Digital Trade in Services

How Can Bangladesh Seize Opportunities?

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Abstract

Digitalisation has made the trade in services much easier. The expanding cross-border tradability of services is opening new opportunities for national economies and individuals. Trade in digital services is important for Bangladesh's economic growth. The pandemic has expedited the adoption of digital technology in many sectors. This report explores how Bangladesh can benefit from digital trade in services and what it will take for Bangladesh to adapt to the new trade regime in the digital age. By looking at the preparedness in terms of access to technology and policy framework, the paper makes a number of recommendations for enabling the country to benefit from digital trade in services. The prospect of digital trade in Bangladesh is constrained by factors such as lack of adequate internet connectivity and information and communications technology (ICT) infrastructure, weaknesses in trade facilitation and trade logistics, inadequate skilled workforce, gender divide in digital literacy and knowledge, financial regulations and payment related complexities and lack of access to sufficient funds. In order to reap the full potential of digital trade in services, these hindrances will need to be removed. Additionally, the policymakers should play a proactive role in the global policymaking process, particularly in the context of multilateral trading system.

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Foreword by Dr Fahmida Khatun

Digital technology has been used in numerous areas as a result of this pandemic. Trade in services has been considerably facilitated by digitisation. The growing cross-border trade in services provides national economies and people with new opportunities. For Bangladesh's economic progress, digital trade in services is crucial.

In this context, the Centre for Policy Dialogue (CPD), with support from Friedrich-Ebert-Stiftung (FES) Bangladesh, has undertaken a study titled "Digital Trade in Services: How Can Bangladesh Seize Opportunities?", as part of its project titled "The Future of Work in Bangladesh".

This study examines how Bangladesh may gain from digital trade in services and what it will require to cope with the new digital age trading framework. The paper provides a series of recommendations by examining Bangladesh's readiness for technology, and the legislative environment which will help the economy to gain from digital trade in services.

Factors such as lack of sufficient internet and information and communications technology (ICT) infrastructure, problems in trade facilitation and business logistics, poorly skilled workers, gender gap in digital literacy and knowledge, financial regulations, payment-related difficulties, and the unavailability of sufficient capital are restricting the potential for digital trade in services in Bangladesh. These obstacles will have to be eliminated in order to harness the opportunities of digital trade in services. The government should also have a proactive role in the global decision-making process, especially in the context of the multilateral trading system.

It is hoped that this study will be useful for the policymakers in Bangladesh, as well as in other developing and least developed countries, for devising strategies to seize the opportunities from digital trade in services.

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Foreword by Felix Kolbitz and Shadhan Kumar Das

With the fourth industrial revolution (4IR), digitalisation is widely spreading everywhere in industry, commerce, business, health, education, private life and where not. It is gaining pace in replacing the traditional mode of production, and shaping up a new future for humankind. Digitalisation and especially artificial intelligence have become a buzz word globally. Certain developed countries, with their massive investment in innovations in digital technologies, have been successful in achieving their maximum out of the 4IR. However, developing and poor countries were not able to invest in research and innovations in this sector, nevertheless they are equally beneficiaries of those innovations in those developed countries through transferring and adapting technologies, which were sometimes also imposed on them by international tech firms.

Why are these developing countries including Bangladesh changing and adopting policies to use digital technology everywhere? What are the reasons behind envisioning a digital Bangladesh? A simple response to these questions: the impact of digital technology is revolutionary and it is irresistible. Bangladesh is looking forward to shift its economy from the factor driven stage to the productivity-driven one. Therefore, digitalisation of the economy has become a policy decision while creating futures of work in the era of 4IR. But policy shifts for creating space of digital technology cannot immediately change the trajectories of lives and livelihoods as quickly as the policies taken. The policymakers and the practitioners including businessmen, entrepreneurs, traders, common people, have been encountering innumerable hurdles while operationalising the new technologies in their jurisdiction.

In this context, our partner Centre for Policy Dialogue (CPD) with our support found four key important areas i.e. a) Platformisation in the Bangladesh economy; b) Potential for transforming Bangladesh's healthcare in the 4IR; c) International trade in services and the Future of Work in Bangladesh; and d) Artificial intelligence (AI) and its implications for Bangladesh to dig into deeper to find out the opportunities as well as the hurdles. Because these are new areas of investigation and investment for the Bangladeshi policymakers and businesspeople, the insights of the sector—after analysing the strengths and weaknesses—may help them to adapt the new technologies and to reduce the fears these upcoming changes might bring. It is equally important for CPD and FES Bangladesh to create discourses on these issues so that influential stakeholders can engage in such discussions, and can be influenced to create enabling environment for these new areas, as we can learn the potentials of these areas to grow. It is vital to note that, by understanding the impact of digitalisation and understanding the chances created, they can actively steer these developments.

Out of the four areas mentioned above, this paper focuses on "Digital Trade in Services: How Can Bangladesh Seize Opportunities?" authored by *Dr Fahmida Khatun*, Executive Director, CPD and *MD Kamruzzaman*, former Senior Research Associate, CPD. The main objectives of this paper are to review the recent trends in trade services in Bangladesh and how important it is in Bangladesh's economy; to examine the participants in trade

in services and who are the major beneficiaries; to understand how services trade can promote inclusiveness, for example in terms of skills, gender and the location of economic activity in the context of Bangladesh; and to suggest policy recommendations in order to benefit from the digitalisation of trade in services. This paper has been prepared through intense consultation with concerned stakeholders.

From the expert group meetings (EGMs), the researchers gathered views and opinions of the relevant stakeholders such as experts from Bangladesh Foreign Trade Institute (BFTI), Bangladesh Bank, Enhanced Integrated Framework (EIF) of the World Trade Organization (WTO), Bangladesh Association of Software and Information Services (BASIS), the Federation of Bangladesh Chambers of Commerce and Industry (FBCCI), academics, think tanks, etc. The participants have validated the primary findings as well as enriched the perspectives of the authors.

Though the paper was finalised already in 2020, we think this paper is still relevant to the context, especially in the time of pandemic when the digital trade in services has been increasing sharply and will do so in the foreseeable future.

We are grateful to the authors, our partner organisation CPD and the participants for their tireless contribution, otherwise it could not come out in these strange times. We are hoping this paper will be a contribution to the new discourses on digital trade in services in Bangladesh.

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1. Introduction

Trade in services is an important component of global trade. As economies are progressing, they are increasingly relying on the services sector. The World Trade Organization (WTO) indicates that trade in services has been expanding rapidly, at a faster pace than trade in goods since 2011, and services currently accounts for around three quarters of the gross domestic product (GDP) in developed economies (WTO, 2019a). Over time, international trade has been enabled through digital transactions. In fact, as the fourth industrial revolution (4IR) sets around the globe, innovative technology is seeping into the mechanisms of economic sectors worldwide. The services sector, in particular, is poised to transform significantly in the era of automation. For example, professional services are expected to be heavily disrupted by artificial intelligence (AI), data analytics, machine learning and digital platforms (World Economic Forum and Accenture, 2017).

Traditionally, Bangladesh's exports have been heavily concentrated in the textiles and garments sector. However, there also lie immense opportunities for Bangladesh to benefit from international trade in services. Strategic development and promotion of services trade are among the key approaches required for Bangladesh to break into new markets (Kathuria & Malouche, 2016). Elimination of barriers to trade in services is, therefore, vital to ensure market openness in the digital age since services play a critical role in enabling digital trade transactions (Lopez & Jouanjean, 2017).

Indeed, trade in services is becoming much easier due to digitalisation. The growing cross-border tradability of services is opening new opportunities for national economies and individuals. Though technology plays an instrumental role in expanding services trade, there are a number of challenges which create hindrance to reaping the full potential of trade in services.

This report explores how Bangladesh can benefit from digital trade in services and what it will take for Bangladesh to adapt to the new trade regime in the digital age. By looking at the preparedness in terms of access to technology and policy framework, the paper makes a number of recommendations for enabling the country to benefit from digital trade in services. In this regard, this paper uses the terms e-commerce and digital trade synonymously. In this paper, services, which are provided globally over the internet, are considered to be digital trade in services.

Information from both primary and secondary sources have been collected for this study. Primary information was collected through a virtual expert group meeting (EGM). The session was participated by experts, private sector representatives, and other relevant stakeholders of the country. Secondary information was collected through consulting published research, policy documents and commissioned reports.

The report is organised in the following manner. Section 2 provides a conceptual overview of digital trade in services and points out some of the challenges regarding measurement of e-commerce and digital trade. Section 3 presents the trend of digital trade in services at the global and national levels. A brief analysis of the state of digital preparedness for enhancing the country's prospects in digital trade in services is provided in Section 4. Finally, Section 5 presents a number of policy recommendations for reaping benefits from the growing digital trade in services globally.

2. Conceptual issues

2.1 Definition of digital trade in services

While digital trade is growing fast, there is no absolute agreement on the definition of digital trade and what it covers among various organisations (Ismail, 2020). However, there is a general consensus that it covers "digitally enabled transactions in trade in goods and services which can be either digitally or physically delivered and which involve consumers, firms and governments" (Lopez & Jouanjean, 2017). This includes the purchase of goods on online marketplaces which

are delivered physically, hotel-booking, and other small value services such as streamed music, e-books and online games (Lopez & Jouanjean, 2017; OECD, 2019).

At the national level, different governments use different iterations of the term e-commerce. In India, the country's "Draft National e-Commerce Policy", published in 2019, used the terms "e-commerce", "electronic-commerce" and "digital economy" interchangeably. The document also stated that e-commerce includes "buying, selling, marketing or distribution of (i) goods, including digital products and (ii) services; through electronic network. Delivery of goods, including digital products, and services may be online or through traditional mode of physical delivery. Similarly, payments against such goods and services may be made online or through traditional banking channels i.e. cheques, demand drafts or through cash" (Department for Promotion of Industry and Internal Trade, 2019).

The United States International Trade Commission (USITC) defines digital trade as "the delivery of products and services over the Internet by firms in any industry sector, and of associated products such as smartphones and Internet-connected sensors" (USITC, 2017). The Commission included a provision of e-commerce platforms and related services while excluding "the value of sales of physical goods ordered online, as well as physical goods that have a digital counterpart (such as books, movies, music, and software sold on CDs or DVDs)."

Despite the differences in the definition of e-commerce and digital trade among different stakeholders, there is one common feature in all these definitions which is selling and delivering goods and services through the use of electronic means and computer networks. Four types of transactions are made in the process of e-commerce. These are: business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer (C2C) and government-to-business (G2B).

2.2 Measuring digital trade in services

Lack of a proper and widely accepted definition of digital trade in services also makes it difficult to estimate digital trade or e-commerce. Additionally, there are a number of difficulties in estimating and including e-commerce data in official statistics. Some of the major difficulties include: (i) the dividing line between goods and services is not always clearly defined; (ii) measurement and collection of transport costs included in the pricing of e-commerce goods differ from other transport costs; and (iii) difficulty in classifying transaction by principle of residence exists (Yezekyan, 2018).

Furthermore, digitally ordered services have two components which often overlap (OECD, 2020). The components include: (i) Digitally ordered services not digitally delivered, and (ii) Digitally ordered-services digitally delivered. A particular challenge for estimating digital trade concerns the overlap between digitally ordered and digitally delivered trade (e.g. software delivered on a disk vs. delivered electronically).

The concept of digitally delivered transactions is based on the work of the Task Group on Measuring Trade in Information and Communications Technology (ICT) Services and ICT-enabled Services (TGServ) led by the United Nations Conference on Trade and Development (UNCTAD) which defined ICT-enabled services as: "All cross-border transactions that are delivered remotely over ICT networks—i.e. over voice or data networks, including the internet, in an electronically downloadable format" (OECD, 2020).

The Organisation for Economic Cooperation and Development (OECD) identifies the following services related to the notion of trade in ICT-enabled services, which are often included in a country's balance of payments (BOP) (OECD, 2020):

- Insurance and pension services
- Financial services
- Charges for the use of intellectual property not included elsewhere (n.i.e.)

- Telecommunications, computer, and information services
- Research and development services
- Professional and management consulting services
- Architectural, engineering, scientific and other technical services
- Other business services n.i.e.
- Audio-visual and related services
- Health services
- Education services
- Heritage and recreational services

The OECD also recommends that estimates of imports and exports of digital intermediation services, which are covered in various parts Extended Balance of Payments Services (EBOPS), e.g. transport, travel, trade, and financial services, and transactions conducted through digitally intermediated platforms (DIP) like Alibaba, Amazon and Facebook, should also be included in estimating digital trade.

The biggest statistical challenge within the area of digitalisation concerns non-monetary transactions. Due to intangible flows, the value of cross-border digital trade in services is likely to be underrepresented. Besides, a significant statistical challenge concerning the measurement of DIP transactions, however, concerns transactions with non-resident DIPs, especially by households (which may lead to underestimation of trade—especially de minimis trade) (OECD, 2020).

2.3 Digital trade in services in the WTO

Though focusing on the ongoing debates on e-commerce in the WTO is beyond the scope of this paper, a brief overview is provided below to understand the state of affairs on digital trade in services at present.

The WTO Members have generally used a classification system comprised of 12 core service sectors (WTO, 1991) (document MTN. GNS/W/120). The list is as follows:

- Business services (including professional services and computer services)
- Communication services
- Construction and related engineering services
- Distribution services
- Educational services
- Environmental services
- Financial services (including insurance and banking)
- Health-related and social services
- Tourism and travel-related services
- Recreational, cultural and sporting services
- Transport services
- Other services n.i.e.

Recognising that global electronic commerce was growing and creating new opportunities for trade, the Ministers had adopted the Declaration on Global Electronic Commerce at the second ministerial conferences of the WTO on 20 May 1998 (WTO, 1998a). However, there is no formal multilateral agreement to govern digital trade as of now. On 25 September 1998, the General Council had adopted "a comprehensive work programme to examine all trade-related issues relating to global electronic commerce, taking into account the economic, financial, and development needs of developing countries, and to report on the progress of the work programme, with any recommendations for action, to the Third Session" (WTO, 1998b). It was also mentioned that the Council for Trade in Services shall examine and report on the treatment of electronic commerce in the General Agreement on Trade in Services (GATS) legal framework.

In December 2017, at the eleventh WTO Ministerial Conference, 71 WTO Members agreed to initiate exploratory work for future negotiations on the trade-related aspects of electronic commerce for negotiations on the trade-related aspects of electronic commerce (WTO, 2017). Seventy-six WTO Members confirmed their intention on 25 January 2019 to begin WTO negotiations on trade-related aspects of electronic commerce (WTO, 2019b). The Members recognised "the unique opportunities and challenges faced by Members, including developing countries and LDCs, as well as by micro, small and medium sized enterprises, in relation to electronic commerce" (WTO, 2019b)

(LDC: Least Developed Country; MSME: Micro, Small and Medium-sized Enterprises).

In view of the pandemic, the WTO issued two information notes on 'E-Commerce, Trade and the COVID-19 Pandemic' on 4 May 2020 (WTO, 2020a) and 'Trade in Services in the Context of COVID-19 on 28 May 2020 (WTO, 2020b). These notes delineate how trade in digital services have been facing challenges in the face of the pandemic.

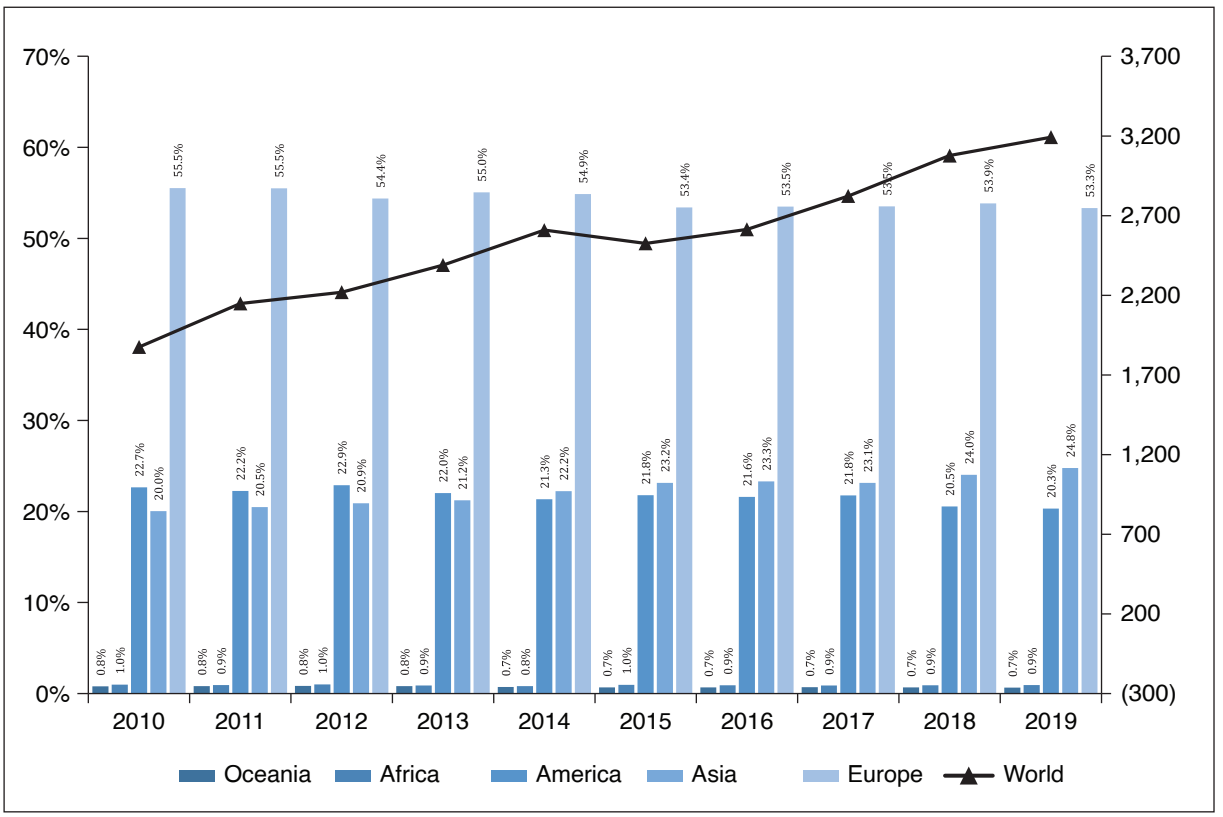
3. Global and national trend of digital trade in services

Although trade costs in services are nearly twice those in trade in goods, a number of factors—including digital technologies, reduced policy barriers and infrastructure investment—have facilitated the costs to decrease by 9 per cent between 2000 and 2017 (WTO, 2019a). During the same period the number of internet users globally has experienced a significant boom. In 2019, the number of internet users stood at over 3.5 billion, representing more than half of the world population (ITU, 2020). However, back in 2005, the number was roughly one billion.

The rapid development in ICT and the global penetration of internet connectivity are at the centre of the exponential growth in digital trade (Akhtar, Hahm & Stone, 2016). With the expansion of internet accessibility and development of the ICT hardware and infrastructure, transactions are increasingly taking place online without physical interactions between buyers and sellers (Akhtar, Hahm & Stone, 2016). This has become more and more noticeable for cross-border trade as transactions are being conducted over telecommunications and computer networks.

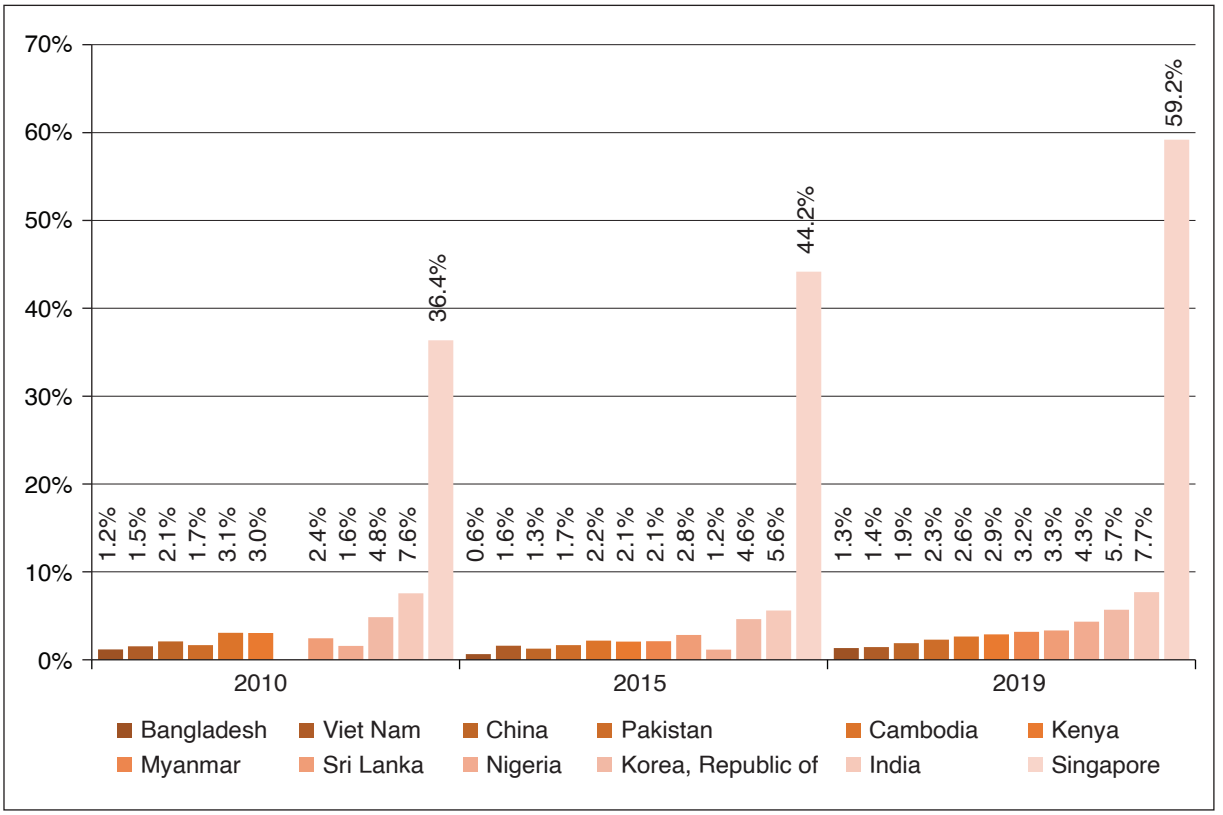
At the global level, the volume of exports of digitally-deliverable services (EDDS) has increased manifold in the last decade where the developed regions boast a significant share (Figure 1). Globally, around USD 1,875 billion worth of digitally-deliverable services were

Figure 1: Trend in Exports of Digitally-Deliverable Services



Source: Authors' illustrations based on UNCTAD data.

Figure 2: Share of Digitally-Deliverable Services Trade in the GDP of Selected Countries



Source: Authors' illustration based on the data from UNCTADStat and World Development Indicator (WDI) (UNCTAD, 2020; World Bank, 2020a).
Note: 2019 data for Kenya and Myanmar represents information from 2017 and 2018, respectively.
Hong Kong, Taiwan and Macao are not included in the calculation.

exported in 2010. At the end of the decade, the volume of EDDS almost doubled to USD 3,193 billion. During the same period, Europe contributed to over half of the global EDDS followed by Asia and America. Between 2010 and 2019, Europe and America's shares in global EDDS declined by over 2 percentage points, respectively, while Asia's share grew by 4.8 percentage points. China and a few other countries in East and South-East Asia primarily drive Asia's contribution in global EDDS.

At the national level, Bangladesh has registered a great deal of increase in terms of the volume of trade in DDS. While the trade volume was only USD 599 million in 2005, the figure increased nearly eight-fold, reaching USD 4,005 billion (UNCTAD, 2020). Despite the progress, trade in DDS as a share of GDP fares much low compared to neighbouring countries, economies with similar per-capita GDP and other developed countries (Figure 2). This indicates lopsided digitalisation of trade services in Bangladesh. Bangladesh's share of trade in DDS in GDP was 1.2 per cent in 2010, dropped to 0.6 per cent in 2015 and rose to 1.3 per cent in 2019. This was roughly at par with Vietnam (1.3 per cent). However, compared to Cambodia, Kenya, Nigeria and Pakistan, which have roughly similar per capita GDP, Bangladesh had underperformed in terms of trade in DDS as a share of GDP. On the other hand, neighbouring India (7.7 per cent) and Sri Lanka (3.3 per cent) had featured a much larger share in their respective GDPs, which was even higher than China (1.9 per cent).

Emerging trends in trade in digital services in the COVID-19 era

Before the COVID-19 pandemic, the nature of trade in services had been evolving. Owing

to digitalisation, internet access and low-cost connectivity, erstwhile non-tradable businesses have become extremely tradable as they can be remotely traded worldwide. The changing nature of trade now does not always require buyers and sellers to meet physically due to a wide coverage of ICT and telecommunication services. Companies such as Uber, Amazon and Airbnb are examples of radical internet-based business models. Technology has also enabled novel services such as telemedicine, e-learning platforms such as Moodle and Massive Open Online Courses (MOOCs), and entertainment services such as Netflix, YouTube and Spotify.

Due to the pandemic, restrictions have been imposed on transport and travel. Many retail and hospitality establishments have also shut down (WTO, 2020b). Such measures have disrupted the trade and supply chains of goods. On the other hand, COVID-19 has made certain economic activities more dependent on technology. While the pandemic situation has been very challenging for some service-providers, it opened up many opportunities for others as well.

The crisis has led to a greater focus on providing online services in retail, health, education, telecommunications, and audio-visual (WTO, 2020b). Before the pandemic, telemedicine had faced considerable policy barriers due to the concerns about patient safety. On account of the COVID-19 crisis, many regions are lifting the restrictions imposed formerly on telemedicine as the benefits of safe as well as remote testing and monitoring have become apparent (Mrazek & Shukla, 2020). Even in Bangladesh, telemedicine services had experienced a significant boost in demand from healthcare seekers. The Aspire to Innovate (a2i) (2020) reported that *Telenor Health* experienced a 30 per cent increase in phone consultation services. Similarly, some organisations have also launched low-cost video consultation services to cater to high healthcare services demand. The pandemic has also encouraged the consumers in Bangladesh to avail goods and services through online platforms. Online grocery stores such as *Chaldal* and *Swapno* have experienced double-digit growth in the number of deliveries. The average pre-COVID number of orders has increased from 5000 per day to 10,000–15,000 per day (IDLC, 2020).

In addition to this, digitalisation is also transforming various professional services. For example, virtual law firms and freelance management consultants are increasingly providing services across digital platforms. As physical offices are operated virtually or often from home, they have lower operating costs, and customers can benefit from the reduced fees (WTO, 2019a). New forms of technologies including AI and machine learning can facilitate accounting and book-keeping efforts. The pandemic has also pushed Bangladeshi employers to undertake work-from-home (WFH) modalities wherever possible. Due to the increasing demand for IT services, firms in Bangladesh are recruiting additional IT consultants, software developers, backend developers, front end developers and technical support engineers. It is estimated that an additional 10,000 new jobs in the IT and tech companies across Bangladesh will be created by the end of 2020 as firms are investing to moving towards digitalisation of many services in response to WFH arrangements (a2i, 2020).

Education systems across the world have also experienced considerable disruptions due to the pandemic. The United Nations (UN) (2020) estimates that 1.6 billion learners around the world have been affected by the closures of schools and other learning spaces. Within Bangladesh, the pandemic has caused discontinuation of regular academic curriculum for 40 million students (Kamal, 2020). However, the pandemic has also spurred innovation in the education sector around the world. A large number of institutions across the globe has adopted online solutions by initiating remote learning. Similarly, the Government of Bangladesh has started airing lessons on state-owned television channels for students enrolled in various education streams (Ria et al., 2020). Other non-government actors like the Jaago Foundation, Agaami Foundation and Teach for Bangladesh have collectively created an online platform called *EduHub*s, where lessons in the form of eBooks, audio or visual formats were

uploaded for free (Ria et al., 2020). Although these are commendable strategies, a substantial number of students in Bangladesh and beyond, particularly from impoverished communities, are left out of the coverage of education due to the lack of affordable access to internet and associated infrastructure to participate in online classes.

The pandemic has also stimulated digitisation of financial activities (WTO, 2020b). Several telecommunication companies from different countries worldwide, with support from their respective governments, have decreased charges on mobile payments to encourage cashless transactions. Particularly in the African region, some central banks have temporarily altered mobile money policies, including the removal or suspension of fees, removing daily and monthly limits of transactions, and easing wallet-to-bank transactions.

Moreover, COVID-19 will continue to increase dependency on digital skills and accelerate digitalisation. Microsoft estimates that an additional 149 million technology-oriented jobs will be created during 2020–2025 including 98 million software development jobs and 23 million cloud and data roles jobs (Smith, 2020). Given that software engineers will be among the highly demanded professionals in a post-COVID world, Bangladesh can tap into this area.

4. Digital Preparedness of Bangladesh

A country's digital preparedness is reflected in the existence of pragmatic digital policies and conducive environment for digital infrastructure development. Digital infrastructure is the physical hardware and associated software that enables end-to-end information and communication networks to operate (ITU, 2018). ICT infrastructure, which constitutes universal internet access, connectivity and affordability and is complemented by ICT education and skills, is the first step towards building digital infrastructure (Banga, 2019).

Bangladesh has made some laudable progress in terms of developing its ICT infrastructure which has translated in the growth of internet penetration. At the beginning of the century, in 2000, Bangladesh had about 127,000 internet users. In 2019, the number increased to over 21 million. However, global comparison shows that ICT infrastructure development in Bangladesh will require more concerted efforts to make further progress and benefit from various digital opportunities. The following discussion sheds some lights on how the country is preparing towards technological advancements.

Bangladesh ranks low in digitalisation and digital trade related indicators. Regardless of the improvement in the number of internet users, Bangladesh is lagging behind many developed countries in various ICT related indicators. Bangladesh ranked among the lower echelons in 2017 in the ITU ICT Development Index which gives a broad picture of the overall ICT infrastructure, affordability of ICT services, and ICT skills of economies. In terms of UNCTAD's B2C E-commerce Index and Networked Readiness Index, Bangladesh fared better than most of its peers in South Asia but lagged far behind China, India and Sri Lanka (Table 1).

Access to internet is limited and awareness of internet is not encouraging. The Bangladesh Multiple Indicator Cluster Survey (MICS) 2019 found that only 37.6 per cent of the households have access to internet on a device from home (BBS, 2019). Additionally, there is a lack of awareness of the internet use among the Bangladeshi population. A survey by LIRNEasia (2019) indicates that two-thirds of population aged 15–65 years in Bangladesh, which represents the working age have internet awareness, while only 13 per cent of the same age group use internet. As a result, the full potential of the services sector is not being realised. Figure 3 presents information on internet awareness and use in Bangladesh and other countries.

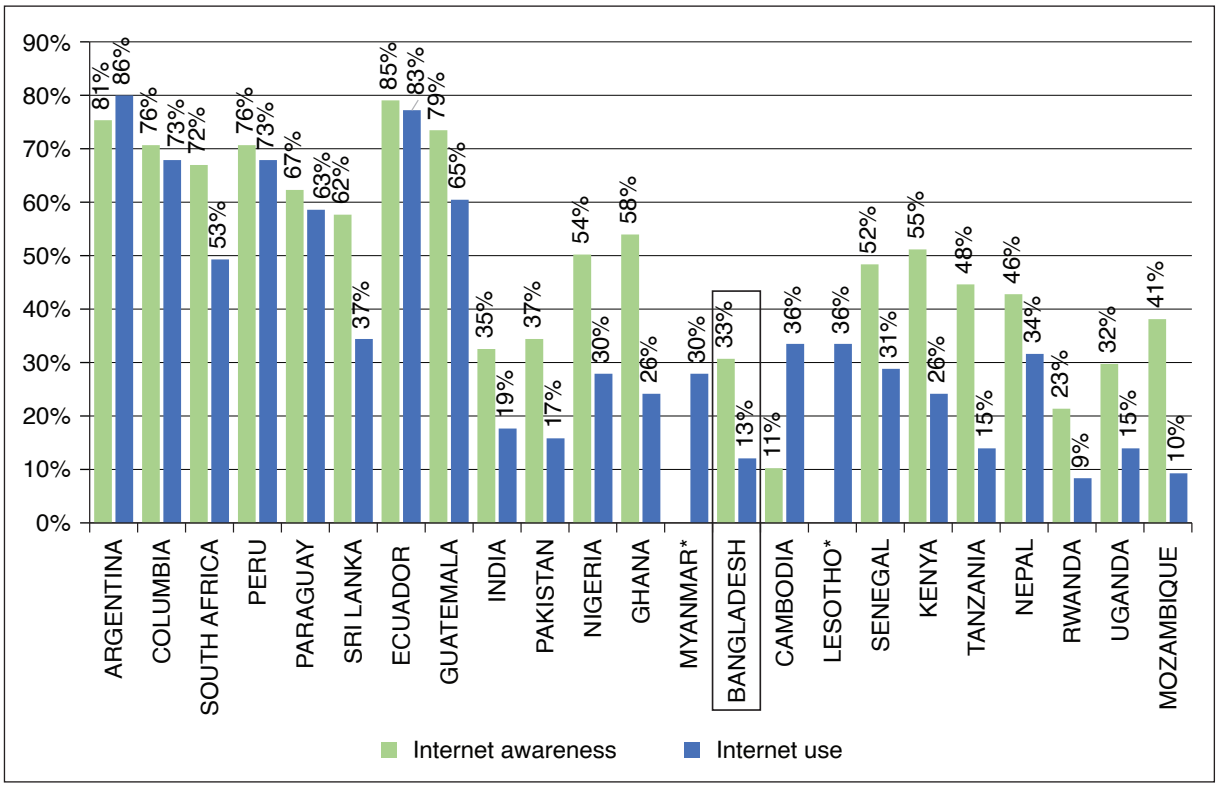
Table 1: Bangladesh's Ranking in Terms of Digitalisation and Digital Trade Related Indicators

Latest Year	Index (number of economies surveyed)	Bangladesh	China	Sri Lanka	Myanmar	India	Nepal	Pakistan	Bhutan
2017	ITU ICT Development Index (176 economies)	147	80	117	135	134	140	148	121
2019	UNCTAD B2C E-commerce Index (152 economies)	103	56	86	126	73	112	114	116
2020	Networke Readiness Index (134 economies)	105	-	83	-	88	113	111	-

- *Data unavailable*

Source: Authors' compilation based on Dutta & Lenvin (2020), ITU (2017), UNCTAD (2019a), UNCTAD (2019b).

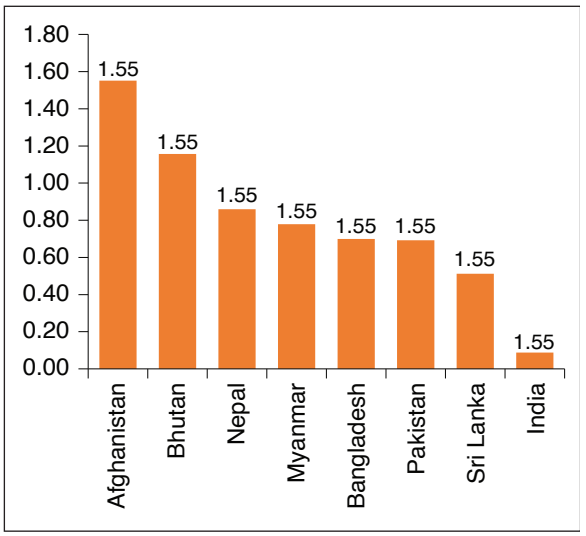
Figure 3: Internet Awareness and Use (% of Population Aged 15-65)



Source: Adapted from LIRNEasia (2019).

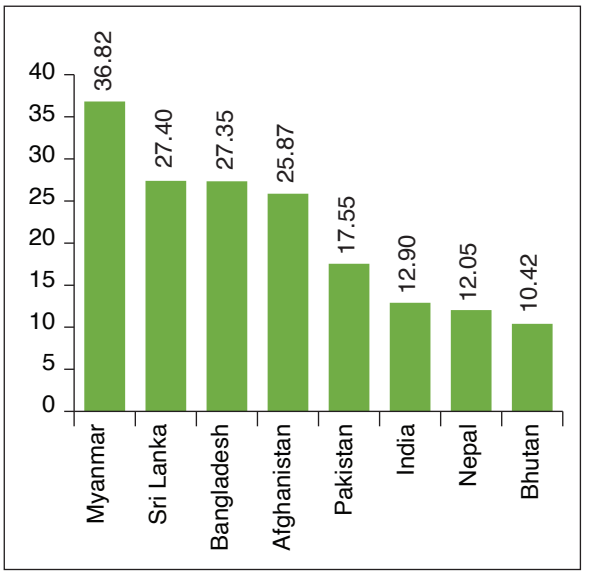
Despite having affordable mobile services, internet costs are high resulting in a low internet usage rate. For example, the cost of mobile data in Bangladesh is nearly seven times higher than that of India (Figure 4). In terms of broadband internet, Bangladesh has the third highest cost of fixed-line broadband package among the South Asian countries (Figure 5). Moreover, with average

Figure 4: Average Price of 1GB Mobile Data in South Asia (USD)



Source: Cable.co.uk (n.d.).

Figure 5: Average Cost of a Fixed-Line Broadband Package in South Asia (Per month in USD)



Source: Cable.co.uk (n.d.).

mobile internet download speed of 10.28 megabits per second (Mbps) for downloads against a global average of 39.18 Mbps, Bangladesh ranked 135 out of 139 countries in October 2020. For fixed line broadband internet, Bangladesh ranked 96 out of 176 countries, offering 31 Mbps download speed on average which is one-third of the global average (Ookla, 2020).

The digital gender divide is a major challenge in achieving gender equality and maximising benefits from digital trade in services. Globally, women own 80 per cent of small businesses engaged in cross-border e-commerce, while only 20 per cent of the businesses which are engaged in offline trades are headed by women (Al-Saleh, 2020). As 60 per cent of the global GDP will be digitised by 2050 (World Economic Forum, 2019), there is scope for further integration of women into the digital economy.

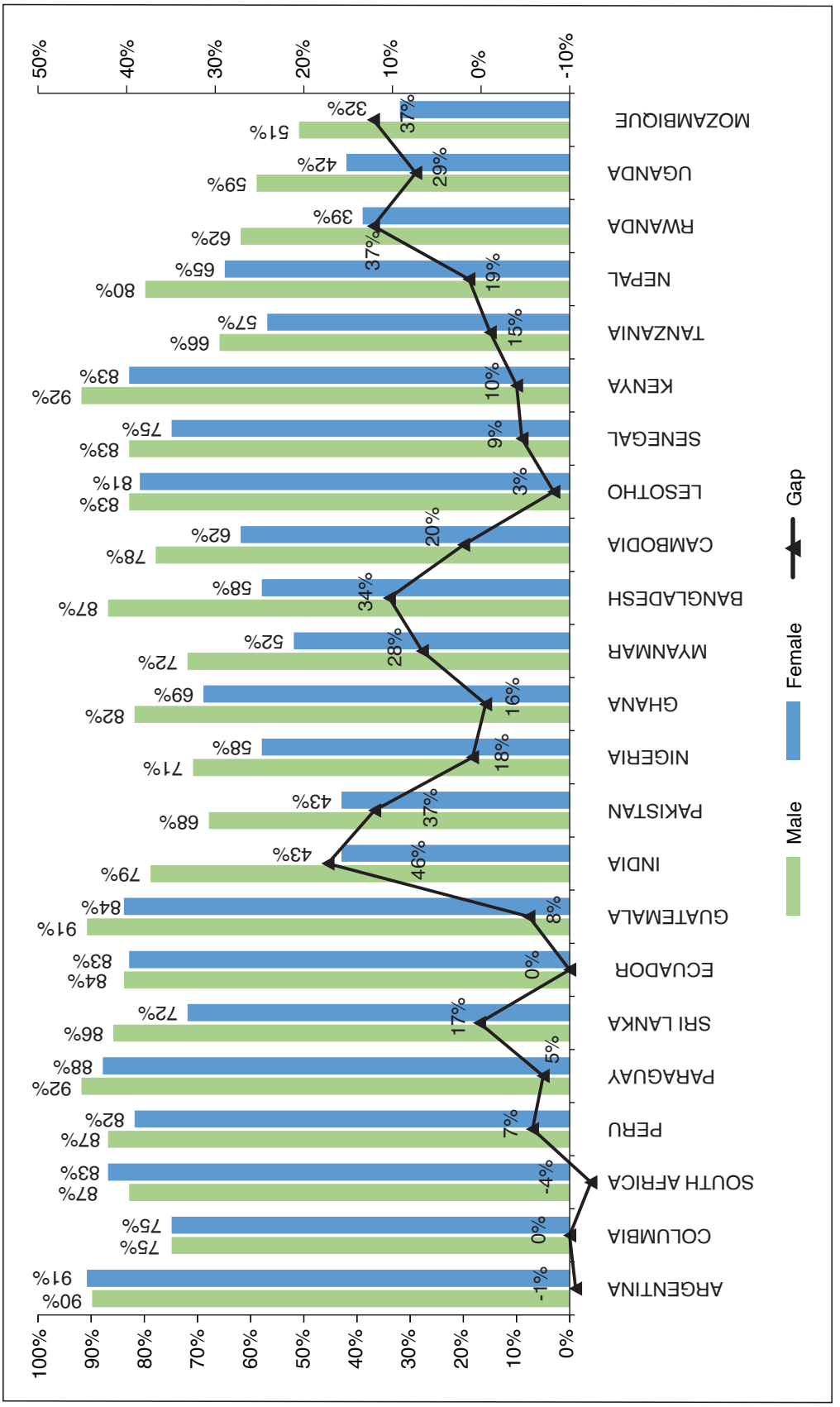
However, Bangladesh may be deprived of reaping the full benefits of digital trade as there is a gender divide in terms of access to and

Table 2: Bangladeshi Women's Digital Literacy and Access to Digital Connectivity

Indicator	Percentage
Percentage of women aged 15-49 years who used a computer during the last 3 months	1.9
Percentage of women aged 15-49 years who own a mobile phone	71.4
Percentage of women aged 15-49 years who used a mobile telephone during the last 3 months	97.8
Percentage of women aged 15-49 years who used the internet during the last 3 months (b) at least once a week during the last 3 months	 12.9 (b) 11.5
Percentage of women who have carried out at least one of nine specific computer related activities during the last 3 months age 15-24 (b) age 15-49	 2.3 (b) 1.4

Source: BBS (2019).

Figure 6: Gender Gaps in Mobile Phone Ownership (% of Population Aged 15–65)



Source: LIRNEasia (2019).

knowledge of digital tools. The country has the highest gender gap among surveyed Asian countries in terms of use of mobile internet, with around 52 per cent of women less likely to use it than men (GSMA, 2020). A number of factors including barriers to access, affordability, lack of education and technical literacy, and socio-cultural prejudices and norms play critical roles in digital exclusion based on gender (OECD, 2018). Women aged 15-49 years are lagging behind in terms of connectivity and digital literacy (Table 2). Only 1.9 per cent women in this age group used a computer in the past three months and another 1.4 per cent had undertaken at least one of nine specific computer related activities.

Bangladesh also has one of the highest gender gaps in terms of mobile ownership (LIRNEasia, 2019) (Figure 6). Although in a better position than neighbouring India and Pakistan, Bangladeshi women are 34 per cent less likely to own a mobile phone compared to the men.

ICT related skills are low. Approximately 10,000–30,000 IT (information technology) students graduate every year from various higher educational institutions in Bangladesh. However, a large number of them remain unemployed due to insufficient knowledge and a mismatch between the skills demanded by the industry and taught by the academic institutions (BFTI, 2018; Khatun & Saadat, 2020). The curriculums of many academic institutions are not updated and teaching facilities are inadequate (Chanda & Raihan, 2016; Khatun & Saadat, 2020).

At the EGM organised by the authors of this report, participants pointed out the reasons for global tech giants not investing in Bangladesh. This is firstly because Bangladesh is missing a "tech layer" which largely comes through creative and skilled manpower. Universities fail to inculcate creativity among the students and train them with adequate skills required by the industry. Second, there is a lack of research and development at universities which would help teachers and student adapt to the new knowledge landscape. This is reflected in Bangladesh's position in the Global Innovation Index (GII) where it ranked 116 out of 131 economics (Dutta, Lanvin & Wunsch-Vincessnt, 2020). Bangladesh remains in the same position in case of GII for the last three years.

Third, Bangladesh has a shortage of qualified engineers in the country. While the number of public and private institutions offering undergraduate engineering programmes has risen marginally over time, the annual intake is still one of the lowest in the world. The growth in the availability of scientists and engineers in Bangladesh has been going down over the last decade. Between 2007 and 2015, the growth rate was 3.8–4.2 per cent (World Bank, 2020b). The growth rate was also below that of the world median and disappointingly low compared to India. This could largely be attributed to the issue of brain drain and the inability of educational institutions to produce more scientists and engineers to make up for the loss through brain drain. Bangladesh finds it difficult to retain its graduates. A substantial number of academics and practitioners from Bangladesh have stayed abroad after completing their higher studies at reputed foreign universities. Many Bangladeshi students pursue lucrative jobs in the host countries and permanently settle there (Rahman, 2013). Emigration rate of tertiary-educated population from Bangladesh is 4.3 per cent (World Bank, 2011). Moreover, in 2019, Bangladesh ranked 4th among the Asian countries and 27th in the world in the human flight and brain drain index (TheGlobalEconomy.com, 2020).

Policy inadequacy translates into lacks in internet infrastructure in the country. The Government of Bangladesh (GoB) has undertaken several policy initiatives to establish an open, inclusive and accountable government for economic growth and social progress. To achieve these goals, the GoB has emphasised on ICT as an enabler through the 'Digital Bangladesh' initiative which comprises four fundamental principles: (1) digital government (i.e., public service delivery), (2) ICT in Business (i.e., private sector opportunities), (3) connecting citizens, and (4) human resource development. In

line with its vision for a prosperous Bangladesh, the GoB has implemented and revised several ICT related policies, particularly since 2010.

However, the National ICT Policy of Bangladesh does not provide clear strategies for digital inclusion in terms of digital ICT access, use and skills. The gaps in coming up with a holistic and pragmatic ICT policy have had far reaching impact in terms of effective use of ICT related tools and services. Because of unstable power, remote areas, and a lack of knowledge of the possible benefits of ICT, many people are unable to access ICT (Ullah, 2016). This has been particularly felt during the pandemic as most educational institutions were not digitally equipped to provide education services to students remotely (Aziz, Islam & Zakaria, 2020).

5. Recommendations and conclusions

The global economy is undergoing digitalisation which has been accelerated during the pandemic. As trade becomes increasingly digitalised, Bangladesh needs to prepare for reaping benefits from digital trade in services. However, players in the service sectors face numerous challenges, including lack of internet and digital access, inadequate finance, scarcity of skilled workers and unfriendly government regulations. Due to the service sector's increasing contribution in Bangladesh's economy and growing importance in the global arena, the barriers that are impeding the growth of this sector should be removed. In view of this, a number of recommendations can be made.

Address the gaps in policy to enhance digital inclusion

The policy gaps identified in this paper need to be addressed urgently to ensure digital inclusivity. Firstly, the ICT policies need to be revised using a bottom-up approach through the participation of the grassroots and relevant stakeholders, including technical experts. Through such consultation, a work plan needs to be prepared, laying out a timeline and the means to achieve the goals. The activities also need to target all communities to ensure that no groups are left behind.

Secondly, the structural inefficiencies in the International Long Distance Telecommunication Services (ILDTS) policy need to be addressed. In this regard, the various license categories need to be consolidated, and strong competition rules need to be developed (ITU, 2018). This will reduce the regulatory barrier to entry for internet-related service providers. Finally, the guidelines on infrastructure sharing published by Bangladesh Telecommunication Regulatory Commission (BTRC) need to be revisited. The market mechanism should drive infrastructures sharing mode, not through regulatory mandates (Wahid-Uz-Zaman, 2015). In this regard, infrastructure sharing modalities that enable higher cost saving should be allowed.

Create awareness and raise skills

The global services sector has an enormous demand for skilled professionals. In order to compete in the global value chain, skills of the existing and future workforce need to be raised. This must be done proactively through the development and modern curriculum across all education streams. Given the heterodox disciplines in the education system in Bangladesh and across the world, multiple stakeholders, including students, teachers, firms, institutions, and the government will need to work together to achieve these goals. Experts emphasised the need for research and development as such activities can inculcate curiosity and creativity among the students. Hence, universities need to provide an enabling space for creativity to flourish among the students by pursuing more research and development. Furthermore, access to information for all the stakeholders at the district and sub-district levels has to be ensured. Since global dynamics are changing as professional and ICT based skills are high in demand, the National Education policy needs to be revisited from time to time to ensure that such needs are reflected in the policies and effectively implemented across all educational institutions.

Identify and ease financial constraints on actors involved in trade in services

There are several bureaucratic red-tapes on inbound and outbound remittances and payments which limit the growth prospects of individuals and firms engaged in the service sector. In addition to lifting regulations, public policy should also enhance SMEs' (small and medium-sized enterprises) access to capital by leveraging alternative financing. For example, the United States Small Business Investment Company (SBIC) provided investment funding through debt and equity financing at low interest rates. Similar support organisations have also been created in Australia, Canada and countries in Western Europe. However, such support is only provided by the Industrial Development Leasing Company (IDLC) (Andrianaivo, Skamnelos & Ndiaye, 2018). Other financial and banking institutions need to be encouraged to provide such financing schemes. International donors can be leveraged to undertake joint initiatives with such institutions in providing equity and debt financing.

Facilitate firms to leverage venture capital. The tech industry including the start-ups needs to improve their performance in Bangladesh to attract funds from abroad. The tech industry has enormous potential and there is a lot of equity-based financing, and scope for engaging foreign investors. However, regulatory barriers that impede the tech start-ups from getting access to funds should be relaxed. The policymakers may strengthen their monitoring mechanisms in order to avoid any malpractices in the process.

Incentivise female participation in ICT related education and employment

Women make up nearly half of the human resource in Bangladesh. However, their ICT-related capabilities are not properly realised due to low participation and employability in the relevant sector. In this regard, the specific barriers that deters them from participating in ICT related education and employment need to be addressed. In order to reduce the gender divide in digital trade, women from low-income families may be provided with low-cost home internet packages. Female students should be encouraged through various support to seek science, technology, engineering, and mathematics (STEM) education which will enable them to find opportunities in the digital age.

Trade in digital services are paramount to sustain Bangladesh's level of economic growth. The pandemic has undoubtedly expedited the adoption of digital technology in the country. The prospect of digital trade in Bangladesh is constrained by several factors including—lack of adequate internet connectivity and ICT infrastructure, weaknesses in trade facilitation and trade logistics, inadequate skilled workforce, gender divide in digital literacy and tools, financial regulations and payment related complexities, and lack of access to sufficient funds. At the same time, the policymakers should also play proactive roles in the global policymaking process in this area which is taking substantive traction in the recent period, particularly in the context of multilateral trading system.

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[i] OECD (2020) for a detailed elaboration on this issue and various proposals on how to mitigate this challenge.

[ii] Digitally-deliverable services are an aggregation of insurance and pension services, financial services, charges for the use of intellectual property, telecommunications, computer and information services, other business services and audio-visual and related services. The digitally-deliverable services series is based on the concept of potentially ICT-enabled services as developed by UNCTAD in a technical note in 2015 as well as in a report of the 47th United Nations Statistical Commission in 2016.

[iii] The analysis is presented based on exports data due to unavailability of imports of digitally-deliverable services at the regional level.

[iv] Authors' calculations based on UNCTADStat (UNCTAD, 2020).

[v] Authors' estimation based on World Development Indicator dataset (World Bank, 2020a).

[vi] Measures the readiness of countries to enable digital economic activities by combining the following sub-indices: Internet use penetration, secure servers per one million inhabitants, credit card penetration, and the postal reliability score (UNCTAD, 2019a).

[vii] Measures the environment for ICT offered by a given country or community (market, political, regulatory, and infrastructure environment), the readiness of the country's key stakeholders (individuals, businesses, and governments) to use ICT, and the usage of ICT among these stakeholders (UNCTAD, 2019a).

Acronyms

4IR	Fourth Industrial Revolution
a2i	Aspire to Innovate
AI	Artificial Intelligence
B2B	Business-to-Business
B2C	Business-to-Consumer
BDT	Bangladeshi Taka
BOP	Balance of Payments
BTRC	Bangladesh Telecommunication Regulatory Commission
C2C	Consumer-to-Consumer
COVID	Coronavirus Disease
DIP	Digitally Intermediated Platforms
EBOPS	Extended Balance of Payments Services
EDDS	Exports of Digitally-Deliverable Services
EGM	Expert Group Meeting
G2B	Government-to-Business
GATS	General Agreement on Trade in Services
GDP	Gross Domestic Product
GII	Global Innovation Index
GoB	Government of Bangladesh
ICT	Information and Communications Technology
IDLC	Industrial Development Leasing Company
ILDTS	International Long Distance Telecommunication Services
IT	Information Technology
ITU	International Telecommunication Union
LDC	Least Developed Country
Mbps	Megabits Per Second
MICS	Multiple Indicator Cluster Survey
MOOC	Massive Open Online Course
MSME	Micro, Small and Medium-sized Enterprises
OECD	Organisation for Economic Co-operation and Development
SBIC	Small Business Investment Company
SME	Small and Medium-sized Enterprises
STEM	Science, Technology, Engineering, and Mathematics
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
USD	US Dollar
USITC	United States International Trade Commission
WDI	World Development Indicator
WTO	World Trade Organization
WFH	Work-From-Home

Digitalisation has made the trade in services much easier. The expanding cross-border tradability of services is opening new opportunities for national economies and individuals. Trade in digital services is important for Bangladesh's economic growth. The pandemic has expedited the adoption of digital technology in many sectors. This report explores how Bangladesh can benefit from digital trade in services and what it will take for Bangladesh to adapt to the new trade regime in the digital age. By looking at the preparedness in terms of access to technology and policy framework, the paper makes a number of recommendations for enabling the country to benefit from digital trade in services.

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