corporate, multilateral and government buyers together with women-owned suppliers around the world. Around 15,000 women-owned businesses participate in the network. WEConnect also offers online training on various issues, including access to markets and to finance.²³ The United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) has set up a digital platform – Buy from Women – that connects smallholder farmers (men and women) to the agricultural supply chain and provides them with key information on market prices and other incoming opportunities.²⁴ The town of Beresford in Canada has set up an online marketplace for local food and craft products with the aim of supporting small business owners and boosting local commerce.²⁵ Sooretul, a business platform in Senegal, sells local agriculture-based products manufactured by women. The aim is to provide visibility to women's businesses and to link rural producers with urban consumers.²⁶

Some academics and policy practitioners advocate for alternative business models and are exploring whether digital platforms based on cooperative principles could provide a workable alternative to the current state of affairs (International Labour Organization, 2021b).

5.2. E-COMMERCE VIA SOCIAL MEDIA PLATFORMS

In many developing countries the informal economy and informal trade contribute significantly to the economy. This is mirrored in the use of social media platforms

such as Facebook, Instagram or Whatsapp to engage in e-commerce instead of or in parallel to business platforms (Roest and Bin-Humam, 2021). Social media platforms initially designed for communication are allowing a new, more informal type of e-commerce (International Finance Corporation, 2021a).

Online trade via social platforms can develop in different manners. For example, business platforms can integrate some social or interactive content into the selling process (this is defined as social e-commerce)²⁷; conversely, traditional social media platforms can integrate selling components²⁸ (this is defined as social media commerce). In both cases, business opportunities arise in a space where consumers spend time to get entertained or seek information (Deilotte, 2023).

Women are increasingly turning to the social platforms they use to connect with peers and repurposing these connections for business. Informal e-commerce seems to be creating economic opportunities and new incomes for women, which, in turn, often lead to financial freedom and empowerment. In Southeast Asia and Africa, for example, women small-scale entrepreneurs are more likely than their male counterparts to use social media platforms for business purposes (IFC, 2021a; 2021b). A study in Kenya shows that only 27 per cent of micro and small enterprises use e-commerce platforms such as Jumia, whereas 90 per cent use social media platforms to buy and sell products (Pon, 2020). In Indonesia, 58 per cent of women who run MSMEs use social media platforms to sell their products. While products are offered online and transactions happen online, purchases are often delivered by the seller directly, or with the help of family members or through local delivery firms. Cash-on-delivery is the usual form of payment. However, some evidence from Asia indicates that women's engagement with financial services has deepened thanks to informal e-commerce (CGAP, 2020).

In developing countries, women who have access to the Internet tend to use it especially for communication

²³ See <https://weconnectinternational.org/who-we-are/>.

²⁴ See <https://buyfromwomen.org/>.

²⁵ See University of Canada West (n.d.).

²⁶ See <https://www.agroalimentaire.sn/sooretul-vous-livre-vos-produits-locaux-chez-vous/>.

²⁷ For example, Amazon launched Amazon Live to facilitate consumer interaction in the shopping journey through live streaming events.

²⁸ For example, Instagram launched Instagram Shops

and social contacts. Using social media – the functioning of which they are familiar with – for business purposes is thus a step that they are willing to consider as it provides a way of avoiding the complexity, requirements (e.g. identification documents, bank account, business being registered) and costs of using business platforms. The characteristics of the businesses they run, usually small-scale and targeting local customers, play a role in how women engage in e-commerce (Taufik et al., 2021).

The development of Facebook “shops”, which allow traders to create virtual shops on the platform and to integrate them with Whatsapp and Instagram, is indicative of the growing role of social media in e-commerce. However, some concerns have been raised about how the social platforms store and

use customers’ data and the impact that this could have on sellers’ ability to meet customers’ needs (smartOsc, 2020). The impact of e-commerce carried out through social media on the informal economy remains under-researched. It is thus difficult to assess whether online commerce through social media platforms hinders or facilitates national formalization strategies, including for women-led small enterprises. Some traders operate both using social media and in formal e-commerce. Sometimes, after starting their business in IOC traders move to business platforms and extend their activities across borders thanks to their business having grown and to their increased capacity to deal with online trade (Roest and Bin-Humam, 2021). Some micro and small enterprises that use business platforms for their activities report using social media platforms in parallel.

6. DELIBERATIONS, INITIATIVES AND NEGOTIATIONS ON E-COMMERCE

The expansion of e-commerce has been accompanied by a growing interest among countries in discussing and possibly setting rules on e-commerce at the global, pluri-lateral, regional or bilateral levels. The digital agenda is now an important element of discussions and negotiations on trade. However, not all countries are willing to engage in the negotiation of global rules for e-commerce.

6.1. THE WORLD TRADE ORGANIZATION FRAMEWORK

E-commerce discussions in the WTO currently take place in two parallel tracks. The first is the “multilateral track”, which is part of the WTO Work Programme on E-Commerce.²⁹ The second involves a group of WTO members that are part of the WTO Joint Statement Initiative (JSI) on E-Commerce.³⁰

6.1.1. *The Declaration on Global Electronic Commerce and the Work Programme on E-Commerce*

Recognizing the growing importance of e-commerce for creating new opportunities in trade, Ministers at the Second Ministerial Conference of the WTO, in May 1998, adopted a Declaration on Global Electronic Commerce (World Trade Organization, 1998a). The Declaration called for the establishment of a “comprehensive work programme” to examine all trade-related issues associated with global electronic commerce, taking into account the “economic, financial, and development needs of developing countries”. The WTO Work Programme on E-commerce was adopted by the General Council in September 1998. Of a non-negotiating and exploratory nature, its aim was to build understanding around the trade-related aspects of e-commerce, without the present objective to negotiate new rules. E-commerce is defined under the Work Programme

as the “production, distribution, marketing, sale or delivery of goods and services by electronic means”. The following four WTO bodies were instructed under the Work Programme to explore the relationship between existing WTO agreements and e-commerce: the Council for Trade in Goods, the Council for Trade in Services, the Council for Trade-Related Aspects of Intellectual Property Rights and the Committee on Trade and Development (WTO, 1998b).

6.1.2. *The Joint Statement Initiative on E-Commerce*

At the Eleventh Ministerial Conference, in Buenos Aires in December 2017, 71 members of the WTO, accounting for approximately 77 per cent of global trade, set up a pluri-lateral group to negotiate rules on e-commerce. In its first joint statement, the group announced the beginning of “exploratory work” in preparation for future WTO negotiations on trade-related aspects of electronic commerce (WTO, 2017). On 25 January 2019, 76 WTO members issued a second joint statement, announcing the launch of these negotiations (World Trade Organization, 2019).³¹ By February 2023, 88 Members had participated in the negotiations – only roughly half of WTO membership but collectively accounting for over 90 per cent of global trade.³² The initiative is jointly co-convened by Australia, Japan and Singapore. The United States of America, China and the European Union are among those WTO Members that participate actively in the JSI negotiations (UNCTAD, 2021d). The regions least represented in the JSI are Africa, the Caribbean and the developing Pacific Island Countries and Territories (the last two regions having no participants). Of the 43 African WTO members, only six participate: Benin, Nigeria, Côte d’Ivoire, Kenya, Cameroon and Burkina Faso. There are four participants from the LDCs – namely, Benin, the Lao People’s Democratic Republic, Myanmar, and Burkina Faso.³³

²⁹ https://www.wto.org/english/tratop_e/ecom_e/ecom_work_programme_e.htm

³⁰ https://www.wto.org/english/tratop_e/ecom_e/joint_statement_e.htm

³¹ Joint Statement Initiatives are negotiating tools initiated by a group of WTO members who seek to advance discussions on certain specific issues without adhering to the rule of decision-making based on consensus among the entire WTO membership. There are several active JSIs, on various areas of WTO activities.

³² Negotiations are organized under six broad themes: enabling e-commerce; openness and e-commerce; trust and e-commerce; cross-cutting issues, such as transparency, domestic regulation, and cooperation; telecommunications; and market access.

³³ https://www.wto.org/english/tratop_e/ecom_e/joint_statement_e.htm#participation

Notwithstanding the progress made, significant divergences remain in the membership.

Box 3 sheds light on a specific area of divergence between countries, especially between developed and developing countries.

Box 3 The moratorium on customs duties on electronic transmissions

Under the Declaration on Global Electronic Commerce, Ministers agreed to a moratorium on customs duties on electronic transmissions,³⁴ a practice that has been reaffirmed at WTO Ministerial Conferences since it was first introduced in 1998. As governments seek to finance policies to support economic recovery in the aftermath of the COVID-19 pandemic and to cope with energy and food crises, the possible impact on government revenue is one of the most debated issues in relation to the moratorium. This also extends to the possible impact of the moratorium on developing countries' industrialization and on their capacity to develop their own digitizable products (WTO, 2020). Persistent ambiguities of the moratorium and the rapid technological advances which affect the volume of products transmitted electronically makes it particularly challenging for most of the developing countries to assess the likely effect of foregoing permanently their ability to charge duties on electronic transmissions (UNCTAD, 2021b).

Conversely, most developed countries contend that imposing customs duties on electronic transmissions would mean imposing customs duties on trade in services, a development that would be both undesirable and unfeasible. From an economic point of view, they argue, this would imply imposing new barriers to trade and would discourage investment and would therefore be undesirable. It would also be challenging to calculate the value of customs duties to be imposed on the provision of services across borders and to collect them, making this development unfeasible.

Source: UNCTAD secretariat.

In June 2022, Australia, Japan and Singapore, as co-conveners of the JSI on E-Commerce, together with Switzerland, launched the E-Commerce Capacity Building Framework to help strengthen digital inclusion and support developing countries

and the LDCs in their efforts to take advantage of the opportunities presented by digital trade. Closely linked to this is the proposed Digital Advisory and Trade Assistance Fund (DATA Fund).³⁵ The DATA Fund aims at supporting countries' efforts to adopt policies and regulations that enhance trust in digital markets, make it easier to do business online, and increase transparency and competition with regard to digital transactions. It will also advance capacity-building through specialized training for policymakers, including promoting a sound understanding of the principles underlying the e-commerce JSI so that they can best participate in the negotiations. Additional support for digital capacity-building is envisaged as part of the E-Commerce Capacity Building Framework.³⁶

6.2. A GENDER PERSPECTIVE ON THE WORLD TRADE ORGANIZATION FRAMEWORK

The complexities of the debate on the JSI negotiations on e-commerce needs to be considered against the backdrop of the differential impact on women and men of the negotiations' possible outcomes. The impact of proposed rules on e-commerce will not be gender neutral, and even women who are not digitally engaged at all may inadvertently be affected by new e-commerce trade rules (Dommen, 2021). So far, gender issues have not been considered in the JSI negotiations, but they could be included in the future, thereby contributing to the creation of a more level playing field.

Following the example of the overall work on trade and gender carried out at the WTO and the commitments made by Members in the Buenos Aires Declaration on Trade and Women's Economic Empowerment, agreed at the margins of the Eleventh Ministerial Conference of the WTO,³⁷ countries could commit to sharing their experiences of policies and programmes aimed at encouraging women's participation in e-commerce, sharing best practice for conducting gender-based analysis of e-commerce policies, and sharing methods and procedures for the collection of gender-disaggregated data related to e-commerce, and to ensuring that Aid for Trade supports the design

³⁴ Electronic transmissions include software, email and text messages, digital music, films and video games.

³⁵ Australia and the Switzerland have committed to contribute funding to initiate the DATA Fund.

³⁶ See WTO (n.d.).

³⁷ https://www.wto.org/english/thewto_e/minist_e/mc11_e/genderdeclarationmc11_e.pdf

and implementation of more gender-responsive e-commerce policies. As is the case for other trade issues, however, global commitments need to be supported by laws, regulations and strategies at the national level. Areas to be covered include, among others, competition law, consumer protection and cyber harassment.

The ongoing moratorium on customs duties on electronic transmissions could have gender implications if countries resort to other means of generating revenue, including increases in consumption taxes or cutting back on infrastructure and public social spending. Either of these developments would have specific gender implications. Low-income households spend a higher proportion of their income on necessities, and female-headed households are more likely to fall into this group. If potential new taxes were disproportionately imposed on such necessities, they would have a detrimental impact on women. Reduced availability of public services might translate into an increase in women's unpaid domestic work and care burden (Dommen, 2021).

An active debate on trade and gender is ongoing at the WTO, including through the establishment, in September 2020, of the Informal Working Group on Trade and Gender (WTO, 2022a). A Section on women's economic empowerment was included in the Twelfth Ministerial Conference (MC12) outcome document (WTO, 2022b).³⁸ These developments signal agreement among the membership that the position of women in global trade falls within the purview of the WTO. Conversely, gender issues have not been addressed within the discussion and negotiations on e-commerce. WTO work on trade and gender and on e-commerce seems to go ahead in two different tracks.

6.3. DEVELOPMENTS REGARDING E-COMMERCE IN REGIONAL TRADE AGREEMENTS, AND GENDER IMPLICATIONS

New frameworks and strategies on e-commerce and the broader digital economy are also being negotiated at the regional level. While developing countries currently may have limited laws and institutional frameworks at the domestic level to govern digital trade, they could – and in some cases they already – leverage regional trade integration agreements to develop ideas and the technical capacities required to regulate e-commerce at the country level (Elms and Agnew, 2022). E-commerce provisions, however, differ significantly across regional trade agreements. A few examples follow.

At one end of the spectrum are those agreements that contain only a few binding requirements along with several general, non-binding provisions on e-commerce cooperation between regulatory authorities (UNCTAD, 2021b). This group of provisions includes the Association of Southeast Asian Nations (ASEAN)³⁹ Agreement on Electronic Commerce, which involves only developing countries and exempts the three LDC members of ASEAN (Cambodia, Myanmar and the Lao People's Democratic Republic) from certain obligations for a five-year period. It addresses issues such as privacy, data protection concerns, and national security considerations, as well as provisions on operational e-commerce issues, such as facilitating electronic signatures and paperless trade (UNCTAD, 2021b).

At the other end of the spectrum, some more recent regional trade agreements address relatively novel issues related to digital trade, such as data flows, data localization and the treatment of source

³⁸ See paragraph 13 of the outcome document, which states: "We recognize women's economic empowerment and the contribution of MSMEs to inclusive and sustainable economic growth, acknowledge their different context, challenges and capabilities in countries at different stages of development, and we take note of the WTO, UNCTAD and ITC's work on these issues".

³⁹ The Member States of ASEAN are Brunei Darussalam, Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. The ASEAN Agreement on Electronic Commerce, which entered into force in December 2021, aims at facilitating cross-border e-commerce transactions in the ASEAN region, contributing to the creation of an environment of trust and confidence in the use of e-commerce, and deepening cooperation among Member States to further develop and intensify the use of e-commerce to drive inclusive growth and narrow development gaps in the region. A work plan on the implementation of the agreement was also developed, and considers the different levels of e-readiness of ASEAN Member States. The text of the ASEAN e-commerce agreement is available at Association of Southeast Asian States (2019).

code.⁴⁰ (UNCTAD 2021b). The Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)⁴¹ and the United States–Mexico–Canada Agreement (USMCA) are among those regional trade agreements with more ambitious clauses on e-commerce. USMCA prohibits data localization and formalizes the free flow of data between the Parties. CPTPP includes provisions that help ensure that free cross-border data flows continue and that data centres cannot be required to be localized. Online consumer protection and cybersecurity are not covered by CPTPP because of a lack of related legislation and a lack of capacity to deal with these issues in certain member countries (Elms, 2018).

Gender-related provisions are not included in the frameworks, strategies, and provisions on e-commerce included in regional trade agreements. Significant opportunities to do so exist, however. In Africa, a protocol on digital trade is being negotiated as part of the Phase II Protocols to the Agreement Establishing the African Continental Free Trade Area (AfCFTA). Gender provisions for the AfCFTA protocol on digital trade could focus on various areas of cooperation to close the gender digital divide. These could include increasing women's and girls' access to digital skills and literacy initiatives, and programmes and policy frameworks that recognize digital harassment and make it easy and safe to report online abuse and other threats that prevent women from accessing and using the Internet. Provisions centred on the sharing of experiences in the design and implementation of approaches to helping women-owned businesses increase their exports through the use of e-commerce platforms could also be considered (Bayat, 2022). Gender-based analysis and ex ante gender impact assessments can go a long way towards helping to identify provisions for empowering women and other vulnerable groups in regional frameworks, strategies, and trade agreements on e-commerce.

6.4. A GENDER PERSPECTIVE ON BILATERAL DEVELOPMENT

A relatively new development in free trade agreements (FTAs) is the inclusion of trade and gender considerations either in stand-alone chapters or as sections of other chapters. Some FTAs include specific chapters dealing with digital trade as well. The FTAs between the European Union and New Zealand,⁴² and Australia and the United Kingdom of Great Britain and Northern Ireland⁴³ are analysed in box 4. They were selected for analysis because they were finalized only recently (June 2022 and December 2021, respectively) and therefore may become a model for future FTAs, and because they include stand-alone provisions on gender equality and on digital trade. While at the WTO discussions on e-commerce and on gender are proceeding on two distinct tracks, at the bilateral level some countries have made commitments in the two areas and linked them, therefore signalling a convergence of intent.

So far, the FTAs that include trade and gender stand-alone chapters or sections include mention – within the areas identified for cooperation – of the sharing of methods and procedures for the collection of gender-disaggregated data. The same call for collecting gender data and analysing gender-focused statistics related to trade is included in the 2017 Buenos Aires Declaration on Trade and Women's Economic Empowerment. In the context of e-commerce, useful data would include the number of women-owned businesses in domestic and cross-border e-commerce, the sectors in which women-owned businesses operate, the specific challenges these businesses face, the impact of women's digital businesses on economic growth, access to trade finance for women's digital businesses, and the instances of cyberbullying and sexual harassment faced by women-owned businesses online. As the adage goes, if you can't measure it, you can't manage it.

⁴⁰ Source code is the fundamental component of a computer program and is created by programmers. When a programmer types a sequence in a programming language and saves the sequence as a text file, this file is said to contain the source code. Source code can be proprietary or open, and licensing agreements often reflect this distinction. <https://www.techtarget.com/searcharchitecture/definition/source-code>

⁴¹ The CPTPP is a free trade agreement between Australia, Brunei Darussalam, Canada, Chile, Japan, Malaysia, Mexico, Peru, New Zealand, Singapore and Viet Nam. It entered into force in December 2018 in the first six countries to have ratified the agreement: Canada, Australia, Japan, Mexico, New Zealand and Singapore. The agreement entered into force between Canada and Viet Nam in January 2019, and in September 2021 Peru became a party. For the remaining countries, the CPTPP will enter into force 60 days after they ratify it.

⁴² See European Commission (2022a).

⁴³ See Australian Government (2021).

Box 4 The European Union–New Zealand, and the Australia–United Kingdom free trade agreements

The European Union–New Zealand agreement contains a Section devoted to trade and gender equality within the chapter on trade and sustainable development. Among the areas of cooperation on fostering gender equality and women's economic empowerment, the Parties have identified the need to improve women's access to and participation, leadership and education in fields in which they are under-represented, such as science, technology, engineering, mathematics (STEM) and e-commerce.

The FTA between Australia and the United Kingdom contains a stand-alone chapter on trade and gender equality. Areas of cooperation include enabling women's access to online business tools and opportunities to strengthen digital skills and identifying and addressing obstacles to women accessing digital trade. The agreement also refers to cooperation to improve women's access to leadership opportunities and education in STEM, as is the case in the European Union–New Zealand agreement.

If thoroughly implemented, these commitments to cooperate in these areas can pave the way to the use of FTAs as instruments to advance women's beneficial participation in e-commerce. An important task of the bodies set up to facilitate and monitor the implementation of the various chapters of these FTAs should be to ensure that commitments directly or indirectly related to the better and more fruitful participation of women in e-commerce are translated into concrete training and capacity-building initiatives.

Each FTA also contains a chapter on digital trade. In the European Union–New Zealand FTA this chapter makes no reference to the specific difficulties faced by women in this regard. However, the Parties commit to exchanging information on regulatory matters in the context of digital trade in order to address, *inter alia*, the challenges faced by small and medium-sized enterprises (SMEs) when they engage in e-commerce. Conversely, the Australia-United Kingdom FTA refers, in its Digital Trade chapter, to its Trade and Gender Equality chapter, and confirms the objective of facilitating women's participation in digital trade. Moreover, the Parties commit to work together to address challenges faced by SMEs when engaging in digital trade, and recognize the importance of enhancing the cybersecurity capabilities of such enterprises. Thus, the Trade and Gender Equality chapter and the Digital Trade chapter support and reinforce each other.⁴⁴

Source: UNCTAD secretariat.

⁴⁴ In the same vein, the FTA between New Zealand and the United Kingdom establishes links between the commitments taken in the chapter on Digital Trade and those included in the Trade and Gender Equality chapter. The Digital Trade chapter stresses the need for the Parties to cooperate in identifying and addressing barriers to accessing digital trade opportunities, including for women and SMEs. The text of the agreement was finalized in February 2022; as of February 2023, the agreement was not yet in force. The text is available at United Kingdom Government (2022). Similar provisions related to promoting women's full participation in the economy by encouraging their participation, leadership and education in particular in fields in which they are under-represented such as STEM, and in innovation and business, and to improving women's digital skills and access to online business tools and e-commerce platforms are included in the chapter on trade and gender equality of the European Union–Chile Interim Trade Agreement (within the Advanced Framework Agreement). The chapter on digital trade does not, however, refer to the specific difficulties faced by women-owned online businesses. The political negotiations of the European Union–Chile Advanced Framework Agreement were concluded on 9 December 2022. The text will be final upon signature. The text is available at European Commission (2022b).

7. CONCLUSIONS AND POLICY RECOMMENDATIONS

This policy review focused on the opportunities and challenges that e-commerce presents to women-owned small enterprises, especially in developing countries, and on how to make them leverage e-commerce for business growth and economic empowerment.

E-commerce can be a strong and effective tool for women's economic empowerment, with the potential to effect real change in women's lives and livelihoods, particularly in the aftermath of the COVID-19 pandemic. Digital platforms can improve market access and allow sellers to reach a broader pool of potential customers. E-commerce provides an ecosystem of services – including integrated marketing tools, payment capabilities and logistics services – that decreases the individual effort required to conduct business, thus reducing barriers to entry especially for small firms, including those owned by women. The greater time flexibility associated with online versus offline trade and the possibility to work from any location represent advantages for women who are time and mobility constrained.

Yet women-owned small enterprises face compounded gender gaps and digital divides regarding Internet access and use and consequently regarding the outcomes of e-commerce activities. Data and trends presented in this document suggest an unequal share of digital opportunities between developed and developing countries and, especially within the latter grouping, between women and men. Gender digital divides compound gender inequalities in society and the economy. Indeed, gender gaps reinforce digital divides, and in a feedback loop digital divides amplify gender gaps. A digital ecosystem that provides opportunities for all cannot be achieved without tackling gender discrimination and the long-standing barriers that women face as economic actors.

Policymakers are faced with the daunting task of making e-commerce, and the digital economy at large, provide equal opportunities to all. Furthering economic development while ensuring social equality implies dealing with several issues in parallel, including trade, competition law, labour rights, consumer protection, tax justice and platform neutrality. This task may prove particularly arduous for developing countries that face

challenges in framing regulations and institutions to deal with all these issues. The digital economy not only implies that economic activities take place in a different manner, but it also points to a new way in which societies function, which has implications for development and equality both between and within countries (International Development Research Centre, 2018).

In the following we list areas where interventions by governments, private companies and development partners could contribute to enlarging the number and type of companies that can benefit from e-commerce, thus broadening the number of “winners”.

Gender sensitive digitalization strategies.

Inclusive national digitalization and e-commerce strategies can play a catalytic role regarding progress towards the attainment of several SDGs. Most developing countries, however, still lack comprehensive national digitalization strategies. In those countries that have developed them, gender considerations have rarely been mainstreamed. Gender blindness in digital strategies may amplify gender inequalities. To avoid this risk, digitalization strategies need to take into account the different needs of companies of diverse sizes and capacities and the factors that hinder women and girls from adopting digitalization. They need to assess to which extent women entrepreneurs are benefitting from e-commerce, the challenges they face and the potential measures to mitigate these challenges. Enhancing women's active participation in the development and implementation of digital strategies and policies, directly or through women's entrepreneurship organizations, is a key step to consider. Conducting ex-ante gender impact assessments of digital strategies being considered could prove useful. Such assessments are increasingly carried out during the negotiations of trade agreements to evaluate the potential impact of trade reforms on women.

Internet access

Women on average are poorer than men. The cost of digital devices and Internet subscription may be an obstacle to their online business activities. Lack of relevant content on the Internet, lack of familiarity with the languages used, and unreliable Internet

access may discourage women's engagement in online business. Lowering the cost of Internet subscription, providing access to internet services in local languages and extending mobile coverage to areas still uncovered would improve women's regular internet productive use.

Business platforms

The dominance of global platforms, the cost and requirements to access them, and certain of these platforms' practices raise doubts as to how much small entrepreneurs can benefit from them or bargain with them. Global platforms' market dominance and control over data are key policy challenges that policymakers need to address. To support the efforts of small businesses to trade online, some private and public platforms focus on MSMEs and give priority to locally produced goods and services. Other platforms are the result of joint efforts between development partners and the private sector and aim to facilitate the internationalization of small companies. Public authorities could increase their efforts to set up and/or support such platforms, which pursue development goals through alternative business models.

Enhanced capacities through training in digital and business development skills

Training in digital skills and business development is a field in which government intervention, especially to help those who lag behind, is required. Governments could join forces with private and development partners to pursue interventions aimed at providing small women entrepreneurs with the necessary skills to trade online in a safe and beneficial manner.

E-commerce through social media platforms

Using social media platforms for business is an easy entry point for women-owned small enterprises. Governments may wish to assess the benefits but also the risks of using platforms set up to manage social contacts for business purposes, and investigate whether such use contributes to or hampers business formalization, including for women-led small enterprises, and whether it incentivizes women's use of financial services.

Public-private partnerships

Public-private partnerships can provide an important means of addressing the obstacles that women-owned MSMEs face. Dialogue between governments,

business platform providers and logistics and payment companies could identify the obstacles that women-owned e-businesses face and help them overcome them, including with regard to awareness around algorithm-driven gender discrimination.

Availability of information

Getting complete and up-to-date information on a variety of points is critical to the success of any business. And the same is true of businesses operating online. Governments and/or development partners may consider setting up dedicated websites where such information is made available in a single location and updated regularly. Such a development would be particularly valuable for women who face time poverty and are more restricted with regard to their movements. Information sharing, in addition to technical information on market requirements, customs procedures, shipping services, e-payment options, etc., could include details on initiatives that are available to support women-owned businesses in e-commerce.

Gender-disaggregated data on e-commerce

Data is the basis for sound policymaking and gender-disaggregated data is necessary for designing policies that benefit women. This is an area where UNCTAD, through the deliberations of the Intergovernmental Working Group on measuring e-commerce and the digital economy, and its work programme on trade and gender statistics, can provide valuable support to member countries.

Gender and digitalization in trade processes

Since cross-border e-commerce is a facet of international trade and is becoming an important component of trade policy, countries could incorporate gender consideration in e-commerce discussions and negotiations following the same approach they have adopted in the Buenos Aires Declaration on Trade and Women's Economic Empowerment. Thus, they could commit to sharing experiences and best practices, programmes, and policies for encouraging women's participation in e-commerce. They could also share initiatives that have allowed leveraging digital technology to improve women's access to capital, participate in government procurement opportunities, and other measures that have helped women-led MSMEs adapt to digital trade. Some "new generation" FTAs seem to be going in the direction of linking their commitments to furthering gender equality and

women's economic empowerment with those related to facilitating women's participation in digital trade.

Letting digitalization widen gender gaps and ignoring the specific hurdles women face when seeking to

seize the opportunities arising from e-commerce would be counter to the commitment countries have made to "leave no one behind", and to their responsibility to "build back better" following the COVID-19 pandemic.

REFERENCES

- Asia-Pacific Economic Cooperation (APEC) and USAID (2020). *Women-owned business in cross-border e-commerce. A diagnostic toolkit*. Available at: https://www.apec.org/docs/default-source/Publications/2020/10/Women-Owned-Business-in-Cross-Border-E-Commerce/220_SME_Women-owned-Businesses-in-Cross-Border-E-Commerce-Toolkit-final.pdf
- Association of Southeast Asian Nations (2019). ASEAN Agreement on Electronic Commerce. Ha Noi, Viet Nam. 22 January. Available at <https://agreement.asean.org/media/download/20190306035048.pdf>.
- Australian Government (2021). Department of Foreign Affairs and Trade. Australia-United Kingdom Free Trade Agreement. 17 December. Available at <https://www.dfat.gov.au/trade/agreements/not-yet-in-force/aukfta/official-text>.
- Bayat N (2022). A whole agreement approach – Towards gender mainstreaming in the AfCFTA. Friedrich Ebert Stiftung. March 2022. Available at <https://library.fes.de/pdf-files/iez/19321.pdf>.
- BC Society of Transition Houses (2021). Connectivity, access and the impact on BC's rural, remote, and indigenous women experiencing violence. Available at 4.-Connectivity-Access-and-the-impact-on-BC-s-Rural-Remote-and-Indigenous-Women-Experiencing_Violence_2021.pdf (www.bcsth.ca) (accessed 5 January 2023).
- Carballo J, Rodriguez Chatruc M, Salas Santa C and Volpe Martincus C (2022). Online business platforms and international trade. *Journal of International Economics*. 137. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0022199622000319>.
- CGAP (2020). *Hiding in Plain Site: Informal E-Commerce Among Women in Asia*. February. Available at: <https://www.cgap.org/blog/hiding-in-plain-site-informal-e-commerce-among-women-in-asia>
- Deloitte (2023). *The rise of Social Commerce: A growth opportunity for brands*. February. Available at: <https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/deloitte-nl-consumer-the-rise-of-social-commerce.pdf>
- Dommen C (2021). How can WTO talks on e-commerce benefit women? If only we knew. September 14. Available at <https://humanrightseconomics.ch/2021/gender-equality/gendered-impacts-of-wto-e-commerce-talks/>.
- Elms D (2018). The comprehensive and progressive Trans-Pacific Partnership Policy innovations and impacts. Bertelsmann GED Focus Paper [Policy Paper]. Available at <http://aei.pitt.edu/102526/>.
- Elms D and Agnew N (2022). Digital trade in Asia. European University Institute, Robert Schuman Centre for Advanced Studies, Global Governance Programme-474, RSC Working Paper 2022/51. Available at https://cadmus.eui.eu/bitstream/handle/1814/74730/RSC_WP_2022_51.pdf?sequence=1.
- European Commission (2022a). European Union-New Zealand Trade Agreement. 30 June. Available for download at https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/new-zealand/eu-new-zealand-agreement/text-agreement_en.
- European Commission (2022b). European Union-Chile Advanced Framework Agreement. 9 December. Available at https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/chile/eu-chile-agreement/text-agreement_en.
- European Institute for Gender Equality (2017). *Cyber violence against women and girls*. 23 June. Available at <https://eige.europa.eu/publications/cyber-violence-against-women-and-girls>.
- Fernández Ortiz E, Poole JP, Vásquez Ochoa M, and Volpe Martincus C (2022). Can online platforms encourage women-owned firms in international trade? In the case of ConnectAmericas, yes. Beyond Borders – Integration and Trade. Inter-American Development Bank. 4 March. Available at: <https://blogs.iadb.org/integration-trade/en/can-online-platforms-encourage-women-owned-firms-in-international-trade-in-the-case-of-connectamericas-yes/> (accessed 11 January 2023).

- Finances Online (n.d.). 10 important KPIs and metrics your customer support team should be using. Available at <https://financesonline.com/10-important-kpis-and-metrics-your-customer-support-team-should-be-using/> (accessed 12 January 2023).
- Goel D (2021). The global digital divide is reminiscent of colonialism. May 6. Available at <https://blogs.lse.ac.uk/brexit/2021/05/06/the-global-digital-divide-is-reminiscent-of-colonialism/>.
- Hadley L and Aoko E (2022). Smartphone Adoption Among Traders in Kenya and Uganda. Nairobi, Kenya: Sauti East Africa. Available at <https://sautiafrica.org/smartphone-adoption-among-traders-in-kenya-and-uganda/>.
- Hosman L and Pérez Comisso MA (2020) How do we understand “meaningful use” of the internet? Of divides, skills and socio-technical awareness. *Journal of Information, Communication and Ethics in Society*. Vol. 18 No. 3, pp. 461–479. Available at <https://doi.org/10.1108/JICES-05-2020-0055>.
- International Development Research Centre (2018). Policies for the platform economy. Current trends and future directions. Canada. Available at https://projects.itforchange.net/platformpolitics/wp-content/uploads/2018/09/Mid_Project_Reflections_2018.pdf.
- International Finance Corporation (2021a). Women and e-commerce in Southeast Asia. Washington, DC. Available at <https://www.ifc.org/wps/wcm/connect/04f295ac-172b-4c74-8957-700609c293d4/202105-digital2equal-women-and-e-commerce-southeast-asia.pdf?MOD=AJPERES&CVID=nCGTdWq>.
- International Finance Corporation (2021b). Women and e-commerce in Africa. Washington, DC. Available at <https://www.ifc.org/wps/wcm/connect/47361305-6ebe-431a-8dd9-db2290919823/202105-digital2equal-women-and-e-commerce-africa.pdf?MOD=AJPERES&CVID=nCGRGTr>.
- International Labour Organization (2021a). World Employment and Social Outlook. The role of digital labour platforms in transforming the world of work. Geneva: International Labour Office. Available at https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_771749.pdf.
- International Labour Organization (2021b). Platform labour in search of value: A study of worker organizing practices and business models in the digital economy. Geneva: International Labour Office. Available at https://www.ilo.org/global/topics/cooperatives/publications/WCMS_809250/lang--en/index.htm.
- International Organization for Standardization (2021). IWA 34:2021: Women’s entrepreneurship — Key definitions and general criteria. Available at <https://www.iso.org/obp/ui/#iso:std:iso:iwa:34:ed-1:v1:en:en>.
- International Trade Centre (2015). Unlocking markets for women to trade. Geneva: ITC. Available at <https://www.shetrades.com/outlook/admin/upload/publications/documents/womenintrade.pdf>.
- International Telecommunication Union (2021a) Development Sector. Measuring digital development. Facts and figures 2021. Geneva. Available at <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf>.
- International Telecommunication Union (2021b). Connectivity in the least developed countries: Status report 2021. Geneva. Available at <https://www.itu.int/itu-d/reports/statistics/connectivity-in-the-least-developed-countries-status-report-2021/>.
- International Telecommunication Union (2022). Global connectivity report 2022. Available at <https://www.itu.int/itu-d/reports/statistics/global-connectivity-report-2022/>.
- Jumia (2020). Jumia’s Women and Youth Empowerment Program. A case study. August. Available at https://www.ifc.org/wps/wcm/connect/4dc99192-66c0-4319-8181-1ad5d7221319/202008_D2E_Jumia.pdf?MOD=AJPERES&CVID=nfvy66q.
- Mimi A, Imran Md. A, Mustafa J, Beg TH and Rahman Md. S (2022). Efforts by women to become financially independent through e-commerce during COVID-19: A study on Bangladesh perspective. *American Economic & Social Review*. 9(1): 9–16. Available at https://www.researchgate.net/publication/360763730_EFFORTS_BY_WOMEN_TO_BECOME_FINANCIALLY_INDEPENDENT_THROUGH_E-COMMERCE_DURING_COVID-19_A_STUDY_ON_BANGLADESH_PERSPECTIVE.
-

- Napoli P and Obar J (2014). The emerging mobile internet underclass: A critique of mobile internet access. *The Information Society*. 30(5): 323334.
- OECD (2019a). Unpacking e-commerce: Business models, trends and policies. Paris: OECD Publishing. Available at <https://www.oecd-ilibrary.org/sites/1885800a-en/index.html?itemId=/content/component/1885800a-en>.
- OECD (2019b). An introduction to online platforms and their role in the digital transformation. Paris: OECD Publishing. Available at <https://www.oecd.org/innovation/an-introduction-to-online-platforms-and-their-role-in-the-digital-transformation-53e5f593-en.htm>.
- OECD, ISOC and United Nations Educational, Scientific and Cultural Organization (2013). The Relationship between local content, internet development and access prices. OECD Digital Economy Papers, No. 217. Paris: OECD Publishing. Available at https://www.oecd-ilibrary.org/science-and-technology/the-relationship-between-local-content-internet-development-and-access-prices_5k4c1rq2bqvqk-en
- Pew Research Center (2014). Online harassment. Available at https://assets.pewresearch.org/wp-content/uploads/sites/14/2014/10/PI_OnlineHarassment_72815.pdf.
- Pon B (2020). Social commerce and the digital lives of micro-entrepreneurs. Mastercard Foundation and Caribou Digital UK. 15 June. Available at: Social commerce and the digital lives of micro-entrepreneurs – Finance in a Digital Africa (financedigitalafrica.org).
- Punj G (2011). Effect of consumer beliefs on online purchase behavior: The influence of demographic characteristics and consumption values. *Journal of Interactive Marketing*: 25(3): 134–144.
- Rani U and Singh PJ (2019). Digital platforms, data, and development: Implications for workers in developing economies. *Comparative Labour Law and Policy Journal*. Vol. 41, No. 1, pp. 263–285. Available at https://itforchange.net/sites/default/files/add/Digital%20Platforms,%20Data,%20and%20Development%20Implications%20for%20Workers%20Developing%20Economies_CLL&PJ.pdf.
- Rao Katta RM and Sekhar Patro C (2017). Influence of Perceived Benefits on Consumers' Online Purchase Behaviour: An Empirical Study. *International Journal of Sociotechnology and Knowledge Development* (IJSKD). Available at: <https://www.igi-global.com/article/influence-of-perceived-benefits-on-consumers-online-purchase-behaviour/198451>
- Roest J and Bin-Humam Y (2021). Business her own way: Creating livelihoods through informal online commerce. Focus Note. Washington, DC: Consultative Group to Assist the Poor. Available at <https://www.cgap.org/research/publication/business-her-own-way-creating-livelihoods-through-informal-online-commerce>.
- SmartOsc (2020). *The Dark Side of Social Commerce: Pros & Cons*. November. Available at: <https://www.smartosc.com/insights/dark-side-of-social-commerce-pros-cons>
- Taufik AA, Estiko F and Karina N (2021). E-commerce platforms as a path to women's financial inclusion. IFII Blog Series. 16 December. Available at <https://www.povertyactionlab.org/blog/12-16-21/ifii-blog-series-e-commerce-platforms-path-womens-financial-inclusion>.
- Thystrup AG (2018). Gender-inclusive governance for e-commerce. CTEI Working Papers. Centre for Trade and Economic Integration. Available at <https://repository.graduateinstitute.ch/record/296706>.
- United Kingdom Government (2022). Department of International Trade. Free Trade Agreement between the United Kingdom of Great Britain and Northern Ireland and New Zealand. Available at: <https://www.gov.uk/government/collections/free-trade-agreement-between-the-united-kingdom-of-great-britain-and-northern-ireland-and-new-zealand#chapters>
- United Nations (2021) Statistics Division of the United Nations Secretariat. *Standard Country or Area Codes for Statistical Use (M49)*. Available at <https://unstats.un.org/unsd/methodology/m49/>.
- United Nations (2022) Inter-agency Task Force for Development. *Financing for Sustainable Development Report 2022*. New York. Available at <https://www.un.org/ohrls/content/financing-sustainable-development-report-2022>.
-

- United Nations Economic and Social Commission for Asia and the Pacific (2021). *Social Media based Online Businesses: Exploring Challenges to Start and Scale for Women Entrepreneurs in Bangladesh*. Bangkok: United Nations. Available at <https://www.unescap.org/kp/2022/social-media-based-online-businesses-exploring-challenges-start-and-scale-women>.
- United Nations Educational, Scientific and Cultural Organization (2020). *Boosting Gender Equality in Science and Technology. A Challenge for TVET Programmes and Careers*. Paris: UNESCO. Available at <https://unesdoc.unesco.org/ark:/48223/pf0000374888>.
- United Nations Conference on Trade and Development (UNCTAD) (2019). *Making digital platform work for development*. Policy Brief No. 73. March. Available at: https://unctad.org/system/files/official-document/presspb2019d2_en.pdf
- United Nations Conference on Trade and Development (UNCTAD) (2020). *A Gender Assessment of Myanmar and of the Inle Lake Area with a Focus on the Agriculture and Tourism Sectors*. New York: United Nations Publications. Available at https://unctad.org/system/files/official-document/ditc2020d3_en.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2021a). *Estimates of Global E-commerce 2019 and Preliminary Assessment of Covid-19 Impact on Online Retail 2010*. UNCTAD Technical Notes on ICT for Development No18. Geneva. Available at https://unctad.org/system/files/official-document/tn_unctad_ict4d18_en.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2021b). *What is at stake for developing countries in trade negotiations on e-commerce? The case of the Joint Statement Initiative*. United Nations Publication. Available at: https://unctad.org/system/files/official-document/ditctncd2020d5_en.pdf
- United Nations Conference on Trade and Development (UNCTAD) (2021c). *Gender and Unemployment: Lessons from the COVID-19 Pandemic*. Geneva. New York: United Nations Publications. Available at <https://unctad.org/fr/node/32595>.
- United Nations Conference on Trade and Development (UNCTAD) (2021d). *COVID-19 and E-commerce – A Global Review*. New York: United Nations Publications. Available at https://unctad.org/system/files/official-document/dtlstict2020d13_en_0.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2021e). *Impacts of the COVID-19 Pandemic on Trade in the Digital Economy*. UNCTAD Technical Notes on ICT for Development No19. Geneva. Available at https://unctad.org/system/files/official-document/tn_unctad_ict4d19_en.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2021f). *E-commerce and the Digital Economy in LDCs: At Breaking Point in COVID-19 Times*. Geneva. Available at https://unctad.org/system/files/official-document/dtlstict2022d1_en.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2021g). *Manual for the Production of Statistics on the Digital Economy*. New York: United Nations Publications. Available at https://unctad.org/system/files/official-document/dtlstict2021d2_en.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2022a). *Working Group on Measuring E-commerce and the Digital Economy, Third Meeting*. Available at <https://unctad.org/meeting/working-group-measuring-e-commerce-and-digital-economy-third-meeting>.
- United Nations Conference on Trade and Development (UNCTAD) (2022b). *Fast-tracking Implementation of eTrade Readiness Assessments*. Geneva. Available at https://unctad.org/system/files/official-document/dtlstict2022d5_en.pdf.
- United Nations Conference on Trade and Development (UNCTAD) (2022c). *Fast-tracking eTrade Readiness Assessment Implementation: A Snapshot of UNCTAD's Support*. Geneva. Available at <https://unctad.org/webflyer/fast-tracking-etrade-readiness-assessment-implementation-snapshot-unctads-support>.
-

- University of Canada West (n.d.) Beresford's digital marketplace for local products will support small businesses. Available at <https://www.ucanwest.ca/blog/business-management/beresfords-digital-marketplace-for-local-products-will-support-small-businesses/> (accessed 12 January 2023).
- van Dijk, JAGM (2021). Closing the digital divide: The role of digital technologies on social development, well-being of all and the approach of the Covid-19 pandemic. New York: DESA. Available at <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/07/Closing-the-Digital-Divide-by-Jan-A.G.M-van-Dijk-.pdf>.
- World Bank (n.d.). Using Digital Solutions to Address Barriers to Female Entrepreneurship. Case Study. Available at <https://digitalforwomen.worldbank.org/leveraging-commerce> (accessed 12 January 2023).
- World Bank and World Trade Organization (2020). *Women and Trade: The Role of Trade in Promoting Gender Equality*. Washington, DC: World Bank. Available at https://www.wto.org/english/res_e/booksp_e/women_trade_pub2807_e.pdf.
- World Wide Web Foundation (2015). *Women's rights online – Translating access into empowerment*. Available at: <http://webfoundation.org/docs/2015/10/womens-rights-online21102015.pdf>.
- World Wide Web Foundation (2020). Women's rights online - Closing the digital gender gap for a more equal world. Global Report. Available at <http://webfoundation.org/docs/2020/10/Womens-Rights-Online-Report-1.pdf>.
- World Trade Organization (n.d.). E-Commerce JSI co-convenors announce capacity building support. Available at https://www.wto.org/english/tratop_e/ecom_e/jiecomcapbuild_e.htm (accessed 12 January 2023).
- World Trade Organization (n.d.) (1998a). Declaration on Global Electronic Commerce. Available at <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/WT/MIN98/DEC2.pdf&Open=True>.
- World Trade Organization (n.d.) (1998b). Work Programme on Electronic Commerce, WT/L/274 (98-3738). Available at https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.x?language=E&CatalogueIdList=31348&CurrentCatalogueIdIndex=0&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True.
- World Trade Organization (n.d.) (2017). Joint Statement Initiative on Electronic Commerce, WT/MIN(17)/60 (17-6874). Available at <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN17/60.pdf&Open=True>.
- World Trade Organization (n.d.) (2020). The E-Commerce Moratorium and Implications for Developing Countries: Communication from India and South Africa, WT/GC/W/798 (20-1899). March 3. Available at https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.x?language=E&CatalogueIdList=264789%2c264692%2c263985%2c262610%2c262031%2c261632%2c261432%2c261434%2c259951%2c259601&CurrentCatalogueIdIndex=4&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True.
- World Trade Organization (n.d.) (2022a). *Trade and gender co-chairs affirm commitment to gender equality in trade at MC12*. 12 June. Available at https://www.wto.org/english/news_e/news22_e/iwgtg_13jun22_e.htm.
- World Trade Organization (n.d.) (2022b). Work Programme on Electronic Commerce: Draft Ministerial Decision of 16 June 2022, WT/MIN(22)/W/23 ((22-4706). Available at <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/WT/MIN22/W23.pdf&Open=True>.
- World Trade Organization and OECD (2017). *Aid for Trade at a Glance 2017 – Promoting Trade, Inclusiveness and Connectivity for Sustainable Development*. WTO: Geneva and OECD: Paris.
- World Trade Organization and United Nations Economic and Social Commission for Asia and the Pacific (2021). Unlocking the potential for e-commerce and women economic empowerment in Least Developed Countries: Insights into the work of the EIF in partnership with UNESCAP. 16 July. Available at https://www.wto.org/english/tratop_e/womenandtrade_e/16july21/item_3.5.a._eif_and_unescap.pdf.
- Zillien N and Hargittai E (2009). Digital distinction: Status-specific types of internet usage. *Social Science Quarterly*, 2009; 90(2):274–291. Available at <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-6237.2009.00617.x>.

