



Bangladesh
Rapid eTrade Readiness Assessment V4 (1/3/2019)

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NOTE

Within the UNCTAD Division on Technology and Logistics, the ICT Policy Section carries out policy-oriented analytical work on the development implications of information and communication technologies (ICTs) and e-commerce. It is responsible for the preparation of the Information Economy Report (IER) as well as thematic studies on ICT for Development.

The ICT Policy Section promotes international dialogue on issues related to ICTs for development and contributes to building developing countries' capacities to measure the information economy and to design and implement relevant policies and legal frameworks. It also monitors the global state of e-commerce legislation (unctad.org/cyberlawtracker). Since 2016, the section has coordinated a multi-stakeholders' initiative entitled eTrade for all (etradeforall.org), which aims to improve the ability of developing countries, particularly least developed countries (LDCs), to use and benefit from e-commerce.

Reference to companies and their activities should not be construed as an endorsement by UNCTAD of those companies or their activities.

The following symbols have been used in the tables:

Two dots (..) indicate that data are not available or are not separately reported. Rows in tables have been omitted in those cases where no data are available for any of the elements in the row;

A dash (-) indicates that the item is equal to zero or its value is negligible;

Reference to "dollars" (US\$) means United States of America dollars, unless otherwise indicated;

Reference to "taka" (BDT) means Bangladeshi Taka, unless otherwise indicated. (1 US\$ is equal to approx. 84.02 BDT on February 19, 2019).

Details and percentages in tables do not necessarily add up to the totals because of rounding.

PREFACE

The eTrade for all Initiative, launched at the fourteenth Ministerial Conference of UNCTAD in July 2016, is a practical example of how to harness the digital economy in support of the 2030 Agenda for Sustainable Development, notably Sustainable Development Goals (SDGs) 5, 8, 9, and 17. The initiative seeks to raise awareness, enhance synergies, and increase the scale of existing and new efforts by the development community to strengthen the ability of developing countries to engage in and benefit from e-commerce by addressing seven relevant policy areas:

- E-commerce readiness assessment and strategy formulation
- ICT infrastructure and services
- Trade logistics and trade facilitation
- Payment solutions
- Legal and regulatory frameworks
- E-commerce skills development
- Access to financing

As part of the initiative, demand-driven assessments are envisaged to provide a basic analysis of the current e-commerce situation in the countries concerned, and to identify opportunities and barriers. The resulting reports will serve as a valuable input to these countries' involvement in various discussions related to e-commerce and digital trade, such as in the context of the UNCTAD Intergovernmental Group of Experts on E-commerce and the Digital Economy. It may furthermore help LDCs to identify areas in which they could benefit from assistance by partners of eTrade for all.

Bangladesh has made significant strides in the ICT area, and its efforts to develop the digital economy with strong public and private sector collaboration is a case-study in policy development. The growth trajectory of the ICT sector, which has benefited from such collaboration in the past, is an indicator of how the e-commerce ecosystem can grow in Bangladesh. Indeed, with its young, dynamic and IT savvy population, Bangladesh is fertile ground for e-commerce to take root and benefit companies and end-consumers alike.

The Bangladesh Rapid e-Trade Readiness Assessment has benefited from the support of the Government of Germany, which funded the assessment. This report is expected to contribute to the ongoing efforts of the Government of the People's Republic of Bangladesh (GoB) to realize the vision of "Digital Bangladesh" and to build a robust, safe and business-friendly e-commerce ecosystem.

With the eTrade for all partners, UNCTAD is committed to continue supporting Bangladesh in its resolve to harness the potential of e-commerce for its development.

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ABBREVIATIONS

7FYP	7th Five Year Plan
A2I	Access to Information
ADB	Asian Development Bank
ASYCUDA	Automated System for Customs Data
C2C	Consumer-to-Consumer
B2C	Business-to-Consumer
BACH	Bangladesh Automated Clearing House
BASIS	Bangladesh Association of Software and Information Services
BBS	Bangladesh Bureau of Statistics
BCC	Bangladesh Computer Council
BDT	Bangladeshi Taka
BRTA	Bangladesh Road and Transport Authority
BSCCL	Bangladesh Submarine Cable Company Limited
BTRA	Bangladesh Telecom Regulatory Agency
COD	Cash on Delivery
E-CAB	e-Commerce Association of Bangladesh
e-GIF	e-Government Interoperability Framework
EEF	Equity and Entrepreneurship Fund
FNF	Friedrich Naumann Foundation
GoB	Government of the People's Republic of Bangladesh
GP	Grameenphone
IBFT	Internet Banking Fund Transfer
ICT	Information and communication technology
IDI	ICT Development Index (measured by IITU)
IER	Information Economy Report
IFC	International Finance Corporation
IIG	International Internet Gateway
ISP	Internet Service Provider
ITC	International Trade Center
ITU	International Telecommunication Union
JICA	Japan International Cooperation Agency
KYC	Know Your Customer
LCS	Land customs station
LDC	Least developed country
MFI	Microfinance institution
MFS	Mobile financial services
NBFI	Non-bank financial institutions
NEA	National Enterprise Architecture
NGO	Non-governmental organization
NPSB	National Payment Switch Bangladesh
OECD	Organization for Economic Co-operation and Development
OTP	One-Time Password
PMO	Prime Minister's Office
POS	Point-of-Sale
RHD	Roads and Highways Department
SDG	Sustainable Development Goals
SEA-ME-WE 4	South East Asia – Middle East – Western Europe 4
SEA-ME-WE 5	South East Asia – Middle East – Western Europe 5
SID	Statistics and Informatics Division

SME	Small and medium-sized enterprise
TFA	Trade facilitation agreement
TTFMM	Trade and Transport Facilitation Monitoring Mechanism
TVET	Technical and vocational education and training
UDC	Union Digital Center
UGC	University Grants Commission
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UPU	Universal Postal Union
US\$	US Dollar
USO	Universal Service Obligation
VAT	Value added tax
WTO	World Trade Organization

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EXECUTIVE SUMMARY

Bangladesh's national development agenda is driven by the ambitious Vision 2021 document, which articulates a framework for achieving key developmental goals for the country by the year 2021. The slogan of "Digital Bangladesh" of the Government of Bangladesh has special significance for national development. Digital Bangladesh with Vision 2021 is a big impetus for the use of digital technology in the country. Despite having several bottlenecks and limitations, works are in progress for the realization of Digital Bangladesh. Several projects for digitalization have been completed and a big number of projects are under progress. The goals envisage an ambitious future ranging from 'possessing an efficient, accountable, transparent and decentralized system of governance' to 'a poverty-free middle-income economy' to 'a globally integrated regional economic and commercial hub'.

In order to realize these goals, the government has firmly positioned ICT as an enabler in this framework through its 'Digital Bangladesh' Initiative, comprised of four pillars: (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. This remarkable initiative and its constituent program like a2i (Access to Information) have fostered remarkable growth in the overall ICT infrastructure, emergence of the ICT sector as a business, broad-ranging e-government services, and more recently, a focus on e-commerce and digital businesses. a2i has taken an initiative named 'Rural e-Commerce' through 5275 Digital Centers established throughout the country. Digital Centers are helping in creating an alternative virtual market for the goods and services produced in the marginalized or rural areas.

Reflecting the growing importance of the digital economy for Bangladesh, the national digital commerce policy as well as the ICT policy 2018 has been developed and the public sector openness to private sector consultation and drafting of these policy instruments is commendable. However, it is now important to translate the policies into implementable master plans through continued public-private dialogue and support by development partners.

ICT is a natural component of the country's developmental trajectory for a number of reasons. 110 million of the country's population of 160 million is under the age of 35 rendering job-creation a necessity. 65 per cent of the population is residing in rural areas, which poses significant challenges for executing both government services to citizens as well as integration of the rural population with the cities. The Government showed remarkable foresight since early days to recognize the potential of ICT as an essential ingredient for the success of the Vision 2021. Since the inception of Digital Bangladesh initiative, the ICT sector has grown at an average pace of 40 percent per annum.

The gains in the ICT Infrastructure are evident. Nationwide coverage of mobile services is increasing with 2G (near 100 per cent coverage), 3G (undergoing rapid roll-out) and 4G networks (primarily in the capital and other major cities), while 5G services are being tested as a growth mechanism for the medium-term. Mobile subscriptions adoption is high at 88.1¹ per cent, 71 per cent of the country now enjoys mobile broadband penetration due to telecommunications sector with relatively high competition. The BTRC estimates mobile broadband subscriptions to more than 50 per cent (85.5 million users), while overall internet usage is estimated at 57.2 percent (91.2 million users). Further growth may be constrained by affordability of mobile connectivity (possibly due to incurred spectrum charges), and lack of familiarity of the users with mobile Internet services. While 40% of the users possess a smart-phone, while only approximately 4% currently utilize 4G-capable devices. Universal access is a stated concern for the government, however the regulator is currently observing the marketplace dynamics before making any

¹ Actual figures may be lower owing to frequent practice of one individual possessing multiple sim-cards to leverage on-air promotions and to account for gaps in coverage areas for service providers.

policy decisions. This is to ensure that any decision bear in mind the fast-evolving dynamics of the telecom market, and do not lead to inordinate burden on telecommunications firms which may harm consumers in the long term through price increases or deterioration of quality. Recent initiatives for operator interoperability through passive and soon active tower sharing are encouraging in this context.

This operating environment has incubated a fast-evolving e-commerce sector driven on one hand by a flourishing ICT sector, and a fast-growing middle-income consumer base, which has become used to absorbing relatively complex ICT services whether public-sector or private-sector based and has an appetite for value-added services. A variety of e-commerce businesses exist – ranging from food and grocery delivery to specialized logistical services. Development initiatives such as the innovative EkShop model have facilitated aggregation of e-commerce websites by leveraging the e-government structures, namely the Union Digital Centers (8000+) and the vast ICT network established to support e-government operations. The network also involves order facilitation through the post-office delivery system as well as private sector logistics firms who can link to Ekshop as well. This has facilitated market-development for e-commerce firms while at the same time allowing consumers to access a variety of online services. It has also encouraged micro-entrepreneurship at the remotest corner of Bangladesh, since an individual can advertise their goods online by utilizing UDC services. Overall, e-commerce holds significant potential for the country, especially given the recent focus on prioritized sectors such as Tourism, Pharmaceuticals, Apparel/Jute, and Food processing, which are naturally inclined towards e-commerce.

Trade logistics is an area where improvements are required. While the post office network is extensive, last mile delivery remains a concern given the challenging geography and remote/dispersed communities. For e-commerce firms, order facilitation involves a fragmented chain of multiple logistical suppliers, and operations are frequently hampered by security challenges, reliance on cash as the predominant form of payment (between logistics suppliers and e-commerce firms, as well as with customers), and an overall weak level of maturity of this important service function.

Trade facilitation is an emerging area of interest as well for e-commerce. Cross-border e-commerce activity is currently constrained due to a low de-minimis value and factual checks of most parcels entering Bangladesh. There is a need to review the benefits vs. the burden imparted to the customs authority as a result of this. An important need also exists for meeting Bangladesh's trade facilitation commitments, and continued improvements to its customs infrastructure.

The Information and Communication Technology Act 2006 (and amended versions in 2009, 2013) and the Digital Security Act 2018 are the cornerstones of cyberlaws in Bangladesh. The former is credited with broad-ranging coverage related to recognition of online contracts and digital signatures, as well as recourse mechanisms for dispute resolution. No specific law on cyber-crime exists, although the above laws include certain tenets dealing with cybercrime. Recently, the Digital Security Act 2018 is enacted to ensure National Digital Security and enact laws regarding Digital Crime Identification, Prevention, Suppression, Trial and other related matters. The Consumers' Rights Protections Act does not have any focus on digital transactions. A regulatory gap regarding copyrights, trademarks and patent rights of e-information and data, domain name protection etc exists.

Mobile Financial Services (MFS) have experienced a rapid uptake from consumers, and has outpaced cards-based payment systems growth, although the usage is still low for ecommerce and digital-payments. Currently, e-commerce related transactions only account for approximately 1.02% of the transactions of MFS. In addition, digital payments constitute currently only 0.14% of the transactions of MFS. Interoperability in terms of mobile-money to Banks and Bank to mobile-money transfer capability needs to be developed swiftly. This will help boost trust among consumers, and help develop mobile

money as the intermediate step solution away from cash and closer to cashless transactions. The key challenges to overcome are fostering consumer trust, and strengthen merchant – MFS/card service providers linkages.

Two key areas of concern are international transaction limits for outbound payments in foreign currency, and access to financing for startups, ICT entrepreneurs and e-commerce merchants. The former needs to be reviewed in terms of balancing valid concerns of capital flight with the concern that such restrictions will prevent companies from scaling up operations, especially in cases where procurement of inputs is required from international sources, or where business related expenses are required. The latter is a key factor constraining SME growth, extending to firms operating within the digital economy. Ample space remains for equity financiers and incubator / accelerator programs offering financing in Bangladesh to be substantially expanded.

In terms of skills-development, the e-commerce sector has outpaced skills-providers. Companies do cite a challenge in acquiring IT talent, although this is expected to extend to the broader digital skills base as well as the sector evolves. Increased requirement for spurring digital entrepreneurship will undoubtedly arise, as will demand for complex skills focusing not only on website development, but cloud-based custom programming, database development, AI (in the form of customer service bots among other uses), supply chain management etc. A feedback loop is required to link policy, skills-providers and the private sector to manage skills-mismatch issues.

In conclusion, the digital economy constitutes a significant national development opportunity for Bangladesh and a chance to diversify from traditional industries prevalent in country. Ample potential exists to add e-commerce components to nationally prioritized sectors such as pharmaceuticals, the apparel and jute sector and the food processing industry. Addressing the identified issues in this assessment may be instrumental in strengthening of public trust in e-commerce and its relevance for Bangladesh's future economy.

METHODOLOGY

A four-step approach was used for the Rapid eTrade Readiness Assessment for Bangladesh, to ensure a high level of participation and engagement of key stakeholders in the consultative process:

Figure 1: Assessment methodology



Source: UNCTAD

- ✓ Phase 1 | Stakeholder engagement and literature review, 16 July - 15 August 2018.
- ✓ Phase 2 | Questionnaire customization and dissemination, 15 August – 15 October 2018. Two (2) customized questionnaires, one for public and one for private sector respondents were retrieved from 28 stakeholders in Bangladesh.
- ✓ Phase 3 | Focus group discussions and key informant interviews in Dhaka to validate findings and receive additional input, 25 August – 5 September 2018.
Meetings were organized with key public and private stakeholders in the following segments: Policy makers and regulatory bodies, private sector associations, e-commerce entrepreneurs, stakeholders from the sectors banking, telecommunication, courier services and academia.
- ✓ Phase 4 | Report writing and finalization, 5 September 2017– 1 March 2019.

As in all other Rapid eTrade Readiness Assessments, the seven policy areas used in the eTrade for all initiative were used as entry points for this assessment. These are:

- ✓ E-commerce readiness assessment and strategy formulation
- ✓ ICT infrastructure and services
- ✓ Trade logistics and trade facilitation
- ✓ Payment solutions
- ✓ Legal and regulatory frameworks
- ✓ Skills development for e-commerce
- ✓ Access to financing

The information provided in this report is based on data collected from 28 survey respondents from both the public and private sectors and approximately 80 stakeholders in Dhaka, who have been met in focus group discussions at the premises of BASIS or bilaterally during the in-country mission (26 August – 5 September).

MAIN FINDINGS AND RECOMMENDATIONS

MAIN FINDINGS	MAIN RECOMMENDATIONS
e-Commerce Readiness Assessment and Strategies Formulation	
Vision 2021 articulates the overarching national development agenda, and ICT is centrally positioned to fulfil this through the 'Digital Bangladesh' initiative which has shepherded growth in the digital economy ecosystem by coordinating a range of development initiatives. Strong participation by private sector has been encouraged by a receptive public sector informing pertinent policy-making including ICT Policy 2018 and the National Digital Commerce Policy 2018. Development of e-commerce in Bangladesh is still in early stages, although sector is transforming rapidly. Consumer adoption is gradually increasing from a low base due to active efforts by firms as well as e-government initiatives. Statistics collection constitutes a capacity gap.	Translate e-commerce policy and ICT- to multi-year master-plan. Enhance trust/confidence along broad stakeholder base. Strengthen multi-stakeholder cooperation within various programs falling under the "Digital Bangladesh" vision. Better link national trade and private sector development efforts with E-commerce. Connect initiatives for cluster-based economic development and trade promotion efforts in priority sectors such as Tourism, pharmaceuticals, apparel/jute, and food processing with e-commerce-based business models. Improve statistics capacity by linking national statistics office with A2I and other ICT/ecommerce based initiatives.
ICT Infrastructure and Services	
Mobile subscriptions rate is high at 88.1 per cent driven by robust competition. 71 per cent of the country now enjoys mobile broadband penetration. BTRC estimates mobile broadband subscriptions to more than 50 per cent (85.5 million users), while overall internet usage estimated at 57.2 percent (91.2 million users). Important need to ensure 2G nationwide coverage and 3G (undergoing rapid roll-out), while scaling up 4G networks. Plans for 5G introduction are underway. Universal access is important consideration, however the government has employed a cautious approach. Smartphones adoption is expected to rise due to increasing local production.	Ensuring 100% coverage vis-à-vis 2G, 3G while increasing 4G and eventually 5G. Increase smartphone coverage, especially in rural areas and continue efforts to promote local handset manufacturing. Review rollout plans for cellular and broadband networks and proactively engage with private sector to accelerate ICT projects. Encourage telecommunications service providers to cooperate on network/infrastructure sharing in remote areas to benefit from cost sharing, as well as improving last mile connectivity throughout the country.
Trade Logistics and Trade Facilitation	
Robust national postal network with good delivery capacity throughout the country, although room for improvement in capacity enhancement, diversification of services and digitalization of network. Last mile delivery is a challenge for all firms, especially in rural areas due to geography and addressing issues. The geographical profile of Bangladesh along with the seasonality of floods frequently causes logistics challenges. Despite Bangladesh's comprehensive trade facilitation commitments, implementation challenges remain. Cross-border e-commerce activity is constrained due to low de-minimis value regime, requiring a review.	Review national de-minimis regime. Conduct post-office revitalization pilots in rural areas developing the capacities of remote/rural post offices through technology and best practices available to the private sector. Build capacities of service providers for last-mile delivery in rural areas. Support introduction of insurance products for trade logistics firms to minimize the risk imparted due to product breakage, consumer fraud, and security challenges encountered during delivery. Implement the reforms recommendations of the Trade Facilitation and Paperless Trade Implementation Survey.
Payment Solutions	
Current reliance on cash as the dominant payment mode	Foster dialogue with the private sector to develop

imparts risk for future e-commerce growth. The key challenges to overcome are fostering consumer trust, and strengthen merchant – MFS/card service providers linkages. The deployment of the National Payment Switch in 2012 was an important development and serves as the core basis for interoperability of banking systems. With the growth importance and adoption of MFS, the interoperability dimension needs to be further developed to include mobile-banks and mobile-mobile transfer solutions in the future. Key challenge for e-commerce businesses are international transaction limits for outbound payments in foreign currency.	mechanisms for reducing consumer reliance on cash and encouraging use of MFS and card-based payments. Review the regulations for ceiling limits related to outbound transactions and review particularly the online transaction limits for individuals and corporate entities. Foster interoperability of payment services and transfers between mobile-money and banks and between mobile-money providers. Establish and communicate a clear return guidelines for online purchases and identify options to strengthen after-sale services in e-commerce including return payments. Rationalize KYC requirements of commercial banks.
Legal and Regulatory Framework	
The ICT Act 2006 and the Digital Security Act 2018 are the cornerstones of cyberlaws, the former credited with recognition of online contracts and digital signatures, as well as recourse mechanisms for dispute resolution. No specific law on Cyber-crime exists, but the ICT act and the Digital Security Act include related tenets. The Consumers' Rights Protections Act does not have any focus on digital transactions. There is no provision for data protection..A regulatory gap regarding copyrights, trademarks and patent rights of e-information and data, domain name protection etc exists.	Amend Consumer Rights Protection Act to include provision for digital content and e-transactions in this Act, and ensure that accompanying structures for reporting and addressing grievances are suitably adjusted. Develop a data protection act or amend existing Digital Security Act to include provision of data protection for digitally produced content. Amend existing intellectual property laws (i.e. copyright, trademarks and patents) to include e-aspects: Ensure that domain name protection exists for e-commerce websites.
E-commerce Skills Development	
Widening skill gap between a dynamically growing/diversifying e-commerce sector and a skills-development sector responding at a slower pace to the skill demands needs to be addressed. Trilateral cooperation and coordination is required among (public and private) educational institutions, private sector and policy-making. A skill gap analysis and extrapolation of skill requirements is essential to avert both, under- and over-supply of talent in a certain sector. Quick-fix solutions may be identified to address immediate skill gaps faced in the digital economy or to pilot scalable interventions.	Reduce skills-mismatch through the development of a feedback loop between the public sector, academia and the private sector (current and potential e-commerce vendors) and other stakeholders. Provide support to youth and learners seeking to transition to entrepreneurship or employment in e-commerce through incubation or acceleration programs, internship programs or diploma courses to address immediate skill shortages. Increased awareness building throughout the ecosystem related to e-commerce, payments, regulations. Provision of startup support in second- and third-tier cities. Conduct capacity building workshops to boost the awareness of public sector/civil servants on digital-economy aspects.
Access to Financing	
Access to financing is one of the major factors constraining SME growth in the country, necessitating a reliance on family/community and informal sources. Low financial intermediation due to collateralization requirements of loans. Limited experience of financial institution in lending to e-commerce businesses and hence limited exposure to the specific needs and mode of operation of such companies (e.g. adequate recognition of intellectual property of an e-commerce entity). Limited risk appetite of commercial banks due to frequent occurrence of non-performing loan issues of the borrowers. Limited formalization of particularly the Small	Strengthen linkages between commercial lenders and associations in sectors in which digital economy can play an important role: develop lending instruments specific to the needs of e-commerce businesses. Support capacity-building efforts of the commercial banking sector to allow a more hands-on understanding of e-commerce-based business models, risk profiles of e-commerce businesses and typical patterns of financing needs of such companies. Encourage the market entry or expansion of local or international venture capital firms through investment promotion activities on opportunities in Bangladesh's e-commerce

and medium-sized enterprise (SME) private sector (i.e. "f-commerce") constituting challenges for lenders to assess creditworthiness. Venture capital space is underdeveloped.	and ICT spaces. Promote business innovation challenges for entrepreneurs, hackathons etc. to identify aspiring entrepreneurs and link them up with financiers, the venture capital space etc.
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FINDINGS UNDER THE SEVEN ETRADEFORALL POLICY AREAS

1. E-COMMERCE READINESS ASSESSMENT AND STRATEGY FORMULATION

Vision 2021 articulates the overarching development vision for the country, and ICT is positioned as the central growth driver in the fulfilment of this vision. The A2I initiative is the umbrella initiative that has shepherded growth in the ICT sector and the overall digital economy ecosystem of the country. The collaboration of the private sector in the development of e-commerce is robust and characterized by strong advocacy and consensus driven efforts informing pertinent policy-making including the ITC Policy 2018 and the National Digital Commerce Policy 2018. The development of e-commerce in Bangladesh is still in early stages, although the sector is transforming rapidly. Consumer adoption is gradually increasing from a low base due to active efforts by firms as well as e-government initiatives. Statistics collection in e-commerce and more broadly the ICT sector constitutes a capacity gap.

Since the last decade and a half, the Government of Bangladesh has undertaken a comprehensive and long-term strategic approach in developing the digital economy ecosystem of the country. Starting with the groundbreaking ICT act of 2006 which established the legal basis for digital transactions in the country, to a comprehensive e-government network, which is also serving as a conduit for e-commerce development, the ICT and broader digital economy of the country has grown substantially coverage-wise as well as quality-wise. The active public and private sector cooperation in e-commerce sector development efforts has played a strong role in informing pertinent policy-making. The consistent expansion of ICT infrastructure and the growth ICT service providers has facilitated recent e-commerce development. Despite the many challenges that face a young developing economy nation, Bangladesh has shown immense perseverance in staying the course for improving the overall digital economy ecosystem.

Bangladesh has reached the third development wave along the pathway to digitalization: From ICT infrastructure development, via ICT service provision to e-commerce.

In the early 2000s, the availability of Internet and ICT shaped an opportunity for the government to extend more cost-effective public services. In initial phases of the operationalization and implementation of the vision of "Digital Bangladesh"², upgrades and rapid expansion of ICT functioned as the main policy focus.

Then, Bangladesh entered a phase of growth of businesses involved in ICT services (e.g. programming, website design, outsourcing). Only following the update of the ICT Act in 2009, Bangladesh Bank online transactions were permitted. Subsequently in 2013, the use of international credit cards was formally permitted for online purchases, while conservative online transaction limits for outbound international transactions remain. Simultaneously, a strong mobile financial service sector in Bangladesh emerged.

² Digital Bangladesh has enjoying consistent support from the office of the Honorable Prime Minister Sheikh Hasina. Mr. Sajeeb Wajed Joy, Advisor to Prime Minister on Information and Communication Technology, has played an important role in terms of strategic oversight.

These developments contributed to an enabling environment for e-commerce ventures, which is where a focus is fast developing for the private sector as well as policy makers.

International ICT benchmarks/indicators indicate that Bangladesh's digital economy ecosystem is in the early stages of development despite commendable efforts of the GoB to foster development.

These composite rankings reveal that for some indices such as UNCTAD's B2C E-commerce Index, Bangladesh has progressed along the e-commerce value chain enough to fare well from a regional perspective. For others such as the ICT Development Index, which measures a broader state of the ICT infrastructure in the country, the country exhibits an overall lower ranking. From an absolute perspective Bangladesh is ranked in the lower rungs of the global ladder, but regionally, it is at par and outpaces its peers in most rankings.

Table 1: Comparison of Bangladesh's e-commerce performance compared to regional economies (2018 rankings)

Index (number of economies surveyed)	Bangladesh	Myanmar	India	Nepal	Pakistan	Bhutan
UNCTAD B2C E-commerce Index ³ (151 economies)	88	125	80	115	117	112
ITU ICT Development Index ⁴ (176 economies)	147	135	134	140	148	121
WEF Networked Readiness Index ⁵ (139 economies)	107	133	91	118	110	87

Source: UNCTAD, ITU, WEF

1.1 National policies related to ICT, e-government, e-commerce

Vision 2021 articulates the overarching development vision for the country, and ICT is positioned as the central growth driver in the fulfilment of this vision

Vision 2021 is the articulation of the country's guiding vision, involving a dual focus on eradication of poverty by 2021 and transformation of the country by leveraging ICT as a key growth driver for economic and socio-economic transformation of the country. The ICT-led push has been termed as Digital Bangladesh, and involves four pillars:

- *Human resource development*: Leverage technologies to build world-class skills in all areas of study especially mathematics, science, and English language. The pillar also involves focus on e-Education providing vocational and 'lifelong education' opportunities to youth(vocational training) and adults(continuous learning).
- *Connecting the citizens*: ensuring last mile connectivity and equitable internet access in an affordable and sustainable manner.

³ 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.

⁴ measures the state of ICT infrastructure, affordability of ICT services and ICT skills.

⁵ 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.

- *Digital Government for pro-poor services*: facilitate provision of civil services and leverage technology for e-government, until the smallest unit of government and administrative distribution. The two key sub-components of this component are e-Citizen Service and e-Administration to delivery e-Citizen Services.
- *ICT in business*: Focusing on three broad dimensions i) access to market, ii) promotion of ICT business to support Digital Bangladesh and iii) ICT as an export oriented sector.

An updated national ICT policy is due to be released in 2019

An update of the ICT policy 2015 has been drafted and will be launched in 2019. The strategy update considers the forecasted impact of 5G and the 4th industrial revolution among other developments that will affect Bangladesh's ICT sector, and its broader digital economy. The 'ICT policy 2018' will feature focus on multiple pillars, namely, digital government, digital security, social equity and universal access to education, research and innovation, skill development and employment generation, strengthening of domestic capacity to cope with the changes of emerging technologies.⁶

A number of policies have been developed under the aegis of the A2I initiative

The flagship initiative of the Government's overall digitization drive is the A2I (Access to Information) project that is currently led from the Prime Minister's office (to be possibly moved to the Ministry of ICT). Various policy documents and equally laws/acts and regulations have been formulated within the scope of the A2I program as noted by the accompanying table, underlying the relevance and central role that A2I has played in the development of Bangladesh's digital economy ecosystem.

Table 2: Plans, laws, policies and guidelines formulated with the support of A2I

ICT Policy 2009	ICT Act 2010	National e-Governance Architecture	e-Krishi policy
Strategic priorities of Digital Bangladesh	6 th 5 year pan	Cyber security policy 2010	Health policy
Public-private partnership policy and guidelines 2010	Rural connectivity policy guideline 2010	Broadband policy	Education policy
Mobile keypad standardization policy	National strategy paper on m-governance	Guidelines for utility bill payment	National Telecom policy 2010
Right to Information (RTI) Act	Guidelines on Mobile Financial Services (MFS) for banks	Proactive information disclosure guidelines	Indicators for measuring Digital Bangladesh
Bangladesh interoperability guidelines and standards (BIGS)	Disability act	Innovation team Gazette	National portal framework (NPF) management gazette

Source: adapted from information provided by A2I

A snapshot of some of the strategies/policies include:

- The 1998 *National Telecommunication Policy* outlined provisions of spectrum and service neutrality. Under the headline of "Telephone for All", the policy sets out targets full telephone service coverage and 65% Internet penetration in 2021. The policy was then followed by the 2001 Bangladesh Telecommunication Regulating Act. Given the considerable developments in the telecommunications sector, the policy was updated in 2013.

⁶ List of strategic pillars from <http://www.newagebd.net/article/43428/national-ict-policy-2018-on-the-cards>. Further details on the substantive content of the ICT policy 2018 are not yet available for review.

- A *National Broadband Policy* has been prepared to streamline procedures to expand broadband connectivity and related services in a systematic manner.
- A *National Cybersecurity Strategy* outlines three key priorities in addressing “cyber threats, risks and challenges to [...] national values and interests” including legal measures, technical and procedural measures and organizational arrangements.
- With support of ITU, the *National Enterprise Architecture* (NEA) and *e-Government Interoperability Framework* (e-GIF) have been developed by the Bangladesh Computer Council (BCC). These frameworks are to enhance interoperability, asset utilization and reduce procurement costs in the provision of governmental services.

A national digital commerce policy 2018 has been developed in a joint effort with the private sector associations as policy directions that elevate the national importance of e-commerce.

The private sector has been intimately involved, with encouragement from the Government, in strategic planning related to the ICT sector. This is now extended to the digital economy as well as indicated by the development of the national digital commerce policy and the accompanying National Digital Commerce Principles jointly developed by the Ministry of Posts, Telecommunications and Information Technology and ICT/e-commerce sector associations. These principles form the strategic main areas of focus for ecommerce in the country, and include the following:

1. Expanding and developing business in the digital commerce space.
2. Creating an enabling environment for the operations of digital commerce businesses.
3. Ensuring transparency, liability and accountability in the operations of digital commerce businesses.
4. Fostering cooperation to establish confidence among sellers and buyers in digital commerce transactions
5. Taking ethical and legal measures to protect the interests of entrepreneurs, buyers and sellers.
6. Cooperating for protection of the consumers' rights.
7. Coordinating with concerned organizations in order to mitigate risks in case in digital transactions.
8. Strengthening cooperation in the ITC infrastructure rollout required for the smooth operations of digital commerce businesses.
9. Undertaking necessary coordination and policy reforms to support the transportation of products.
10. Creating an enabling environment for cross-border digital commerce.
11. Facilitating access to financing to permit the development of digital commerce activities of SMEs.
12. Creating opportunities for participation of the population in the periphery to participate in digital commerce.
13. Creating opportunities for entrepreneurship and employment.
14. Promoting the export of domestic products.

1.2. Current e-commerce marketplace activity

The development of e-commerce in Bangladesh is still in early stages, although the sector is transforming rapidly, encouraged by the following factors:

- A number of ecommerce operators with reasonably competent management and operational capabilities,
- A fast growing logistics sector for order facilitation- in the last 2-3 years a range of delivery companies have flourished focusing on ecommerce facilitation.
- The Ek-shop model initiative, which has brought markets closer to ecommerce companies.

The following is a delineation of e-commerce business models active in Bangladesh. Operations are mostly focused on Dhaka but coverage outside the capital, especially for the B2B logistical delivery services is increasingly rapidly.

- B2C⁷: Particularly different types of delivery services of food or groceries (e.g. PaperFly) have emerged in Dhaka. For instance the online shopping websites Shopr.bd and ShoptoBd have emerged, which give customers from Bangladesh access to products available on other international e-commerce websites such as Alibaba.
- B2B⁸: Logistical service providers with a digital presence that are linked to the e-commerce operators for order facilitation.
- C2C: Online marketplaces providing a platform for C2C sales have been established (e.g. Ekhanei.com).
- In addition to B2C and C2C, online job boards (such as bdjobs.com) and digital marketing firms are also present in the country.

Ek-Shop is an innovative one-stop marketplace aggregator for sellers and buyers in Bangladesh established under the lead of A2I, and has significant potential to boost e-commerce nationwide, including in the rural areas.

Tied to the A2I initiative's technical and communications backbone is the Ek Shop initiative, led by UNDP in close collaboration with the A2I team. Ekshop is an online portal that aggregates the main e-commerce companies active in Bangladesh, and also companies offering logistical delivery services across the country. This model is built on and leverages the A2I technical backbone and therefore connectivity is ensured throughout the country. Of 700 plus services (G2P, P2G) that are being digitized through the A2I initiative, 20-30 are the focus of govt led ecommerce. Using this portal, consumers anywhere in the country can view products online and ship them to a UDC drop-point, and collect from the drop-point.

Another use case is the facilitation of individual entrepreneurs to exhibit their product (for example, artisanal items, saris etc.) at a UDC for online sale (picture is taken by UDC staff and product listed online based on price proposed by the seller) . This model allows rural entrepreneurs and consumers to get linked to a national end-to-end ecommerce backbone, and participate in e-commerce.

Utilization of Facebook as a platform (aka f-commerce) is widely popular in the country. In 2017, the e-CAB estimated that around 8,000 e-commerce pages on Facebook exist, while the number of formal e-commerce websites amount to approximately 700. As a currently unregulated economic phenomenon, f-commerce is currently offering inclusive entrepreneurial opportunities due to partially no entry barriers.

This is partially driven by promotions driven by telecom firms involving free access to internet via Facebook (including with pictures). in turn allows a medium for both buyers and sellers to interact online albeit transact offline. This informal activity is significantly larger than formal e-commerce transactions. There is some concern regarding the viability of regulating this activity, although both regulators (Bangladesh Bank) and commercial banks are in favor of not impose regulations at this point. Instead, there is cognizance among stakeholders that this activity could instead give rise to e-commerce startups who will migrate to formal channels based on organic growth and opportunity identification (as in the case of Priyoshop).

⁷ Online -retail/grocery stores such as Ajkerdeal, Bagdoo.com, Daraz, PriyoShop, Chaldal, ShebaEasy.com, Shopperu, Sindabad.com, Pickaboo, Bikroy.com, Rokomari.com, Shohoz.com, Flight Expert, Go Zayan

⁸ Bangladesh Post Office, DHL, Fedex, UPS, eCourier, Biddut, GoGoBangla, PaperFly, Pathao, Hungrynaki

Consumer adoption is gradually increasing from a low base due to active efforts by firms as well as e-government initiatives

In terms of consumer acceptance of e-commerce, there exists a reluctance on the part of consumers due to the lack of 'touch and feel' capability that is offered in a physical shop. However ecommerce firms are aware of this and are trying to adapt by offering (a) robust and flexible refunding policies, and (b) efficient order facilitation as a way to generate confidence among the consumer base. Consumer awareness is growing also due to habituation for e-transactions through e-gov initiatives.

Box 1: Priyoshop

Priyoshop was founded in 2012 initially as an f-commerce based entity, and migrated to a formal e-commerce platform in 2013. The company is engaged in a 3C model (computers, communication, consumers), with 60 employees. The company primarily provides logistics and fulfillment capacities linking urban-rural, urban-urban, and rural-rural geographies in the country. Priyoshop also has a direct sales platform for fast moving products (primarily ladies dresses, jewellery, gadgets which are held in inventory due to high demand). Women constitute an estimated 60% of the consumer base. The two channels used for sales are Ekshop and the marketplace (priyoshop.com). It is currently the leading platform that provides order fulfillment in rural areas.

Delivery is primarily conducted through bicycles and bikes. An inhouse call center assists consumers. Priyoshop has 5 warehouses in Dhaka to ensure 4 hour delivery, and more are planned at the district level. To drop-off and pick-up packages, the company uses a system of touchpoints which include post-offices, UDC centers, and Banglalink Kiosks. Tie ups with A2I's Ekshop means that the company now benefits from the high number of orders placed and has a steady market. The company leverages the post office network as a logistics channel (8000+ post offices within 1-2 mile distance of any consumer operating down to the UDC levels). Strategic partnerships have been forged with: Bkash, Dmoney (for developing inhouse warehousing), Microsoft, Banglalink, A2I.

This system of droppoints and solid distribution linkage with the above partners means that local artisans and individuals interested in selling their products can take their 'goods' to droppoints, where it is added to the inventory and listed online. These products include the 'Taati Sari' which has also been exported through Priyoshop. The growth strategy followed by the company is of an in-house procurement model, involving a goal of 100% order facilitation.

Priyoshop operates vat-free based on the vat-exemption that has been granted to e-commerce firms. Acceptable payment modes include COD, Paypal, Bkash, Dmoney, card on delivery (pos).

The company has a flexible return policy that has proven attractive to consumers:

- No questions asked for returns
- Instant returns- which allows consumers to get their money back within 48 hours of Priyoshop initiating the return.
- 7 days refund policy meaning that consumers have 7 days to return goods.

While some fraud does occur (anecdote of 3 old shirts returned instead of the original new ones), by and large, the trust level has held strong, and the refund policy has not been exploited to a degree that concerns the company.

In a bid to raise consumer awareness in rural areas on how to benefit from the digital economy, Priyoshop entered into a strategic linkage with Microsoft in 2017 to conduct trainings related to mobile based commerce.

Source: Interview with Priyoshop Founder

E-commerce scope currently is limited to the domestic market and very little activity occurs in terms of e-trade.

1.3. National policies related to trade

Different existing SME clusters in Bangladesh can be promoted through digitalization.

The government has been engaged in various efforts to strengthen the development of the private sector with an eye on cultivating those with e-commerce potential. The ready-made garment sector has shown exceptional growth over the past decades and has been an essential part of the private sector spectrum. Equally, the digitalization agenda comprising the initial rollout and upgrading of the national ICT infrastructure, subsequently the development efforts around the establishment of the skill-based ICT service industry and the support to e-commerce can be seen as a move towards a diversified, inclusive and skill-based economy. While garments are undoubtedly important, the government has also identified food processing, pharmaceutical and apparel/jute sectors as current development priorities.

1.4. National coordination (e-commerce task force, inter-ministerial, Public-Private Dialogue)

The Prime Minister's office (PMO) directly leads coordination efforts for related strategies and projects to realize the 'Digital Bangladesh' goals set out under 'vision 2021', and the A2I program is a central component of this shepherding role.

The A2I initiative connects ministries in Dhaka to administrative centers across the country right down to the lowest administrative unit called the Union Digital Centers (UDC). There are around 5,200 UDCs in the country. Each citizen has access to a UDC within reach of a few km. The UDCs are run based on an entrepreneurship model (one male and one female operator) and facilitate a range of e-gov services such as passport applications etc. This initiative is important given the size of the country, the population (which makes physical provision of services challenging), and logistical challenges for citizens to travel to Dhaka as well as provincial capitals.

the A2I Program was established as part of a joint initiative of the PMO and the UNDP in 2007 with the overall aim to leverage digital solutions for socio-economic development in areas of health, education, livelihood and cluster development. A high-level National Digital Task Force was established under the Prime Minister's stewardship, while each ministry and division was assigned an "e-Governance Focal Point" for the planning, implementation and oversight of the development of e-government services.

The collaboration of the private sector in the development of e-commerce is robust and characterized by strong advocacy and consensus driven efforts.

The private sector is organized in several associations in the ICT/e-commerce space including BASIS, e-CAB engaged in advocacy and public outreach efforts, providing advisory capacity to the government on technicalities of ICT and e-commerce and consolidating private sector perspectives:

- *BASIS* is the predominant IT sector association. particularly representing recommendations of the emerging e-commerce sector for a more business-enabling environment for e-commerce and ICT service providers. Due to the efforts of BASIS, a VAT-exemption for ICT and e-commerce companies could be achieved to actively support the growth and diversification of the sectors.

Furthermore, BASIS is involved in training and capacity building efforts for different target groups.

- The Ecommerce association of Bangladesh (ECAB) was founded in 2014, and the main areas of work currently is in youth entrepreneurship/skills development through the LICT project. e-CAB is an implementing partner of the World Bank funded LICT project and is involved in capacity building for youth entrepreneurs. ECAB is also trying to assist in the revitalization of the postal services network. e-CAB is particularly focused on sector strengthening and the representation of corporate interests in the e-commerce space. The association currently comprises around 800 members and is equally addressing logistics challenges of e-commerce businesses with delivery models.
- Dhaka chamber of commerce(DCC) is the third institution closely involved in and supporting Bangladesh's ecommerce sector. Established 60+years ago and comprising 4000+ members, the chamber focuses on close collaboration with SMEs. An ICT committee has been formed within the chamber, and it has led advocacy efforts for e-commerce with various ministries, especially the ministry of labour in favour of diversifying focus areas, from a skills development point of view.

The sector associations are relatively well aligned and seek collaboration with each other on a frequent basis with the ultimate result of uniformly communicating in one voice on behalf of the private sector.

In order to make e-government services accessible, more than 5,000 UDCs (UDC) have been established as citizen-to-administration intermediaries. Additionally, These UDCs have since recently been leveraged as e-commerce distribution nodes.

The provision of e-government services is particularly based on the concept of intermediation between the e-government users and respective governmental entities: The initiative connects ministries in Dhaka to administrative centers across the country right down to the lowest administrative unit called the union. There are around 5,200 UDCs in the country. Each citizen has access to a UDC within reach of a few km. The UDCs are run based on an entrepreneurship model (one male and one female operator) and facilitate a range of e-government services such as passport applications, issuance of a birth certificate, voting-related e-government services etc. This initiative is important given the size of the country, the population (which makes physical provision of services challenging), and logistical challenges for citizens to travel to Dhaka as well as provincial capitals.UDCs overcrowding / overwhelming of government offices due to physical presence for citizens for bulk of gov services. The UDCs help to decentralize the governments administrative workload while making it efficient to achieve the service.

The following public and institutional and private sector stakeholders have particular relevance with regard to the eT Ready policy areas:

Table 3: Institutional support to e-commerce development

eT-READY POLICY AREA	INSTITUTIONS
E-COMMERCE READINESS	A2I, Ministry of Posts, Telecommunications and Information

ASSESSMENTS AND STRATEGY FORMULATION	Technology (comprising Information and Communication Technology Division (ICTD) and Posts and Telecommunications Division), Ministry of Commerce, Ministry of Planning, Ministry of Finance, Ministry of Education, Bangladesh Bank, Securities and Exchange Commission, Financial Institution Division, Bangladesh Investment Development Authority, Board of Investment, Bangladesh Insurance Development and Regulatory Authority, Bangladesh Bureau of Statistics (BBS) / Statistics and Informatics Division (SID), Bangladesh Telecom Regulatory Agency (BTRA), Sectors associations (i.e. BASIS, e-CAB etc.)
ICT INFRASTRUCTURE AND SERVICES	Bangladesh Telecom Regulatory Agency (BTRA), Ministry of Posts, Telecommunications and Information Technology, Mobile operators (Grameenphone (GP), Robi-Airtel, Banglalink, Teletalk), Board of Investment, Bangladesh Submarine Cable Company Limited (BSCCL)
TRADE LOGISTICS AND TRADE FACILITATION	Ministry of Commerce, Ministry of Posts, Telecommunications and Information Technology, Customs, Excise & VAT Commissionerate, Bangladesh Road and Transport Authority (BRTA), Export Promotion Bureau
PAYMENT SOLUTIONS	Bangladesh Bank, Financial Institution Division, sectors associations (i.e. BASIS, e-CAB etc.), Commercial Banks (e.g. Eastern Bank Ltd.), Mobile Financial Service providers (e.g. bKash), card-based payment providers (e.g. Mastercard, Visa)
LEGAL AND REGULATORY FRAMEWORKS	Bangladesh Bank, Ministry of Posts, Telecommunications and Information Technology
E-COMMERCE SKILLS DEVELOPMENT	Ministry of Education, Ministry of Posts, Telecommunications and Information Technology, Bangladesh Hi-Tech Park Authority, Ministry of Primary and Mass Education
ACCESS TO FINANCING	Bangladesh Bank, Financial Institution Division, commercial banks, Mobile Financial Service providers, Association of Banker's Bangladesh

1.5. Access to relevant statistics

Statistics collection in e-commerce and more broadly the ICT sector constitutes a capacity gap.

Statistics for e-commerce is a significant challenge primarily stemming from the still nascent maturity stage of ecommerce in policy circles. No data is currently collected for e-commerce transactions. This will change as collaboration increases within the public sector and responsibilities are better delineated. Both primary and secondary data sources are largely inactive and Statistics communicated to domestic and international organizations (including for the ICT sector) are outdated.

There is a serious data mismatch challenge existing between Bangladeshi data sources with International bodies like ITU and others. There is a significant gap between statistics transmission to the international agencies through which many international rankings are developed as well as global perception on Bangladesh's IT positioning. This creates confusion and there is an urgent need for the government to take this issue seriously and address this mismatch.

Research and dialogue has been initiated on the potential "Indicators for Measuring Digital Bangladesh" by the A2I program. A proposal of 53 potential indicators for impact measurement has been compiled.

A significant opportunity for comprehensive measurement of at least e-marketplace data arises from the Ek-Shop initiative. Purchases routed via Ek-Shop may then be utilized to collect useful data, e.g. on the types of agricultural or industrial clusters that are underrepresented on Ek-Shop and that may be promoted. Noteworthy may be also the extent to which also the e-commerce-related business associations may contribute to enhanced and representative data collection efforts.

2. ICT INFRASTRUCTURE AND SERVICES

Mobile internet is the prominent form of internet access in Bangladesh, albeit still operating with limited consumer adoption. Strong competition exists within the Mobile network operator base. Important need to ensure nationwide coverage of 2G(near 100 per cent coverage) and 3G (undergoing rapid roll-out), while scaling up 4G networks. Plans for leapfrogging through 5G introduction are already underway. Universal access is an important consideration, however the government has employed a cautious approach aimed at first assessing market dynamics, before developing a policy. Smartphones adoption is expected to rise in Bangladesh due to increasing local production. Use of fixed broadband is limited despite numerous available Internet service providers. Strong broadband connectivity through two submarine cables bodes well for internet services expansion

2.1 Broadband / Mobile / smartphone penetration

Mobile internet is the prominent form of internet access in Bangladesh, albeit still operating with limited consumer adoption.

According to BTRC, there are 91.4 million Internet subscribers⁹ in Bangladesh (as of January 2019) utilizing the following access options:

- ➔ Mobile Internet: 85.6 million users,
- ➔ WiMAX: 0.061 million users,
- ➔ ISP + PSTN: 5.7 million users.

The overall 71 per cent mobile broadband coverage bodes well for e-commerce and connectivity growth. Based on the above figures, The BTRC estimates mobile broadband subscriptions to more than 50 per cent (85.5 million users), while overall internet usage is estimated at 57.2 percent (91.2 million users). Constraining factors for further growth are the affordability of mobile connectivity (possibly due to incurred spectrum charges), and lack of familiarity of the users with mobile Internet services. The type of device (feature phones vs. smart-phones) is a relevant factor: While 40% of the users possess a smartphone, while only approximately 4% currently utilize 4G-capable devices.

Table 5: Key ICT indicators for Bangladesh (conflicting figures for certain indicators exist)

	2010	2011	2012	2013	2014	2015	2017 ¹⁰ or as indicated

⁹ The term "Internet subscriber" hereby refers to a person having accessed the Internet at minimum once within the preceding 90 days.

¹⁰ Reflect the indicators that are available

Fixed-telephone subscriptions (in 1000)	1,281	978	962	1,082	974	831	--
Fixed-telephone subscriptions per 100 inhabitants	0.85	0.64	0.62	0.69	0.61	0.52	0.4
Mobile cellular subscriptions (in 1000)	67,924	84,369	97,180	116,553	126,866	133,720	157,544 ¹¹
Mobile cellular subscriptions per 100 inhabitants	44.95	55.19	62.82	74.43	80.04	83.36	88.1
Fixed broadband subscribers	414,569	468,500	600,461	1,525,325	3,093,171	3,866,463	--
Fixed broadband subscribers per 100 inhabitants	0.27	0.31	0.39	0.97	1.95	2.41	1.9
Active mobile-broadband subscriptions (in 1,000)	46	260	308	2,970	21,213	21,579	--
Percentage of individuals using the Internet ¹²	3.70	4.50	5.00	6.63	13.90	14.40	18

Source: International Telecommunication Union (ITU) statistics

Strong competition exists within the Mobile network operator base

Four mobile network operators are active in Bangladesh and with the following market share distribution. The three private operators, Grameenphone Ltd., Robi Axiata Ltd. and Banglalink Digital Communications Ltd. cumulatively have more than 95% of market share, while state-owned Teletalk Bangladesh Ltd. has around 3.8 million subscribers. The CDMA technology based operator Citycell terminated its operations in Bangladesh recently.

Table 4: Subscribers and market share of telecommunications service providers in Bangladesh

Operator	Subscribers ('000, end of July 2018)	
Grameenphone Ltd.	70,023	<p>Source: AMTOB</p>
Robi Axiata Ltd.	45,330	
Banglalink Digital Communications Ltd.	33,379	
Teletalk Bangladesh Ltd.	3,796	
TOTAL	152,527	

¹¹ BTRC Data (January 2019)

¹² A data discrepancy exists for this indicator. According to the BTRC, internet users through mobile internet, WIMAX, ISP +PSTN has reached 91.34 million as of December 2018. A similar discrepancy exists for the active mobile-broadband subscription rates, which should be closer to 85.5 million (> 50 per cent per 100 individuals) according to BTRC.

Table 5: Mobile network operators in Bangladesh

Grameenphone Ltd.	Brand: <i>Grameenphone</i> . Joint venture company between the Grameen and the Norwegian provider Telenor. Largest operator in Bangladesh. Efforts towards full 3G coverage of the population by 2020. 4G rollout commenced in Dampara, Khulshi and Nasirabad in Chittagong in 2018.
Robi Axiata Ltd.	Brand: <i>Robi-Airtel</i> . As the brand name indicates, Robi-Airtel recently emerged from the merger of the Bangladesh operators of Malaysian Axiata Group and Indian Bharti Airtel. Network integration efforts are undertaken. 3G coverage reportedly has gaps, while the 4G/LTE rollout in all 64 district capitals of Bangladesh has been commenced in 2018.
Banglalink Digital Communications Ltd.	Brand: <i>Banglalink</i> . Banglalink is managed by VEON. Full coverage with 2G services since 2014. 3G coverage has reportedly at least been reached in all towns by now. 4G rollout in Khulna and Chittagong completed.
Teletalk Bangladesh Ltd.	Brand: <i>Teletalk</i> . Teletalk Bangladesh Ltd. is state-owned and maintains comparatively small operations with its current market share of 2% only. Due to financial challenges of the operator, the company has rebranded to enhance its position and signed a nationwide network sharing agreement with its competitor Robi Axiata.

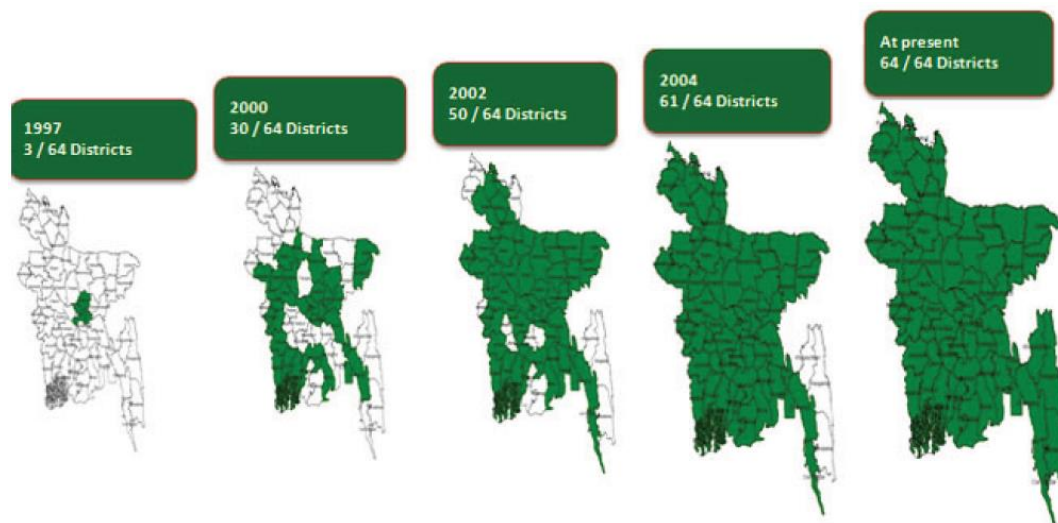
Important need to ensure nationwide coverage of 2G and 3G, while scaling up 4G networks

Mobile phone service and mobile broadband coverage respectively has been ramped up significantly in recent years. Most parts of Bangladesh is covered by 2G networks only at this stage at frequencies of 900 and 1800 MHz, 3G service up to HSPA+ is only available in densely populated urban areas only on 2100 MHz. In 2017, the Bangladesh Telecom Regulatory Agency implemented measures of technology-neutrality.

4G licenses have been recently (February 2018) issued to three operators (GP, Robi-Airtel and Banglalink) and services have started in Dhaka, although there are lingering issues of coverage related to 2G and 3G.

The government has expressed an intent to employ a leapfrogging strategy to move to 5G by 2021, and a pilot has already been tested successfully. While this ambitious approach is commendable, care must be taken for ensuring 100% coverage vis-à-vis 2G, 3G in the country as an important universal access consideration.

Figure 2: Development of mobile coverage (2G) in Bangladesh



Source: AMTOB

Universal access is an important consideration, however a formal universal access policy has not yet been developed.

The Government has expressed cognizance of the social inclusion benefits that digitalization can bring to Bangladesh, and while there is support for Universal Access, the policy decision has been to observe the marketplace dynamics before making any policy decisions. This is to ensure that any decisions bear in mind the fast-evolving dynamics of the telecom market, and do not lead to inordinate burden on telecommunications firms which may harm consumers in the long term through price increases or deterioration of quality.

- Bangladesh Telecom Regulatory Act issued in 2001 established the obligation of telecommunications operators to reserve 1% of operator revenues for Universal Service Obligation (USO) related activities.
- Telecommunication firms do share towers, and BTRC is in the process of guidelineing active sharing (currently passive sharing is common).
- Overall, the BTRC, Government and Operators have a generally good tripartite partnership and any formal universal access policy in the future will benefit from this cooperation.

Smartphones adoption is expected to rise in Bangladesh due to increasing local production

The government is attempting to promote the adoption of smartphones in rural areas by encouraging local production of handsets, which are less expensive than imports. According to market statistics, the majority of smartphones sold in Bangladesh originate from the local brands: Around half of the smartphone market is dominated by the brand “Symphony” (approx.45-53% according to different sources). The local brand “Walton” contributes another 10-15% of the smartphone market. Samsung devices constitute the most prevalent foreign brand. The increasing local production of smartphones will possibly increase affordability as well as contribute to increased adoption of local content and e-commerce related activities by consumers, which e-commerce firms can capitalize on.

Use of fixed broadband is limited despite numerous available Internet service providers (ISP)¹³.

Although fixed broadband subscriptions have significantly increased over recent years – from 50,000 in 2009 to over 3 million more recently – the current level of 2.41 subscriptions per 100 inhabitants indicates the current low base of the sector. A modernization of the nationwide fiber-optic backbone infrastructure has been approved by the Bangladesh’s Executive Committee of the National Economic Council. Bangladesh Telecommunications Company Limited (BTCL) will implement the infrastructure upgrade to next-generation technology with dual financing from the GoB and China until 2023.

2.2. Reliability, affordability, latency, speed, coverage

Significant progress in terms of expanding bandwidth and increasing affordability have been achieved. Following Bangladesh’s connectivity to the South East Asia–Middle East–Western Europe 4 (SEA-ME-WE 4) cable connection, wholesale Internet prices were slashed to approximately one quarter of the previous price level by BTRC.

BTRC has noted that the spectrum rates have been set based on study of different countries in Europe as well as the subcontinent, so from a regulatory perspective, tariff are not considered to be a significant challenge. The rates however do tend to remain relatively high from an affordability point of view. In a bid to further reduce prices for consumers, the Government has announced plans to reduce the VAT for internet service providers from 15 to 5 per cent by December 2018 to reduce the costs for internet users.

Table 6: Download and upload speed in Bangladesh (October 2018)

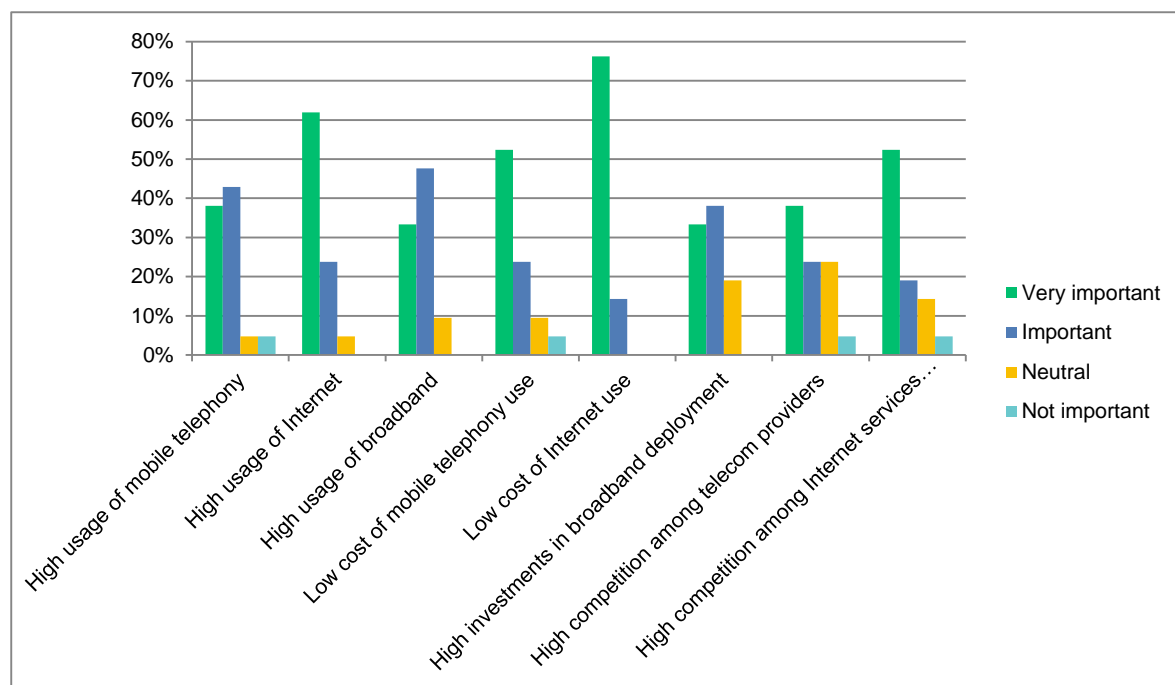
	Global rank	Download	Upload
Mobile Internet	114	9.12 Mbps (global average: 23.80 Mbps)	5.76 Mbps (global average: 9.49 Mbps)
Fixed broadband	87	17.57 Mbps (global average: 50.88 Mbps)	19.10 Mbps (global average: 25.52 Mbps)

Source: speedtest.net

The affordability of Internet services is a major concern of the companies engaged in e-commerce: Around 76% of the private sector respondents of the survey emphasized the importance of reaching the availability of low-cost internet to the users.

¹³ Bangladesh T&T Board, BDCOM, Bangladesh Online Limited (BOL), BRACNet Services are the leading ISPs in Bangladesh.

Figure 3: ICT infrastructure factors important for survey respondents (XX respondents)



2.3 Major Infrastructure projects

Strong broadband connectivity through two submarine cables bodes well for internet services expansion

Bangladesh is connected internationally through 2 submarine cables and 5 terrestrial cables (with India), along with 1 satellite, so the country is well covered from a redundancy perspective. Bangladesh's international broadband connectivity was initially established through the access to the SEA-ME-WE 4 optical fiber submarine communications cable system offering a bandwidth of 250Gbps. This cable system connects Singapore, Malaysia, Thailand, Bangladesh, India, Sri Lanka, Pakistan, UAE, Saudi Arabia, Sudan, Egypt, Italy, Tunisia, Algeria and France. Additional bandwidth of 400Gbps are established through six international cable associations with adjoining India. At the end of 2016, Bangladesh was connected to an additional submarine cable network, i.e. South East Asia – Middle East – Western Europe 5 (SEA-ME-WE 5), that initially provides 200 Gbps bandwidth, whereby bandwidth will eventually be increased to 1,500 Gbps. Both cable systems, SEA-ME-WE 4 and SEA-ME-WE 5, are domestically managed by BSCCL that is acting as both, a submarine cable system management corporation and a telecommunications provider (IIG and ISP). Currently, Bangladesh Telecommunication Regulatory Commission (BTRC) has issued 136 licenses for ISP which bodes well for spurring internet usage along with affordability.

3. TRADE LOGISTICS AND FACILITATION

The national postal network is dense and involves a relatively robust delivery capacity throughout the country, although there is significant room for improvement, particularly in terms of capacity enhancement, and diversification of services and digitalization of network. E-commerce and logistics firms face a variety of challenges in the physical delivery of goods especially to rural areas. Transportation infrastructure is particularly weak in rural areas posing last-mile delivery challenges for logistics firms (operating on behalf of e-commerce firms). The geographical profile of Bangladesh along with the seasonality of floods frequently causes logistics challenges. Despite Bangladesh's comprehensive trade facilitation commitments, implementation challenges remain. Cross-border e-commerce activity is constrained due to a low de-minimis value and factual checks of most parcels entering Bangladesh.

3.1 Mode of delivery, last mile delivery, traffic, regulations

An extensive national postal network with robust delivery capacity throughout the country bodes well for e-commerce growth

There is a very extensive post office network in the country with almost 10,000 post offices and 40,000 governmental staff. The network enables last mile contact up-to 1-2 miles of consumers. Private sector agents run approximately 86 per cent of post-offices, and the government-run post offices¹⁴ are predominantly in rural areas, where commercial agent operations are less viable from a business standpoint. Post office density in Bangladesh is 1 per 14.57 km², while one post office serves on average 15,000 users. This is a significant achievement considering the country's high population density. Courier companies largely rely on the existing postal network for deliveries. The post office network is dense enough to be reached from most major settlements within a few miles.

Diversification and digitalization is an important goal for the postal services network

Financial and insurance services have been part of the mandate of post-offices since the early days of the postal services network. While post offices are reasonably capable for conventional post-operations, but definitely in need to technical and financial support, especially if they are to adapt to offering new services such as payments, wallets etc.

Currently, the digitalization of postal services is still limited, as only roughly 1% of the post offices had been connected to Internet. Rural unconnected post offices have been at least provided with handsets that allow them connectivity. An important initiative (Epost.com.bd) is being planned as an umbrella platform that will help reach last mile delivery in rural areas. Bangladesh Post is also party to the initiative. The platform provides a common interface for e-commerce companies in terms of shipment tracking and status monitoring. Beyond the reduction of transaction costs, the platform strengthens mutual trust and transparency. An API is provided for merchants and delivery companies so that technical linkages can be developed as well as enhanced trust and collaboration.

E-commerce and logistics firms face a variety of challenges in the physical delivery of goods especially to rural areas.

¹⁴ The Bangladesh Post Office is organized as a department of Ministry of Posts, Telecommunications and Information Technology.

The topographic and infrastructural conditions in Bangladesh as well as the relatively small scale of operations of most e-commerce firms does not allow them to carry out deliveries nationwide through their own capacity, and the firms therefore rely on a number of actors to ensure end-end-delivery.

From an urban-to-rural transportation standpoint, the first mile is typically covered through motorcycles and covered vans (from the e-commerce firms distribution centers), second mile for inter-city services is conducted through logistics firms, and here the private courier service industry is well diversified with international and local logistics firms engaged.

The last mile involves local transportation. Therefore, the overall process flow from urban to rural transportation of goods involves a variety of actors and is characterized by a fair degree of fragmentation. For logistics, maturity/on time delivery/rationalization and standardization of the logistics base are important areas where improvement is required.

Courier services in Bangladesh are constrained by the following challenges:

- Purchasers do not want to pay in advance for the goods due to trust issues. The collection of cash- or card-based payments on delivery adds a layer of complication (e.g. security issues of cash transportation, technical requirements).
- Inappropriate packaging by sending SMEs that leads to the damage of the shipment, which then, however, creates challenges or additional administrative efforts for courier service companies.
- Coordination between ecommerce firms and logistics firms are a challenge.
- Purchasers do not want to pay in advance for the goods due to trust issues, and there are also cases of fraud where deliveries are made and customers file complaints alleging that deliveries have not been made. In response, courier services are experimenting with innovations such as OTP (One-Time Password) codes which serve as confirmation that customers have received the goods. They cannot deny receiving goods at a later stage, offsetting a challenge that e-commerce firms have been facing lately.
- A significant challenge in the sense that police frequently stop bicycle and motor-cycle borne delivery personnel because the drivers wear backpacks and it is perceived as a security risk.
- Festivals are a significant challenge for courier and logistics companies, exposing the lack of flexibility and scalability of their models.

Box 2: Case Study: Chaldal.com

Chaldal.com, established in 2013, is an e-commerce enterprise that caters to groceries – particularly perishable goods – and daily necessities. The company has diversified the product offerings in line with demands of the customers. The three founders Zia Ashraf, Tejas Viswanath and Waseem Alim lead the operations, technology and finance aspects respectively. There are three main departments – corporate, consumer and special requests.

Chaldal has one-hour fulfillment guarantee for various parts of Dhaka, while users can also in advance specify a convenient time frame during which Chaldal will then carry out the delivery. The company offers a seven-day return policy. Goods are sourced directly from factories/manufacturers and stocked in company-own warehouses. This logistics network comprises eight warehouses strategically distributed around Dhaka to ensure the particularly urgent delivery of goods that require refrigeration. Average delivery size per customer is 10-12 items, and a flat delivery rate is charged.

The company has innovated on the following fronts:

1. A smart filtering model is applied in which products with low demand (i.e. low sales over a period

- of two months) are removed from the product offerings.
2. Based on geographical target location of the delivery, volume, weight etc. of orders placed, the system automatically batches delivery items and allocates delivery personnel. To a large extent, systems optimization of the supply chain has been studied and implemented through in-house developed software.
 3. An online tracking system in the background provides staff with the real-time status update.
 4. Addresses of consumers are verified beforehand to reduce uncertainty during delivery.

Chaldal has been recipient of an IFC investment, whereby the company explains that it was over an approximately seven- to eight-month process all IFC guidelines and procedures needed to be implemented by Chaldal. During this time, the team had to bring about improvements to the legal setup of the company, to HR policies, operational safety and financial structures. An comprehensive legal and financial audit was carried out, before the agreement was concluded.

Source: UNCTAD Interview of the management of Chaldal

Transportation infrastructure is particularly weak in rural areas posing last-mile delivery challenges for logistics firms (operating on behalf of e-commerce firms).

Overall, Bangladesh has significant challenges to overcome in terms of transportation infrastructure. The country's geography, with complex riverine and coastal systems and dispersed populations render transportation infrastructure development a challenging proposition, although improvements have continued at a gradual pace.

Table 7: Status of Bangladesh's Infrastructure compared to regional economies according to the WEF Global Competitiveness Report 2017-2018

(Ranks: 1-137)	Bangladesh	India	Nepal
Overall Ranking in Pillar "Infrastructure"	111	66	119
Quality of roads	105	55	118
Quality of railroad infrastructure	60	28	n/a
Quality of port infrastructure	85	47	135
Quality of air transport infrastructure	115	61	133

Source: World Economic Forum, The Global Competitiveness Report 2017-2018, Pillar Infrastructure for Bangladesh, India, Nepal

A physical addressing system is in place in Bangladesh, although courier service personnel confirm challenges of locating the recipient of the parcel or item. Firms seek to mitigate time losses and delays in delivery often by phone calls to locate the sending / receiving party. In addition, e-commerce website or app operators are making attempts to maintain a customer database to avoid issues in locating the same customer a second time. In rural areas, the physical addressing system is less developed. As effectively only the Bangladesh Post Office delivers to such non-urban parts of the country though, the burden of identifying rural recipient locations is on the postal service.

Box 3: Snapshot of the road, rail and air infrastructure

According to the Roads and Highways Department (RHD), Bangladesh's public road network comprises a total of 21,561 km roads, whereby these road kilometers are classified as follows: 3,521 km as National Roads, 4,287 km as Regional Roads and 13,753 km as Zilla (District) Roads. Out of the 21,561 km of roads, 80.9% are paved. Due to seasonal flooding of approximately up to one third of the area of the country, roads are mostly constructed on raised embankments.

The railway system is an important backbone of the country: In 2014, a total number of 65 million

passengers and 2.52 million tons of cargo were transported by Bangladesh Railway. In total, this amounts to 8,135 million passenger-km and 677 million ton-km. A logistics challenge for Bangladesh is the exceptional multiple gauge system: The total network of 2,835.04 km is divided into a broad gauge system in the Western part of the country amounting to 659.33 km, a meter gauge system of 1,800.88 km length in the East and 374.83 km of dual gauge.

Bangladesh has 13 operational airports, whereby currently the airports of Dhaka, Chittagong, and Sylhet handle international flights.

Source: UNCTAD desk research

3.2 Trade Facilitation Performance

Despite Bangladesh's comprehensive trade facilitation commitments, implementation challenges remain.

Bangladesh has already in the past implemented a comprehensive set of trade facilitation measures pursuing liberalized regime. Reforms have comprised the abolition of import licensing requirements, the implementation of risk management measures instead of 100% checks, the introduction of Automated System for Customs Data (ASYCUDA) world and the introduction of Authorized Economic Operator registration.

Table 8: Bangladesh's ranking (2018) according to the Logistics Performance Index (LPI) compared to regional economies

Country	LPI Rank	LPI Score	Customs	Infrastructure	International shipments	Logistics competence	Tracking and tracing	Timeliness
Bangladesh	100	2.58	2.30	2.39	2.56	2.48	2.79	2.92
India	44	3.07	3.18	2.96	2.91	3.21	3.13	3.32
Nepal	114	2.51	2.29	2.19	2.36	2.46	2.65	3.10
Myanmar	137	2.30	2.17	1.99	2.20	2.28	2.20	2.91

Source: World Bank, International LPI Scorecards for Bangladesh, India, Nepal

A trade information portal as well as a customs information portal have been established online. Following the World Trade Organization (WTO) Trade Facilitation Agreement (TFA) ratification in 2016, a National Trade and Transport Facilitation Committee of 28 members has been formed.

Despite the progress in terms of Bangladesh's formal trade facilitation commitments, challenges remain on the ground on the implementation side, as indicated in the "Trading Across Borders" Category of the Doing Business Report. In this context noteworthy is the considerable progress of Bangladesh in border compliance regarding imports and exports in terms of costs and time reduction compared to the Doing Business Report 2018. For the internationalization of the e-commerce sector, it will be essential that trade facilitation reforms particularly for smaller parcels and individual shipments are continued.

Table 9: Trading across borders from Dhaka (Bangladesh) in comparison to other regions as per Doing Business 2019 Report

Indicator	Dhaka	South Asia	OECD high income	Best Regulatory Performance
Time to export: Border compliance (hours)	168	62.9	12.5	1 (19 Economies)
Cost to export: Border compliance (USD)	408	347.2	139.1	0 (19 Economies)
Time to export: Documentary compliance (hours)	147	74.1	2.4	1 (26 Economies)
Cost to export: Documentary compliance (USD)	225	160.3	35.2	0 (20 Economies)
Time to import: Border compliance (hours)	216	95.8	8.5	0 (25 Economies)
Cost to import: Border compliance (USD)	900	504.6	100.2	0 (28 Economies)
Time to import: Documentary compliance (hours)	144	100.8	3.4	1 (30 Economies)
Cost to import: Documentary compliance (USD)	370	276.7	24.9	0 (30 Economies)

Source: Doing Business in Bangladesh 2019 Report ("Trading Across Borders" Category)

Box 4: Trade facilitation for kitchenware and lentils? A case study on regulatory practicalities of trading with TTFMM

The TTFMM examined the export of plastic kitchenware and tableware from Bangladesh to Bhutan through the Burimari land port and the import of lentils from Nepal to Bangladesh through Banglabandha land port:

- For a regular trader to complete the export process, 11 documents are required and these documents need to be submitted repeatedly - 93 times. Similarly, for a regular trader to complete an import process, 18 documents are required and these need to be submitted for a total of 71 times.
- It is costly to complete onetime procedures for a new trader. In typical cases, a new trader needs to cover approximately \$840 to complete processes exporting plastic kitchenware and tableware from Bangladesh to Bhutan through Burimari Land Customs Station (LCS) which includes Tk41,650 (or \$533.97) for completing onetime procedures for a new trader. A new trader needs to cover the costs of \$1,450 for completing the process of importing lentils from Nepal to Bangladesh through Banglabandha LCS, which includes the cost of Tk43,950 (or \$563.46) for completing onetime procedures for a new trader.
- The average speed with and without delays along corridors under study is 15–17 km/h and 24–27 km/h, respectively, which is much lower than the average speed surveyed in Central Asia.

Source: UNESCAP / ADB

Cross-border e-commerce activity is constrained due to a low de-minimis value and factual checks of most parcels entering Bangladesh.

Beyond the foreign currency transaction limits for online transactions, e-marketplace businesses are considerably constrained by the currently implemented restrictive de-minimis regime. The current de-minimis value is USD 12 which constitutes an inordinate burden for both importers and customs authorities. Small parcels such as purchases from online marketplaces (e.g. ebay, Amazon etc.) of any

value typically remain in custom checks for an extended period, while duties may possibly be stamp on them. E-commerce companies from Bangladesh can only rely on partnerships with import-specialized companies or may only purchase products of foreign origin where available in-country. Due to the transaction limits and the realities at customs, a Bangladesh company may for instance not be in the position to realize an international marketplace business model such as the one of Alibaba or e-Bay. Hence, the desirable internationalization and expansion of successful Bangladesh e-commerce enterprises is impeded.

The results from the UN Global Survey on Trade Facilitation and Paperless Trade Implementation show Bangladesh's implementation progress of around 40% of the measures assessed. Particularly in the implementation areas "Institutional arrangement and cooperation" and "Transparency" further progress is required e.g. in terms of the alignment of formalities and procedures with adjoining countries and in terms of stakeholder consultations e.g. with the private sector.

4. PAYMENT SYSTEMS

The current reliance on cash as the dominant payment mode imparts a significant risk for future e-commerce growth in Bangladesh. The key challenges to overcome are fostering consumer trust, and strengthen merchant – MFS/card service providers linkages. The deployment of the National Payment Switch in 2012 was an important development and serves as the core basis for interoperability of banking systems. With the growing importance and adoption of MFS, the interoperability dimension needs to be further developed to include mobile-banks and mobile-mobile transfer solutions in the future. A key challenge for e-commerce businesses are international transaction limits for outbound payments in foreign currency. Interoperability will be key for the MFS/cards sector going forward.

The dominant mode of payment for e-commerce transactions in Bangladesh is Cash on delivery, especially in rural areas. Mobile-money solutions are fast growing in terms of consumer adoption and represent a key driver of future growth for enabling e-commerce payments.

4.1 Financial Regulations

A fundamental leap forward in the development of digital payment solutions in Bangladesh was the establishment of the National Payment Switch Bangladesh (NPSB).

The market is interoperable since the starting of card issuance back in 1997, and currently there are 42 issuers & 9 acquirers into the market.

The NPSB was deployed in December 2012. All domestic ATM transactions are routed through NPSB from 2016. Bangladesh Bank has set up Bangladesh Electronic Fund Transfer Network (BEFTN), RTGS, Internet Banking Fund Transfer (IBFT) which facilitates the following :

- Interoperability of POS so that POS terminals of any bank can be used in-shop free-of-charge for the card holder.
- Interoperability of ATM indicating that that for a nominal charge of Tk. 15 per withdrawal and Tk. 5 for bank statement or balance inquiry ATMs of other banks can be used.
- Interoperability in terms of IBFT indicating that transactions of six banks can be handled via Internet banking – still at a nascent stage.

- The digital Commerce Policy of the govt has imparted focus on increasing issuance of Prepaid Cards & sales through e-Commerce sites.
- Banks & payment aggregators are running promotions to increase digital payments at e-Commerce
- Global organizations like Mastercard have added 2 internet payment gateways with the 2 leading banks in Bangladesh to ease up e-Commerce transactions.

A key challenge for e-commerce businesses are international transaction limits for outbound payments in foreign currency.

According to Bangladesh Bank, foreign exchange limits for individuals are set as travel budgets, a budget for medical treatment abroad and e-commerce transactions. The conservative policy of the government stems from a desire to manage foreign capital reserves and reduce capital flight risks. This regime however results in practical limitations for a range of e-commerce activities as well as activities such as booking flight tickets etc.

Table 10: Status of development of different payment gateways / facilities in March 2018

Transaction category	Limit
International travel budget limit (total)	US\$ 12,000 p.a.
... hereby to SAARC countries and Myanmar	US\$ 5,000 p.a.
... hereby to other countries than SAARC and Myanmar	US\$ 7,000 p.a.
Medical treatment	US\$ 10,000
Online transactions	US\$ 300 per transaction* *The bank(s) can open this for certain time and increase the limit based on customer's request over phone showing valid reason/purpose.

Similarly for B2B transactions, transaction limits are applied for any outbound transactions: Annually, Bangladesh companies are allowed to carry out outbound remittances amounting to US\$ 20,000, which is perceived to be quite restrictive for companies to scale up. Members of the association BASIS have been granted an extended transaction limit of US\$ 30,000. The ceiling amount for outbound fund transfers constitutes a significant challenge for individuals and firms. Outward payments therefore are very much limited – without good mechanism for international wire transfers (outbound) it will be challenging for companies to participate in global value chains. Some banks provide the option of ERQ accounts for businesses allows businesses to retain payments through inward remittance in their ERQ account and BDT account simultaneously. The account holder will have the option of retaining maximum 60-70% of the inward remittance in the foreign currency account and can use this for outward transfers for bonafide business purposes.

National payment gateway has been proposed but is currently being reviewed from a feasibility standpoint

A project has been floated by Bangladesh Bank to have banks route transactions through their national payment gateway for all payments including e-government (the original intent), POS, ATMs etc. Commercial banks have pointed out certain technical challenges including that the payment gateway is not Payment Card Industry Data Security Certified (PCIDSS), not EMV compliant & do not have any

specific module for dispute resolution. In light of these concerns, and based on a consultative process, Bangladesh Bank has decided on a one-year hiatus to deliberate further.

4.2 Mobile Money Regulations

The “Regulatory Guidelines for Mobile Financial Services in Bangladesh”, revised most recently in 2015, facilitated the nationwide rapid rollout of MFS.

The ‘Regulatory Guidelines for Mobile Financial Services in Bangladesh’ guide regulate the operations of MFS in the country. MFS providers under this regulation are required to be led by a scheduled commercial bank.

The regulation sets out that such scheduled commercial bank-led MFS platforms are permitted to carry out the following transactions:

- I. Disbursement of inward foreign remittances,
- II. Cash in/cash out into Mobile Accounts through agents/bank branches/ATMs/Mobile Network Operator (MNO) outlets,
- III. Person to Business payments (e.g. merchant payments),
- IV. Business to Person payments (e.g. salary disbursements),
- V. Loan disbursements to borrowers etc.,
- VI. Government to Person payments (e.g. pension payments),
- VII. Person to Government payments (e.g. tax, fee),
- VIII. Person to Person payments.

4.3 Main mobile and cashless solutions

MFS have developed rapidly in Bangladesh with a number of service providers and a fast growing consumer base.

Given the favorable MFS regulations by Bangladesh Bank in 2015 as well as previous regulations, the MFS sector has developed rapidly. Lower KYC requirements for MFS providers than for banks have e.g. incentivized the considerable number of subscriptions to MFS platforms.

bKash of BRAC Bank occupies the leading position in the market regarding the market share in terms of the number of subscribers.

While all MFS platforms in Bangladesh seek to maximize their active subscribership and build their services on an extensive agent network, providers differentiate their offering through the size of an ATM and branch network. Given the significant size of diaspora population from Bangladesh working abroad, partnerships with international providers of remittance services (e.g. Western Union) are also relevant for a range of users.

Table 11: Size of MFS in Bangladesh in terms of subscribership and agent, ATM, branch and merchant network

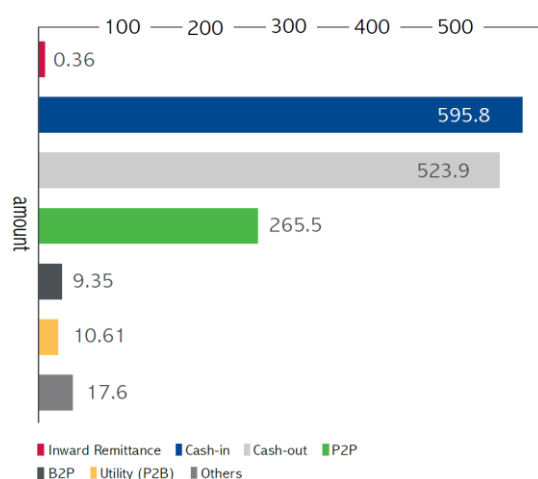
	bKash	DBBL MB	mCash	UCash	MYCash	SureCash	TBMM	OK Banking	IFIC MB
Subscribers (in million)	17	5.2	2.3	2.2	1.0	1.0	0.5	0.3	0.3

Agents	151,000	134,500	90,000	105,000	97,000	33,000	22,000	90,000	82,500
ATMs	300	4,000	450	105	720	320	170	32	57
Bank branches	155	1,552	294	156	100	1,000	101	72	130
Merchants	17,230	4,500	120	550	350	250	30	100	500

Source: MStar project (FHI360/USAID)

MFS platforms in Bangladesh typically offer the following core functionalities: bank transfer, cash-in/cash-out, sending of money, payments. In addition, MFS have developed different additional services including mobile recharge, savings products, utility payments and remittance products in collaboration with international remittance service providers. As of February 2015, predominant MFS transactions were cash-in and cash-out indicating the prevailing preference of users for cash.

Figure 4: MFS transactions as of February 2015 (in million US\$)



Source: MStar project (FHI360/USAID)

The following table provides key statistics related to payment facilitates.

Table 12: Status of development of different payment gateways / facilities as of October 2018

No of debit cards	13,539,087
No of credit cards	1,061,407
No of prepaid cards	187260
No of ATM Booths	10,063
No of Point-of-Sale (POS) terminals	43764
National Payment Switch Bangladesh (NPSB) certified Banks for ATM transactions	51 Banks
NPSB certified Banks for POS trans.	50 Banks
NPSB certified Banks for IBFT trans.	19 Banks

Source: Bangladesh Bank https://www.bb.org.bd/fnansys/paymentsys/natpayswitch_comp_stat.php

More than 90% of payment cards in circulation are debit cards (see accompanying table). It is noteworthy that 49.5% of the card users only use a single card, 32.5% are using two or three cards and 18% have access to more than three cards. Of the 172 million card-based transactions carried out in 2016, 94.5% of these transactions were ATM cash withdrawals.

E-commerce based usage of MFS and card based solutions is currently limited.

Key factors constraining e-commerce growth are consumer trust in online payment solutions and a technical and awareness gap of e-commerce merchants. The current consumer preference for cash is constraining growth of a growing e-commerce sector as it presents security as well as liquidity challenges. Also, given the fragmented nature of the delivery service mechanism (where multiple types of delivery services and firms may be involved), the cash payments necessitate a burden and opportunity for mistakes/mischief in cash transfers.

MFS as well as cards are a relatively new phenomenon in Bangladesh. There are currently 11.5 million debit cards in circulations, less than 1 million credit cards, half a million prepaid cards and 45 million mobile wallets of which only 40 percent (approximately 20 million) are active.

According to the payment gateway SSL Wireless, MFS providers have established a network of approximately 800,000 agents in order to enhance liquidity. As of now, e-commerce related transactions only account for approximately 1.02% of the transactions of MFS. In addition, digital payments constitute currently only 0.14% of the transactions of MFS.

In order to facilitate trust and bridge the technical gap with merchants, companies such as Bkash have partnered with IT service providers for providing IT onsite support for merchants who want to connect their sites to Bkash's API. This is also the case with other payment gateway providers, who use a perpetual model of services support.

The statistics strongly indicate that for efficient e-commerce all types of non-cash based payment solutions need to be strengthened. Trust in these payment solutions as well as interoperability will need to be built through the close cooperation of payment service providers and policymakers.

[Interoperability will be key for the MFS sector going forward.](#)

While all MFS in Bangladesh have been established in a bank-led model, interoperability between MFS and bank accounts as well as among MFS providers has not yet been achieved. Mobile to mobile transfer capability will be in place within one year, but it will also be important to enable mobile to bank account transfers.

Meanwhile, different payment gateway solutions have been developed that provide merchants with the option to receive payments through any nationally available channels. The company Software Shop Limited (with the solution SSL Wireless) is leading in the market handling approximately 80% of online payments in Bangladesh via the platform SSLCOMMERZ.

Equally from the perspective of facilitating the internationalization of Bangladesh's e-commerce businesses, the interoperability of locally available MFS solutions with international payment systems, particularly the regular banking system will be essential.

[The hundi system serves as an important information system of financial access.](#)

The 'hundi' system serves as an alternate channel for remittances given the underdevelopment of restrictive remittance channels. Hundi are intermediaries carrying out domestic or international transactions (particularly remittances) informally. Hundis typically have extended family networks (e.g. in Singapore, Malaysia etc.), at times are involved in money changing or trading businesses. The model

involves Instant payout to the recipient in Bangladesh upon payment in the country of origin of the remittance. In the case of Bangladesh, it is exceptional that the inbound remittance can then be transferred via any MFS platform, signaling a semi-formal acceptance of this system.

The main reason for the growth of the Hundi system is the convenience factor. This system is mainly used for remittances so also functions as a payment mechanism. However a consequence is that when businesses bypass the formal banking channels, they do not demonstrate creditworthiness with banks, and therefore future banking is a channel. There are also some AMT/CFT considerations that may need to be reviewed to ensure that this channel is not misused.

5. LEGAL AND REGULATORY FRAMEWORK

The Information and Communication Technology Act 2006 and the Digital Security Act 2018 are the cornerstones of cyberlaws in Bangladesh. The former is credited with broad-ranging coverage related to recognition of online contracts and digital signatures, as well as recourse mechanisms for dispute resolution. This is the only Cyberlaw which directly addresses digital transactions.

No specific law on Cyber-crime exists, although the ICT act (and its 2013 amended version) and the Digital Security Act 2018 include certain tenets dealing with cybercrime. These focus on cyber-attacks, broad categories of online offences as well as the obligations of citizens and entities to refrain from conducting malicious online activity.

The Consumers' Rights Protections Act does not have any focus on digital transactions. There is no provision clearly listing how data stemming from online-transactions should be safeguarded in any of the laws. A regulatory gap regarding copyrights, trademarks and patent rights of e-information and data, domain name protection etc exists.

5.1. Status of four key laws as per UNCTAD Cyberlaw tracker

The current legal and regulatory framework for ICT and the digital economy is largely centred around the Information and Communication Technology Act, 2006 and the Digital Security Act 2018.

Electronic transactions: E-transactions are comprehensively covered within the frame of the Information and Communication Technology Act 2006. Brief amendments to the law have been made in 2009 and 2013. The act recognizes the authentication of electronic records through digital signatures by establishing the legal basis for electronic records and digital signatures. Primarily design in order to aid the Government's drive towards e-government, it also casts an attentive eye towards e-commerce related implications.

Online payments are not explicitly addressed in the ICT Act, not its amended 2009 and 2013 versions. The legal basis for this has been set by the Central Bank in 2009.

The Act lays down the provision of establishing, constituting, and dissolving of Cyber-Tribunals which may deliberate upon legal cases involving digital transactions, and allow for speedy and effective trials of offences committed under the Act. Detailed guidance on the powers of such tribunals, trials procedures, appeals processes etc is provided.

Overall, the Act is a testament to the Government's foresightedness in terms of establishing the legal basis for digital transactions early in the maturity curve for the ICT sector, and its relevance is amplified now that e-commerce activity is picking up in the country.

Consumer Protection: The Consumers' Right Protection Act (CRPA) was enacted in 2009 and provides details guidance on aspects of consumer protection. The act's main intention was to address fragmentation of the consumer protection tenets among different laws, causing uncertainties and challenges in terms of implementation.

To implement this act, A National Consumer Right Protection Council has been established which is supported by a secretariat in the form of the Directorate of National Consumers' Right Protection (DNCRP) to which consumer complaints may be directly addressed. To ensure uniform and nationwide implementation, the Act provides for the creation of district level committees called District Consumers' Right Protection Committees.

This Act does not cater to issues that arise from the e-commerce and e-transactions, however given that the structures for managing and enforcing the tenets of this act are already in place and functioning relatively well, the Act could be amended to reflect digital transactions. Indeed, given that activity within the country's digital economy is advancing swiftly and evolving to feature more complex online transactions, there is an important need to include the provision for digital content and transactions in this Act through an amendment.

Cybercrime: A specific cybercrime law does not exist, however to an extent, cybercrimes are covered within the frame of the ICT Act (amended in 2013 to include penalties for cyber-crimes) and more comprehensively through the Digital Security Act 2018. No separate law on cybercrime issues has been developed. The Digital Security Act recognizes the increasing significance of e-commerce and online-transaction activity in the country and the possibilities of cyber-attacks that can impact infrastructure, businesses and consumers. This act replaces some of the related tenets of the Amended ICT Act (2013) in order to avoid duplication.

Spamming is specifically included as a criminal offence under the Digital Security Act 2018. Section 25(1) of the Act states that acts of a person using electronic means to deliberately and knowingly distribute information that attacks, intimidates, irritates, humiliates, defames, embarrasses, or discredits a person is considered a criminal offence.

While the ICT Act and Digital Security Act include provisions on the scope of punishment in case of cybercrimes, the scope of cybercrimes has been allocated a wide-ranging spectrum. The Digital Security Act has been the subject of some controversy. While freedom of expression is enshrined in Bangladesh's constitution, the Act is perceived to provide broad and discretionary powers to authorities against alleged offences under the Act. The assessment of this Act's statutes from a civil liberty perspective are not the scope of this eT Ready, and indeed any such assessment would need to weigh the complexities of threats against religious and communal harmony vs. maintaining freedom of expression and speech online. What can be gleaned from the continuing discourse/debate is that certainly the volume of local online content will drop due to the uncertainty among content owners, which in turn could have some implication on consumer adoption of online activity.

Data Protection: Article 43 of the Constitution recognizes an individuals right to "privacy of correspondence and other means of communication". However, there are no data privacy or protection laws that outline how this information should be safeguarded. No data protection law enacted yet, although select tenets from the Digital Security Act are meant to fulfil this requirement, at least partially.

According to Section 26 of the Digital Security Act 2018, a person cannot distribute, sell, supply, collect, taking into possession or use the identity of another person without legal authority. There is no provision clearly listing how data stemming from online-transactions should be safeguarded.

5.2. Other related laws, acts, regulations

In addition to these four key areas for e-commerce, the following legal and regulatory weaknesses need to be addressed:

- Existing intellectual property laws (i.e. copyright, trademarks and patents) do not contain any provision on e-aspects, requiring an amendment of the regulations.
- Domain names can be protected as a registered trademark. However, there are no specific provisions in place for website domain name protection for e-commerce firms.

6. E-COMMERCE SKILLS DEVELOPMENT

The widening skill gap between a dynamically growing and diversifying e-commerce sector and a skills-development sector responding at a slower pace to the skill demands needs to be addressed. Trilateral cooperation and coordination is required among (public and private) educational institutions, private sector and the governmental entities engaged in policy making and regulation. A skill gap analysis and extrapolation of skill requirements is essential to avert both, under- and over-supply of talent in a certain sector. Quick-fix solutions may be identified to address immediate skill gaps faced in the digital economy or to pilot scalable interventions.

6.1 Skills gap assessment

A skills-mismatch challenge is in the making as the e-commerce sector grows and the skills-development sector lags.

The Dhaka Chamber of Commerce, among other national organizations has stressed that the feedback loop on e-commerce related skills is quite weak, and the linkages between industry and academia need to be strengthened, along with the public sector linkages.

In preparation for the 7th Five Year Plan (7FYP), the GoB has commissioned a background paper to determine the status of development towards “Digital Bangladesh”. The following recommendations are regarding education sector development for Bangladesh’s digitalization.

- *Education quality improvement through IT-enabled learning,*
- *Teacher empowerment in primary and secondary education,*
- *Strengthening vocational stream,*
- *Expanding IT graduate pool.*

Skill development needs for e-commerce professions are not stated in the policy recommendations explicitly. In this maturing stage of Bangladesh’s digitalization, skill profiles demanded by the private

sector engaged in e-commerce are more diversified and often interdisciplinary (e.g. digital marketing, enterprise resource planning).

The development of a rising gap of skill-mismatch impeding future e-commerce in Bangladesh is not recognized and addressed appropriately. Effective trilateral cooperation mechanisms need to be established, e.g. a formalized feedback loop connecting (1) the private sector with its skill demands to (2) academia and skill providers on the supply side as well as (3) the public sector shaping skill development strategies (e.g. education boards, ministries). In order to commence trilateral dialogue on skill gaps and ways to address these, it may be recommended to carry out a comprehensive 'Skill Gap Analysis for Digital Commerce' as a starting point for dialogue and multi-stakeholder collaboration.

A strong private sector drive for fostering talent through apprenticeships and on-the-job training

E-commerce firms in Bangladesh face one key common challenge: They are able to set up their enterprises, and start operations to a particular level but then growth stagnates due to the lack of ICT skills and talent available to them. Firms agree on the challenges of the e-commerce private sector in identifying candidates with a suitable skill set. At the moment, it remains in the responsibility of the private sector to train candidates on-the-job. Initiated trainings by BASIS have proven helpful, while such short add-on courses are not sufficient to address the systemic skill mismatch.

This is even prior to the companies requiring broader assistance in terms of digital businesses. The position of the industry is that it can train apprentices on the job, but would benefit from some support from the government in terms of cost-sharing, given that these trained professionals would be industry ready.

6.2. Availability of tertiary education/curriculum, professional training

Higher education reforms have not yet been aligned with skill development needs for digital Bangladesh; certificate-level courses may help bridge gaps at least ad-interim.

The success of e-commerce ventures in Bangladesh largely depends on the capabilities and the educational background of the respective entrepreneurs. While a comprehensive revision of curricula in primary and secondary education towards digitalization and ICT may take an extended period of reform, added certificate-level courses on e-commerce related topics (such as payment solutions) may be added to existing programs within a shorter time frame. Based on the approval of the University Grants Commission (UGC) as a regulatory body of the higher education sector, possibly also digital teaching methods may be deployed for the teaching of digitalization, ICT and e-commerce subjects. Currently, universities in Bangladesh are barred from delivering credit-bearing courses entirely online by UGC.

A limited number of certificate courses are offered for instance by BASIS. The industry would however benefit from further support from the government through cost-sharing and scaling of the programs. In addition, further collaboration between academia and the private sector may be facilitated by the government in a trilateral cooperation model to ensure the industry-readiness of the professionals.

6.3 Tech start-ups scene

Incubation efforts have exhibited recent growth with a number of incubator and accelerator facilities established in the past decade

Incubators and accelerators are essential to the success of any start-up ecosystem. Particularly in the ICT and e-commerce spaces also innovative start-up companies with limited investment requirements have potential for scale.

In Bangladesh, the number of incubators and accelerators is limited with only approximately a dozen of such start-up supporting actors operating at considerable scale. Most of these organizations only entered operations in 2016.

According to the platform “Start-up Dhaka”, for instance the following incubators and accelerators are active in Bangladesh’s ICT, tech and e-commerce space:

- “Spark Bangladesh” has supported 60 entrepreneurs through a half-year acceleration program with equity-free grants, through network and advice.
- “GP Accelerator” is a program of the telecommunications company Grameenphone, which supports tech-focused start-ups through the provision of in-house workstations and continuous support. In order to foster mutual commitment to business development of the start-ups, GP is taking 10% in equity.
- The “Banglalink IT Incubator” has been established as a joint initiative of the telecommunications company Banglalink and the Hi-Tech Park Authority.

Freelancing has experienced a growth wave in recent years and may bode well for IT support services development.

Another relevant phenomenon that arose in Bangladesh’s e-commerce and ICT space has been the quest of young professionals for freelancing opportunities. On the U.S.-based freelancing platform Upwork for instance, freelancers from Bangladesh constitute the third largest user segment (i.e. 16.8% global market share in outsourcing) with more than 650,000 registered individuals according to Dhaka Tribune. Freelancing may be considered an important opportunity for tech-savvy youth; this flexible mode of working may allow potential future ICT service and e-commerce entrepreneurs to explore the ways of acquiring project work and to get involved in a range of international projects. The income premium obtainable as an IT freelancer incentivizes an increasing number of young professionals to favor independent work over regular employment. This offers an opportunity for IT professionals to support e-commerce firms as the sector grows. Recently BASIS with the support of ICT Ministry has launched a FX Prepaid card – Shadhin with Bank Asia & Mastercard to ease up payments for Freelancers in Bangladesh. These cards are connected to Payoneer accounts, which is available at most of the top Freelancing sites.

7. ACCESS TO FINANCING

Access to financing is one of the major factors constraining SME growth in the country, necessitating a reliance on family/community and informal sources. This challenge extends to firms operating within the digital economy. The contributing factors are limited awareness of banks and financial institutions of fundamental considerations in the creditworthiness assessment of e-commerce businesses, as well as limited venture-capital activity. In addition, the still limited space of equity financiers and incubator / accelerator programs in Bangladesh may be substantially expanded.

In terms of relative performance among the 7 policy areas, Access to Financing has been cited as the main under-performing area. The main challenge is that the lending sector is extremely conservative. Non-performing loans are widely prevalent, and companies are unable to exhibit creditworthiness because they do not use corporate accounts for transactions (instead using the Hundi system mentioned just below). The ICT and the overall digital-businesses sector has been largely neglected/under-catered by commercial banks due to lack of physical collateralization and lack of recognition of IP as a viable source of collateral.

7.1 Depth of the banking network

The financial sector of Bangladesh has significantly expanded in recent years, with local and foreign banks, non-bank financial institutions (NBFI) and microfinance institutions (MFIs) operating in country. The financial regulator is Bangladesh Bank, the Central Bank of Bangladesh. The following types of banks are distinguished¹⁵:

Scheduled Banks are operating under the provisions of the Bank Company Act from 1991 with several amendments and a respective banking license. Currently, 58 scheduled banks are active in Bangladesh, which can further be classified as follows:

- **40 Private Commercial Banks** have majority shareholding by the private entities, whereby eight of these private commercial banks operate according to the principles of Islamic financing.
- **6 State-Owned Commercial Banks** have majority shareholding or are fully owned by the GoB.
- **3 Specialized State-Owned Banks** are policy banks established to advance certain public development objectives such as agricultural or industrial development, namely Bangladesh Krishi Bank, Rajshahi Krishi Unnayan Bank and Probashi Kallyan Bank.
- **9 Foreign Banks (FCBs)** have licenses to operate branch offices in Bangladesh.

Non-Scheduled Banks are only established for specific outlined purposes and are limited in the scope of their operations.

The private commercial banks are gaining increasingly in importance compared to the state-run sector, in 2017 private commercial banks held approx. 60% of the assets of the banking sector.

¹⁵ Overview: “Financial System - Banks and Financial Institutions“ by Bangladesh Bank

The emerging e-commerce sector in Bangladesh is a new phenomenon also for the mostly traditionally lending institutions. From a bank perspective, a fundamental difference between e-commerce loan applicants and other SMEs is that e-commerce businesses typically cannot provide any physical asset as collateral. The value of the company and its creditworthiness need to be assessed based on e.g. the business model, the technology or other intellectual property developed, the human resources available to the enterprise etc. Even promising e-commerce entities hence reportedly face challenges seeking access to debt finance.

7.2 Financing by commercial banks and MFIs

Access to financing is one of the prime factors constraining SME growth in the country, necessitating a reliance on family/community sources.

Access to financing is a major constraint to the development of Bangladesh companies active in e-commerce. E-commerce entrepreneurs often need to privately finance their ventures (e.g. through savings, family support) until a certain scale and professionalism of the company is reached. A common strategy of e-commerce entrepreneurs is equally to pursue other professional part-time opportunities in parallel to the early-stage venture or to freelance.

The SME Foundation classifies the financing instruments available to the software industry of Bangladesh (in analogue the e-commerce sector) as follows:

Table 13: Options for direct and indirect financing of e-commerce businesses

Direct Financing	Indirect Financing
<ul style="list-style-type: none"> • Private financing • Retained earnings • Business angel financing • Venture capital • Commercial bank loans • Seed finance • ODA • Innovation and Programming Competition Prices 	<ul style="list-style-type: none"> • Tax incentives • Public R&D spending

Increasing cognizance of the Government and commercial banks for improving the access to financing situation for SMEs

The GoB is recognizing the importance of SMEs for inclusive economic growth in Bangladesh. As of 2012, already approximately 22% of the loan portfolio of commercial banks was disbursed as SME loans. Through initiatives such as the activities of SME Foundation and different international development partner funded projects and programs (e.g. on financial inclusion of women), it is likely that this percentage of loans could meanwhile even be increased. Islami Bank Bangladesh Limited (IBBL) has been mentioned as the largest SME leader with 83,000 SME clients.

Commercial banks on the other hand have indicated a willingness to adapt to the requirements of ICT firms but have cited a struggle to better understand the specific requirements of sector firms. They advise that the sector should better communicate their requirements and advocate through position papers and consultations that also involve Bangladesh Banks. Borrower mindset and culture of non payment has been cited as two key challenges to overcome by commercial banks.

The Equity and Entrepreneurship Fund (EEF) of the GoB was a promising initiative, which has not succeeded and is currently suspended.

One of the few available sources of funding has been available through the EEF directly from the GoB. The EEF was established in fiscal year 2000/01 in order to support private sector led growth in the priority sectors agro-food processing and software development.

Initially, the central bank itself, Bangladesh Bank, was in the implementation lead for the governmental funding initiative until 2009. Subsequently, the fund management responsibility was transferred to the Investment Corporation of Bangladesh, while Bangladesh Bank remains involved in the setting of funding policies and monitoring. Out of the total budget of the fund of 20 billion BDT since its establishment approximately one quarter has been allocated to ICT-related ventures.

Through the EEF, the GoB has until recently provided equity to “technically and financially viable projects” to an entrepreneur with appropriate technical and entrepreneurial qualification and “track records in financial conduct specially with Banks/FI”. Equity between BDT 0.5 and 5 crore per company was provided following a ratio analysis of the project.

The EEF was suspended recently, as cases of misappropriation of allocated funds occurred. As the GoB itself however became equity partner, entrepreneurs of defaulting firm cannot be prosecuted for grave misconduct with public funds. The fund is currently not disbursing, until funding policies have been amended to e.g. a rather loan-based model of support that avoids moral hazard issues.

The government-backed SME foundation offers commercial funding at subsidized rates to SMEs.

The government-linked SME Foundation has mapped local economic cluster industries throughout Bangladesh. Furthermore, SME Foundation has initiated capacity building efforts with companies from the cluster industries and is – via a cooperation scheme with domestic commercial banks – able to facilitate the extension of commercial funding at a subsidized interest rate.

Insurance products geared towards the e-commerce sector do not exist.

There are 70+ insurance firms in Bangladesh with less than 5% penetration. These companies provide mainly life insurance products although cash transit insurance is also present. According to a decision maker at one of Bangladesh’s largest insurance firms, a variety of insurance products, including those for e-commerce firms’ are in theory ready and deployable, but the companies will not deploy them due to the following reasons:

- On the logistics side, there is significant fragmentation of delivery companies with highly uneven quality. In this environment, insurance firms are unable to complete their due diligence especially related to the risks involved. Therefore, unless there is some consolidation among logistics firms and injection of professionalism/technical competence, it is unlikely that these insurance firms will get involved.
- In the insurance sector, the lead firms set the lead and others follow. The large firms are in a wait and watch mode for the logistics side to settle and become more mature.

The microfinance sector in Bangladesh extensively developed and is particularly driven by the operations of NGOs

As of November 2018, a total number of 702 microfinance institutions were formally registered. Already in 2012, the loan portfolio of the MFIs in Bangladesh amounted to around 3% of the GDP of Bangladesh. According to the statistics of the Microcredit Regulatory Authority of Bangladesh in June 2014, the total outstanding loan portfolio amounted to around BDT 403 billion.

7.3 Financing by business incubators, business accelerators and venture capitalists

The current options for e-commerce start-ups to find support and investment in the venture capital space or angel investor scene are still limited. The following investors have provided equity to start-up companies from Bangladesh: IPE Capital, AdTech, Osiris, Razor Capital, Innotech Corporation, BD Venture. However this support is still limited across the board.

7.4 Financing by development partners

The only significant financing mechanism for e-commerce firms is a scheme of the International Finance Corporation (IFC) that explicitly targets the digital economy. In addition, SME Foundation has been at early stage considering support to e-commerce SME through subsidized loans.

According to an Asian Development Bank (ADB) assessment, different revolving SME refinance schemes had been financed by the following entities (mostly with a focus on supporting women entrepreneurs):

- Bangladesh Bank (21,791 BDT million for 23,700 entrepreneurs)
- Enterprise Growth and Bank Management Project (3,126 BDT million for 3,160 entrepreneurs)
- ADB – Fund 1 (3,349 BDT million for 3,264 entrepreneurs)
- ADB – Fund 2 (7,469 BDT million for 13,645 entrepreneurs)
- Japan International Cooperation Agency (JICA) Fund (2,777 BDT million for 381 entrepreneurs)

CONCLUSION

Bangladesh has set an important foundation for inclusive growth and diversification through the promotion of the technology-driven and skill-based digital economy. The Government has in an exemplary manner supported public-private dialogue and collaboration in digitalization matters. Furthermore it has been possible to expand the provision of e-governmental services rapidly and - due to the UDC infrastructure - in a way accessible to the population.

Over the previous years, a diversified set of e-commerce businesses have emerged comprising the classical e-marketplace for goods and services offers, delivery service models for grocery products etc. as well as digital travel agency services. This base promises to diversify significantly through additional business models and digital opportunities, if the development path of an enabling e-commerce environment is continued.

Going forward, There is an important need to implement actions supportive to e-commerce in a comprehensive national strategy recognizing all barriers to business from an ecosystem perspective, to increase confidence of the general public in e-commerce, and to address the digital divide between urban and rural areas with greater priority. These and other identified recommendations for the seven policy areas will need to be implemented to ensure that the ecosystem for the overall digital economy moves forward.

THE WAY FORWARD: ACTION MATRIX

1. E-commerce Readiness Assessment and Strategy Formulation			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Formulate joint(preferable) or separate masterplans which translate the ICT Policy 2018 and the National Digital Commerce Policy 2018 into actionable, multiyear roadmaps with clear delineation of responsibility and coordinated implementation.	<ul style="list-style-type: none"> Actionable roadmap(s) developed as well as a Shared understanding of all stakeholders of action points to foster growth of the digital economy of Bangladesh in alignment of different strategies, projects and programs. 	High	Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce,A2I, Ministry of Planning, Ministry of Finance, Ministry of Education, Bangladesh Bank, BBS, BTRA, Sectors associations (i.e. BASIS, e-CAB etc.), UNCTAD
Institutionalize and strengthen inter-ministerial coordination (along with the private sector) related to e-commerce and if necessary, task an existing taskforce with an additional mandate for coordinating on e-commerce and digital economy issues. In parallel, assist the Ministry of Commerce in developing capacity for fulfilling its assigned mandate of e-commerce.	<ul style="list-style-type: none"> Robust mechanism of inter-ministerial collaboration with clearly set out designation of a lead ministry or agency and responsibilities of other involved ministries. Enhanced capacity of Ministry of Commerce for fulfilling its mandate. 	High	Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce,A2I, Ministry of Planning, Ministry of Finance, Ministry of Education, Bangladesh Bank, BBS, BTRA, Sectors associations (i.e. BASIS, e-CAB etc.), UNCTAD
Enhance statistical backbone to monitor ICT and e-commerce related indicators by linking national statistics office with A2I and other ICT/ecommerce based initiatives, and through capacity building of the statistics department.	<ul style="list-style-type: none"> Essential data foundation for progress monitoring established Indicator definition and setting of targets may accelerate or intensify implementation Alignment between international and national IT and telecommunications data. 	High	A2I, Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce, Ministry of Planning, Bangladesh Bank, BBS / SID, BTRA, Sectors associations (i.e. BASIS, e-CAB etc.), UNCTAD, ITU, USAID

Ensure that data is transmitted regularly between national sources and international sources such as ITU			
Develop a communications and investment promotion strategy to disseminate information on the governmental commitment to implementing “Digital Bangladesh” in aid of investment promotion in the ICT/e-commerce sector.	<ul style="list-style-type: none"> Increased number of events or event participation of Bangladesh abroad enhancing the international recognition of the committed efforts of the Government. Mobilization of investments and international business linkages 	Medium	Ministry of Foreign Affairs, A2I, Ministry of Posts, Telecommunications and Information Technology, Sectors associations (i.e. BASIS, e-CAB etc.)
Connect initiatives for cluster-based economic development and trade promotion efforts in priority sectors such as pharmaceuticals, apparel/jute, and food processing with e-commerce-based business models in order to spur e-commerce ventures in these sectors.	<ul style="list-style-type: none"> SME, cluster and trade promotion efforts of the GoB reach scale Producers are getting prepared to participate actively in e-commerce that allows domestic and international business partnerships and buyer identification 	Medium	SME Foundation, Ministry of Commerce, Sectors associations (i.e. BASIS, e-CAB etc.), USAID, JICA, UNIDO
Review the current policies not permitting business registrations at addresses in residential areas to remove barriers and to reduce costs related to the establishment of e-commerce ventures	<ul style="list-style-type: none"> Removal of a significant entry barrier to e-commerce businesses Reduction of additional pressures on the tight commercial real estate market 	Medium	Ministry of Commerce, Sectors associations (i.e. BASIS, e-CAB etc.), FNF

2. ICT Infrastructure and Services			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Ensure policy and implementation spotlight in ensuring 100% coverage vis-à-vis 2G, 3G while increasing 4G, while at the	Countrywide coverage of 2G/3G/4G, along with gradual deployment and increased of 5G	High	BTRA, Ministry of Posts, Telecommunications and Information Technology, Mobile Operators

same point continuing to test, deploy and scale 5G coverage over the medium-long term.	coverage.		
<p>Address the limited smartphone penetration as an impediment to e-commerce by</p> <ul style="list-style-type: none"> • Actively incentivizing newer handset technology adoption among users. • incentivize technology upgrades of users e.g. through 0% interest loan products for the purchase of new devices, • Supporting local smartphone manufacturers through fiscal and market development incentives. 	Increased availability of sufficient end device technology incentivizing telecommunications operators to increase mobile internet service levels to these previously call-only customers.	Medium	BTRA, Ministry of Commerce, Mobile operators
Reassess rollout plans for mobile and broadband network infrastructure jointly with the providers and prioritize measures to reach universal coverage (e.g. encouraging passive and active sharing of telecommunications infrastructure in remote areas) to allow competition, while reducing costs of infrastructure expansion. Determine strategic long-term policies for the effective utilization of the Social Obligation Fund for achieving universal access	<ul style="list-style-type: none"> • Cost-reduction effects for the telecommunications industry can be realized in particular remote rural areas • With increasing at least 3G access, the potential e-commerce customer base is increasing 	Medium	Bangladesh Telecom Regulatory Agency (BTRA), Mobile operators, ITU
Enforce compliance of the telecommunications sector with net neutrality provisions to allow non-discriminatory to e-services and e-	<ul style="list-style-type: none"> • An achieved level playing field between the different operators increases investor confidence in the sector 	Medium	Bangladesh Telecom Regulatory Agency (BTRA)

commerce opportunities			
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3. Trade Logistics and Trade Facilitation			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Review and rationalize the de-minimis regime which constitutes a burden for customs authorities and importers alike to allow cross-border e-commerce to expand rapid	Customs procedures can be accelerated and Bangladesh consumers have easier and faster access to international marketplaces to purchase demanded products of minor value	High	Ministry of Commerce, Ministry of Posts, Telecommunications and Information Technology, Customs, Excise & VAT Commissionerate, BRTA, Export Promotion Bureau, USAID, World Bank
Support the piloting and introduction of insurance products for trade logistics firms to minimize the risk imparted due to product breakage, consumer fraud, and security challenges encountered during delivery.	Risks burden currently shouldered by e-commerce businesses and consumer can be diverted to an insurance provider increasing public appetite for e-commerce solutions	High	Bangladesh Insurance Development and Regulatory Authority, Private insurance companies, Sectors associations (i.e. BASIS, e-CAB etc.)
Review challenges in the national physical addressing system and assess options to utilize geocodes (e.g. simple latitude-longitude coordinates or “what-3-words” system)	Delivery times and costs can be reduced, as shipment recipients can be located faster	Medium	Ministry of Posts, Telecommunications and Information Technology, UPU
Conduct a post-office revitalization pilot in conjunction with postal authority, existing marketplaces, and sector associations which focuses and developing the capacities of remote/rural post offices through technology and best practices available to the private	Enhanced capacity demonstrated through a pilot which can be potentially scaled up .	Medium	Bangladesh Post, marketplaces such as GP and EkPay/ecommerce companies, courier service companies, BASIS/ECAB.

sector.			
Facilitate service provider development for last-mile delivery in rural areas, by imparting training to existing micro-businesses that are offering the last mile delivery.	Enhanced capacity and professionalism of last mile delivery firms		Bangladesh Post, Logistics firms, marketplaces such as GP and EkPay/ecommerce companies, BASIS/ECAB
Implement the reforms recommendations of the Trade Facilitation and Paperless Trade Implementation Survey	Improved performance towards paperless trade and increased efficiency (and reduced times/costs) for trade facilitation operations.	Medium	Ministry of Commerce, UNESCAP, UNCTAD

4. Access to Financing			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Strengthen linkages between commercial lenders and associations in sectors in which digital economy can play an important role: develop lending instruments specific to the needs of e-commerce businesses. Explore possibility to introduce a subsidized loan scheme of SME Foundation linked to an integrated capacity building program (e.g. in collaboration with BASIS).	<ul style="list-style-type: none"> Diversified lending options for e-commerce businesses. Improved awareness of commercial banks related to financing requirements and constraints of e-commerce businesses in terms of collateral etc. 		Ministry of Posts, Telecommunications and Information Technology, SME Foundation, BASIS/E-CAB, commercial banks, Mobile Financial Service providers, Association of Banker's Bangladesh, FNF, UNCDF, USAID
Encourage the market entry or expansion of local or international venture capital firms through investment promotion activities on opportunities in Bangladesh's e-commerce and ICT spaces	<ul style="list-style-type: none"> Greater level of available start-up capital 	High	Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce, Board of Investment, sectors associations (i.e. BASIS, e-CAB etc.)

Promote business innovation challenges for entrepreneurs, hackathons etc. to identify aspiring entrepreneurs and link them up with financiers, the venture capital space etc.	<ul style="list-style-type: none"> Facilitated linkages between e-commerce firms and alternate sources of investment capital 	Low	BASIS/ECAB, Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce
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5. Payment Solutions			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Initiate dialogue with the private sector on options for a move to “digital cash on delivery” that allows customers to inspect an ordered item before agreeing to release a payment digitally, which would reduce security risks for private courier companies.	Scaling up of e-commerce operations and use of MFS by consumers, enhanced security of payments and ease of refund options.	High	Bangladesh Bank, Financial Institution Division, sectors associations (i.e. BASIS, e-CAB etc.), Commercial Banks (e.g. Eastern Bank Ltd.), Mobile Financial Service providers (e.g. bKash), card-based payment providers (e.g. Mastercard, Visa), FNF
Address severe challenges of e-commerce businesses due to ceiling amounts for outbound funds and review particularly the online transaction limits for individuals and corporate entities	Improved operating business environment for e-commerce firms (and SMEs in general), especially those requiring to make international payments for business expenses and for procuring inputs.	High	Ministry of Commerce, Customs, sectors associations (i.e. BASIS, e-CAB etc.), FNF, UNESCAP, USAID
Encourage commercial banks to issue corporate bank accounts, credit and debit cards, possibly also encourage MFS to providers to tailor MFS to SME clients	Tracked transactions of corporate account are tracked resulting in enhanced assessment and the creditworthiness of the respective company	High	Bangladesh Bank, Financial Institution Division, sectors associations (i.e. BASIS, e-CAB etc.), Commercial Banks (e.g. Eastern Bank Ltd.), Mobile Financial Service providers (e.g. bKash), card-based payment providers (e.g. Mastercard, Visa)
Establish and communicate a clear return guidelines for online purchases and identify	Enhanced buyer confidence in e-commerce	High	Ministry of Commerce, sector associations (i.e. BASIS, e-

options to strengthen after-sale services in e-commerce	leading to greater marketplace activity		CAB etc.)
Foster interoperability of payment services and transfers between mobile-money and banks and between mobile-money providers	Scaled up e-commerce activity due to increased payment options for consumers	High	Bangladesh Bank, commercial banks, Mobile Financial Service providers
Rationalize KYC requirements of commercial banks in comparison to less complex requirements for MFS providers	Increased banking penetration and usage of card-based payments.	Medium	Bangladesh Bank, Financial Institution Division, Commercial Banks (e.g. Eastern Bank Ltd.), card-based payment providers (e.g. Mastercard, Visa)

6. Legal and Regulatory Framework			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Conduct a dedicated review of the legal and regulatory framework for e-commerce, particularly paying attention to introducing the “e-aspect” into older laws/regulations.	<ul style="list-style-type: none"> Legal and regulatory challenges are addressed at an early stage of the Bangladesh’s e-commerce journey Gaps in legislation around e-transactions, consumer protection, domain name issues are addressed Increased e-consumer confidence 	High	Bangladesh Bank, Ministry of Posts, Telecommunications and Information Technology, UNCTAD
Amend Consumer Rights Protection Act to include provision for digital content and e-transactions in this Act, and ensure that accompanying structures for reporting and addressing grievances are suitably adjusted.	Increased coverage of the act and its accompanying reporting and resolution structure to include e-transactions.	High	Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce, BASIS/ECAB
Develop a data protection act or amend existing Digital Security Act to include provision of data protection for digitally produced content.	Data protection gap for digital content is covered	High	Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce, BASIS/ECAB

Amend existing intellectual property laws (i.e. copyright, trademarks and patents) to include e-aspects: Ensure that domain name protection exists for e-commerce websites.	Extension of intellectual property rights and domain name protection to the digital economy space	Medium	Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce, BASIS/ECAB
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7. E-commerce Skills Development			
<i>Indicative action</i>	<i>Expected outputs</i>	<i>Priority Level</i>	<i>Potential support by:</i>
Carry out a national skill demand forecast or skill gap analysis for realizing “Digital Bangladesh” identifying quick-win and longer term solutions: Develop and institutionalize a feedback loop between the public sector, academia and the private sector on a national and local level	<ul style="list-style-type: none"> • Reduction of skills-mismatch • Access of the e-commerce sector to talent with demanded skill profiles • Reduction of youth unemployment and underemployment • Improved coordination for reflecting changes in the educational landscape and the private sector • Upgraded skills curriculum related to e-commerce issues. 	High	Ministry of Education, Ministry of Posts, Telecommunications and Information Technology, private educational institutions, BASIS/E-CAB
<p>Address challenges of youth at the interface of education and private sector through</p> <p>(a) University-based incubation / acceleration programs for e-commerce and ICT entrepreneurs,</p> <p>(b) public-private internship fund and employability skill development support</p>	<ul style="list-style-type: none"> • Development of employment or start-up ready youth to fuel the emerging e-commerce sector with required skills • E.g. diploma courses may be considered a quick-fix solution, while the comprehensive amendment of university curricula and syllabi may require more time 	High	Public and private educational institutions, BASIS, e-CAB, Ministry of Education, Ministry of Posts, Telecommunications and Information Technology

(c) the introduction of short e-commerce diploma courses and build-up courses for any educational levels			
Conduct capacity building workshops to boost the awareness of public sector/civil servants on essential ecommerce based aspects	<ul style="list-style-type: none"> Enhanced knowledge of digital economy issues within the public sector 	High	BASIS/E-CAB, Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce
Develop higher education (university-level and technical and vocational education and certificate level curricula for e-commerce and ICT and ensure sufficient inclusion of digitalization topics equally at primary and secondary levels.	<ul style="list-style-type: none"> Systemic change in the education sector to shape future opportunities for youth and to reflect the dynamism of “Digital Bangladesh” in education sector reform 	Medium	Ministry of Education, Ministry of Posts, Telecommunications and Information Technology
Awareness raising throughout the e-commerce ecosystem, e.g. legal and regulatory framework, available payments systems, available e-marketplaces	<ul style="list-style-type: none"> Public participation in and enhanced support for “Digital Bangladesh” 	Medium	A2I, Ministry of Posts, Telecommunications and Information Technology, Ministry of Commerce, BASIS, e-CAB, FNF

ANNEX

ETRADEFORALL PROFILE



COUNTRY PROFILE: BANGLADESH

Contact: info@etradeforall.org

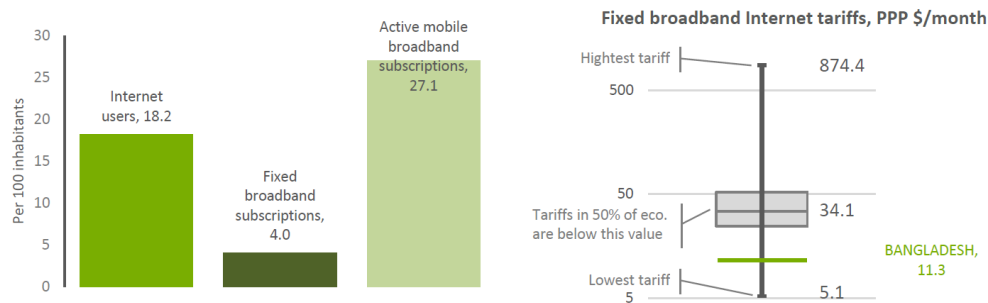
GENERAL INFORMATION - 2016



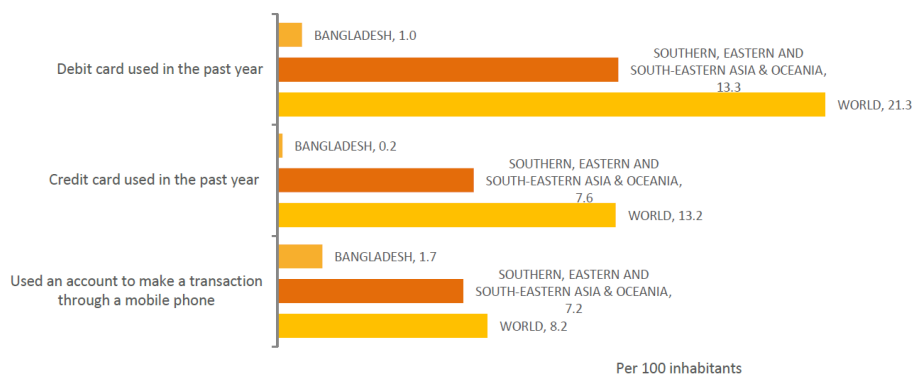
E-COMMERCE ASSESSMENT - 2017



ICT INFRASTRUCTURE AND SERVICES - 2016

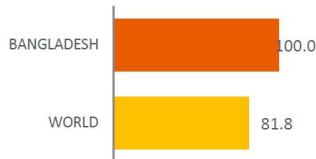


PAYMENTS - 2014

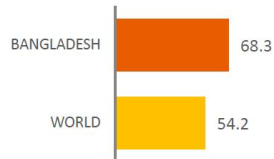


TRADE LOGISTICS - 2016

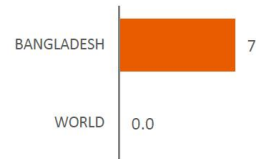
Percent of population having mail delivered at home



Postal reliability index (0 to 100, 100 = Best)

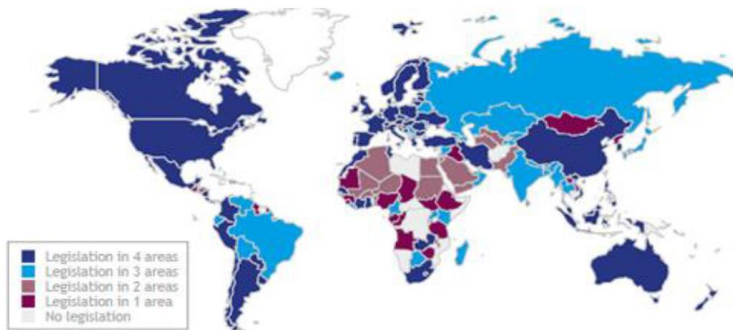


Days to clear direct exports through customs



Source: UPU and World Bank (complete URL addresses in the General Notes)

LEGAL AND REGULATORY FRAMEWORKS - 2017



BANGLADESH

Electronic Transactions: Legislation
 Consumer Protection: Legislation
 Privacy and data protection: #N/A
 Cybercrime: Legislation
 Source: UNCTAD

For more information see: http://unctad.org/en/Pages/DTL/STI_and ICTs/ICT4D-Legislation/eCom-Global-Legislation.aspx

SKILLS DEVELOPMENT - 2013-17

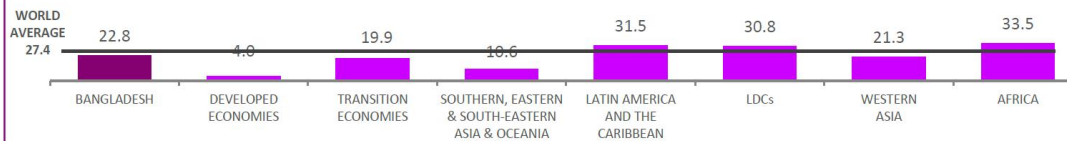
Percentage of firms using e-mail to interact with clients/suppliers



Source: World Bank (complete URL address in the General Notes)

FINANCING FOR eCOMMERCE - 2014-15

Percentage of firms identifying access to finance as a major constraint



Source: World Bank (complete URL address in the General Notes)

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- eTrade for All: <https://etradeforall.org/>
- Ministry of Posts, Telecommunications and Information Technology: ictd.gov.bd