Keeping Bangladesh connected: The role of the mobile industry during the COVID-19 pandemic

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COVID-19 in Bangladesh

Connectivity has become a lifeline for the continuation of economic and social activities during the COVID-19 pandemic and will remain so in a post-pandemic world. In Bangladesh, mobile connectivity has been crucial to enabling businesses and educational institutions to remain active, and providing a channel for individuals to socialise, work and access many life-enhancing services amid confinement measures put in place to curb the spread of the disease.

Mobile technology's importance in sustaining social and economic activities has seen the government classify the technology, along with other electronic communications services, as an essential public service, granting mobile staff key worker status. The government continues to support the use of mobile technology to protect citizens and save lives. Mobile operators are actively engaging with citizens and the government to provide a range of vital services and ensure continuity of access to mobile services, accommodating pressures on revenue and network capacity due to price reductions and changing consumer behaviour during COVID-19.

This GSMA National Dialogues report explores how mobile can be a positive force for societal change. The report highlights the role that operators in Bangladesh are playing in harnessing mobile technology to alleviate the impact of COVID-19 on the country's citizens; and the need for greater action to ensure that digital technologies can continue to respond to the challenges presented by COVID-19. Inspiration for these actions can be found in the COVID-19 Crisis Response: Digital Development Joint Action Plan and Call for Action (JAP)[1] developed by the World Bank, the International Telecommunication Union (ITU), the GSMA and the World Economic Forum, which provides a set of high impact and immediate measures to help countries remain connected. The report's conclusion draws heavily on actions from the JAP that are most relevant to the Bangladeshi situation, and provides a list of recommendations for the Bangladesh government and the Bangladesh Telecommunications Regulatory Commission (BTRC) on measures to alleviate pressure on networks and ensure resilience, continuity and growth of access to mobile services by consumers and businesses during the COVID-19 crisis and beyond.
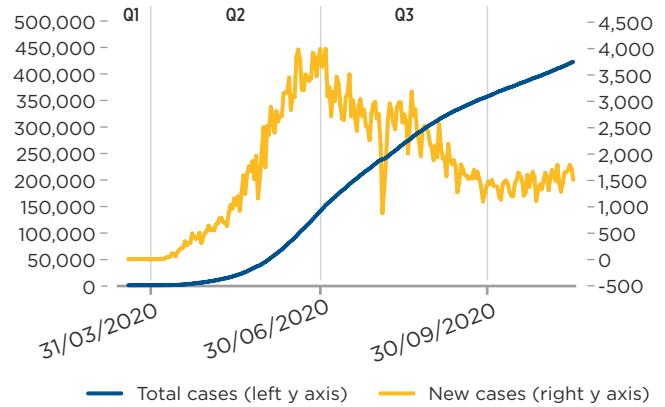
COVID-19 in Bangladesh: Key Facts

Confirmed cases*

3

First confirmed case (8 March)

438,795

Total number of cases (19 November)
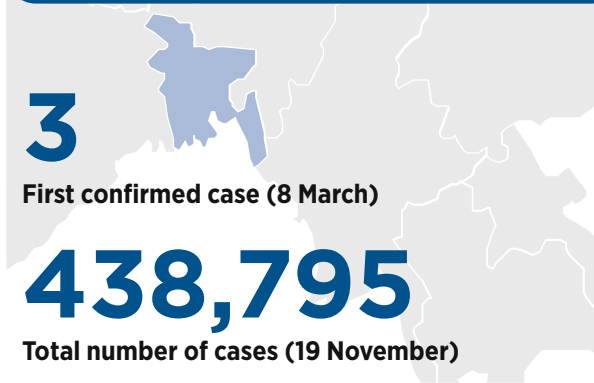
Total and new cases

- Total cases (left y axis)
- New cases (right y axis)

Source: Our World in Data (2020)[2]

Impact on the economy	Economic growth	Public debt to GDP ratio	YoY fall in exports	Employment	Remittances
	7% to between 3.8%[3] and 5%[4] ↓	36% (end of 2019) to 41%[5] ↑	83%[6] ↓	68% job loss in urban areas*[7] ↓	27.8% projected fall[8] ↓

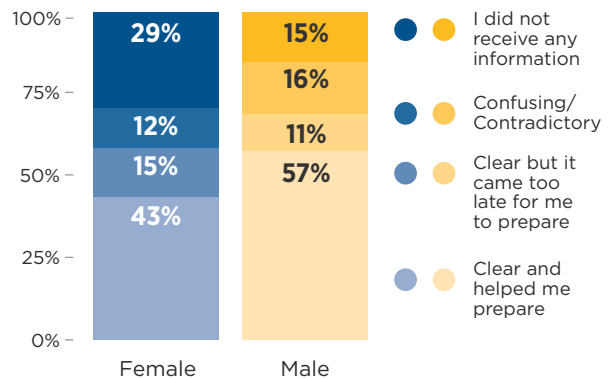## Gender impact

Women in Bangladesh are **29% less likely** than men to own a mobile phone and **52% less likely** to use mobile internet[9].

The effects of the gender mobile internet and usage gap can be seen during the COVID-19 pandemic with women nearly twice (29%) as likely as men (15%) to not receive necessary information on COVID-19. Overall, only 43% of women, as opposed to 57% of men, received helpful, clear and timely information.[10]

Proportion of population able to access COVID-19 information, by sex

- I did not receive any information
- Confusing/ Contradictory
- Clear but it came too late for me to prepare
- Clear and helped me prepare

Source: UN Women 2020 [11]

Government measures

Public health directives

Lockdown[12]

Stimulus packages[13]

Social protection programmes

Recognition of telecommunications as an essential service

The Mobile Industry's Response to the COVID-19 Pandemic

Mobile operators in Bangladesh have stepped up to the challenges of the pandemic by taking measures to ensure that mobile technology is effectively utilised to contain the spread of the disease across seven key areas:

Disseminating vital information

The ability to keep citizens up to date with the latest advice is of paramount importance in fast-developing situations. As such, operators are working with governments by using SMS and social media applications to deliver timely information directly to mobile devices. These tools are helping people identify symptoms and take preventive measures as well as communicate government advice on the pandemic.

Mobilising resources to maintain critical connectivity

With many Bangladeshis working and studying from home, access to mobile technology and mobile internet has proven critical to ensuring people stay connected during the pandemic. Demand for mobile internet has soared with operators experiencing an increase in internet traffic.

21% increase in data carried by mobile networks (Q2 versus Q1)[14]

Despite the economic uncertainty created by the pandemic, mobile operators remain committed to investing in added capacity to ensure their networks remain robust and resilient, given the change in data consumption patterns. Download speeds fell at the beginning of the pandemic due to a rise in the demand for data coupled with delays to network rollouts as a result of disruptions to the shipment of network equipment. Despite this initial setback, operators have been able to undertake critical maintenance and repairs to sustain telecommunications networks. Network operators have to date successfully maintained services and efficiently utilised pre-existing capacity, and in certain cases expanded this capacity to ensure that the rise in demand can be met.

Mobile average download speed % change vs week commencing 2 March
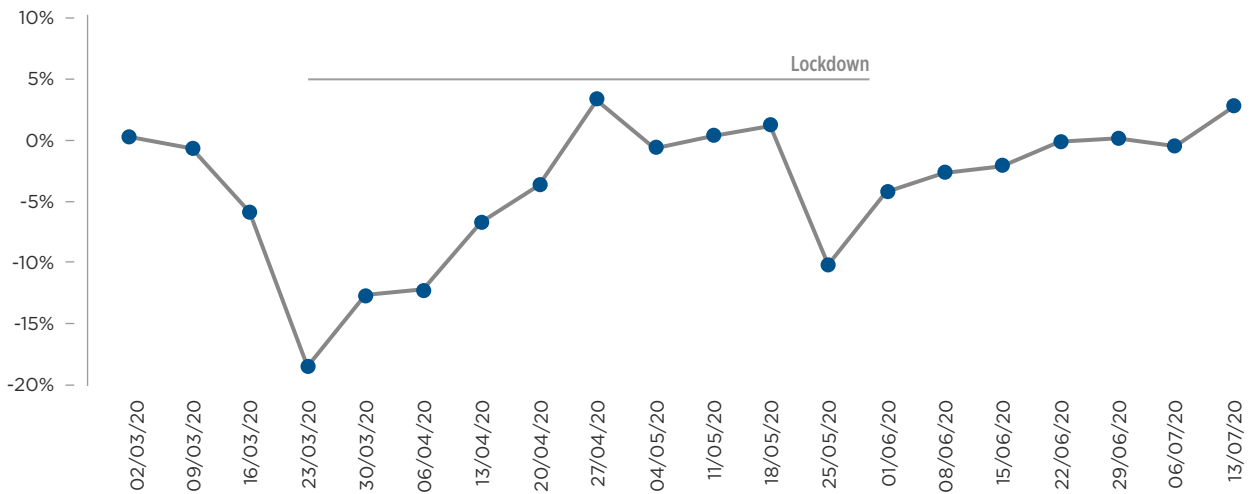
Source: Ookla (2020)[15]

Short-term measures to improve the affordability of mobile services
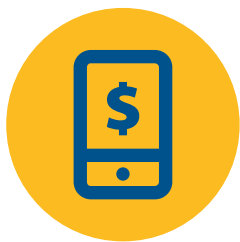
Access to affordable digital content and services is fundamental to ensuring connectivity during the COVID-19 pandemic. Understanding the importance of data during the crisis, mobile operators have been working to make access to and use of mobile internet services more affordable through temporary measures that include discounts on tariffs and subsidising the cost of accessing the internet. Below is a list of these temporary measures.

| Increased data allowance on plans while keeping prices the same | Extension on customer's pre-paid validity | Free balance transfers | Flexible payment options | Introduced special packages for low income customers and frontline workers | Zero rating of essential content |

Collaborating with government to leverage mobile big data to make informed decisions to control the spread of the disease

Customer data is a critical resource for supporting public health actions across the different phases of the COVID-19 pandemic. Mobile operators are working with key stakeholders including a2i[16] and the National Telecommunications Monitoring Centre on a COVID-19 Collective Intelligence System. The system combines location data from mobile phones with self-reported data and test reports to create dashboards to assist decision making. For example, the system identifies "hot zones", where there is a high prevalence of infections, for mass testing.

Bangladesh's COVID-19 Collective Intelligence System[17]

Data collection → Data analysis → Decision making

Data collection
- Citizen Self-report
- Automated Contact Tracing
- Report from COVID-19 Tests
- Frontline Workers Self-report
- Report by CST

Data analysis
- Doctors' Pool (4,000 doctors) — Medical advice e-Prescription
- Data Analytics
- Verification by Doctors — High-risk cases Hotzones Recommendations

Decision making
- Dashboard for Healthcare Providers (DGHS, IEDCR, public and private) — Medical decisions
- Dashboard for Govt. Administration (Cabinet, field admin, police) — Admin decisions
- Multi-stakeholder Communication — corona.gov.bd TV, radio, community radio, phone, social media

Source: a2i (2000)

Data Privacy

The mobile industry believes that early and significant attention to data privacy and human rights can enable responsible use of data to help fight the pandemic. The GSMA COVID-19 Privacy Guidelines[18] provide that mobile network operator data can only be used if it is lawful to do so and if use of the data is transparent, time-bound and limited to the specific purpose of addressing the pandemic. It is also important to consider the ethical implications of the data use, especially in the context of emerging, data-driven technologies, for example to avoid inadvertent discrimination against groups of people.

Providing mobile health services through telehealth

COVID-19 has had severe health ramifications, and the most vulnerable members of society have been the hardest hit. The pandemic has revealed the importance of technology in delivering healthcare solutions. Mobile operators are leveraging mobile and frontier technologies to drive more affordable and quality healthcare, with some services seeing significant growth in usage from Q2 compared to Q1.

Facilitating access to a broader suite of digital health services

Enabling access to formal and informal health-related information via voice, SMS and apps	Remote patient consultations	Discounts on special health screening packages	Digital booking systems

Facilitating E-learning

Operators are providing solutions to educational challenges during COVID-19 with many supporting the shift to online and distance learning by actively working towards increasing access to digital educational resources. By working with stakeholders, including EdTech start-ups, operators are able to leverage mobile technology to promote and support uninterrupted online learning for students at home. Mobile operators are also providing reduced tariffs to support home working while also enabling access to additional content and services for children at home.

Emergency Telecommunications for Disaster Management

Bangladesh ranks 10th among 187 countries with the highest disaster risk worldwide. Events such as the COVID-19 outbreak and Cyclone Amphan have reinforced the urgent need to build resilience into the country's infrastructure to reduce the impact of natural disasters and improve Bangladesh's ability to recover from shocks more easily.

The development of an emergency response action plan is a key action from the COVID-19 Crisis Response: Digital Development Joint Action Plan and Call for Action (JAP)[19]. An emergency response plan aims to ensure communications availability during the disaster mitigation, preparedness, response and recovery phases. Operators have access to critical infrastructure and data that can feed into national disaster response mechanisms. By working with the right national frameworks and organisations, operators can significantly improve the ability of national bodies to prepare for and respond to natural disasters. Mobile operators and the BTRC have formed a Technical Committee to draft the Standard Operating Procedure (SOP) that will guide the actions of telecommunication services when responding to disasters.

COVID-19 Impact on the Mobile Industry

Substantial impact (Q2 vs Q1)

The impact of the COVID-19 lockdown measures introduced in March 2020, on the mobile industry, were evident in the industry's Q2 (April to June 2020) results. Movement restrictions, due to health concerns and government orders, led to an increase in online activity at home (i.e., working and studying from home, e-health, digital commerce, entertainment, streaming, etc). This reliance on the internet saw an increase in per customer data consumption of between 16% and 29% and a decrease in demand for voice calls by 6.5% to 7%. The increase in data consumption was not sufficient to offset overall revenue decline with operators seeing a decrease in service revenue and insignificant growth in data revenue. The latter occurred as a result of operator action to improve the affordability of data services during the pandemic, through temporary discounted measures such as zero rated access and increased validity of prepaid SIMs, counterbalancing data consumption growth.

Despite the introduction of these short term measures to improve the affordability of mobile services, active subscriber numbers dropped. This was due to the difficulty prepaid customers experienced in topping up credit when movement restrictions were in place or financial constraints because of reduced or no income. Affordability was likely even more affected by an increase in supplementary duty from 10% to 15% which could raise the cost of mobile services and data, with a disproportionate impact on low-income and price-sensitive consumers[20].

Data usage per customer per month (AMBPU)
Between 16% and 29% ↑

Call minutes per customer per month (MOU)
Between -6.5% and -7% ↓

Average revenue per user (ARPU)
Between -2.5% and -7.3% ↓

Active subscribers
-2.4% ↓

Mobile internet subscribers
-0.3% ↓

Revenue
-8.2% ↓

EBITDA
-6.5% ↓

Effective tax rate[21] to consumer on voice and data services

Increase in tax on voice services
27.5% → ↑ → 33.25%

Increase in tax on data services
16.5% → ↑ → 21.75%

Uncertain recovery (Q3 vs Q1)

Although new caseloads declined in Q3, the mobile industry is yet to recover pre-pandemic levels of financial performance. Active subscriber numbers (higher), total revenue and EBITDA (both lower) were within 1.5% of Q1 levels. However, despite an increase in the number of mobile data customers of nearly 8% and an increase in average data consumed per customer of 16-20%, data revenue increased by just 4%.

Thus, operators continue to heavily subsidise data consumption. The recovery is vulnerable to a potential second wave over the winter period. The unpredictable course of the pandemic means that prospects for future growth remain uncertain, undermining the mobile industry's ability to continue to respond to the pandemic and drive forward the vision of Digital Bangladesh.

Accelerating Connectivity during COVID-19 and Beyond

As Bangladesh grapples with the COVID-19 crisis, the importance of digital technology in sustaining connectivity and ensuring social and economic continuity has become even more apparent. Mobile operators are contributing solutions to the problems presented by COVID-19 by carrying out activities and actions that leverage mobile technology to combat the COVID-19 crisis.

Now is the time for accelerated private-public sector collaboration to jointly respond to the crisis to ensure networks are well-equipped to handle an exponential increase in digital traffic, help Bangladesh future-proof their digital capabilities and infrastructure for subsequent crises, and ensure access to digital services for the most vulnerable populations.

Recommendations

Both the Bangladesh government and the BTRC have an important role to play in reducing the regulatory and usage barriers that prevent the deployment of affordable, reliable and safe digital technologies during the COVID-19 crisis. The JAP outlines key areas for action to maintain connectivity during the COVID-19 crisis. Some actions have already been accomplished or are ongoing. This includes the government's recognition of telecommunications as an 'essential service' (Action 14) and the mobile industry's significant contributions to keeping

their customers connected through the voluntary provision of short-term, affordability improving services such as zero-rated access to essential content (Action 9). To further improve affordability for end-users and promote mobile internet usage, due consideration should be made to reduce taxes, duties and fees on mobile communications (Action 11). This is especially important in light of the recent increase in supplementary duty on voice and data services which is likely to affect the prices ultimately paid by consumers and may have a strong impact on the poorest consumers, reducing their ability to subscribe to a mobile broadband service.

Other actions, such as those related to using big data to address the health crisis (Action 15 and Action 16), have been partially addressed by operators in partnership with the government. Mobile operators and the BTRC are jointly advancing Action 18 on emergency response. With greater use of digital technologies for everyday activities set to shape the future, it is essential for stakeholders to take a holistic approach and consider the direct and indirect impact it will have on society's wellbeing. A considered approach that balances data privacy and security with benefits to users and society can boost innovation by start-ups which create jobs and accelerate the realisation of Digital Bangladesh. This means adopting a whole-of-government approach (WGA) to the advancement of the digital society.

The GSMA recommends that the Bangladesh government and BTRC prioritise the following actions from or related to the JAP to support Bangladesh's mobile network operators in maintaining connectivity and bringing vital services to the population during the COVID-19 crisis:

1. Promote network resilience

- Allow MNOs to deploy last mile connectivity through their own fiber up to respective BTS/Node-B/e-Node-B, New Radio.

- Ensure the continuity of the digital industry supply chain by streamlining customs and logistical processes and classifying network equipment as essential infrastructure. Options include fast-tracking innovative network technology solutions and procurement of connectivity equipment to ensure business continuity.

- Streamline planning processes to enable rapid approval of installation of additional capacity on existing network sites and approval of new sites and installations. This can be addressed by providing access to public sector sites for mobile installation.

- Publish regulatory guidelines for active infrastructure sharing, allowing full fledged active sharing (RAN sharing and core network sharing) in order to minimise duplication of investment, ensure optimum utilisation of resources and to cater for exceptional demands due to this pandemic.

2. Ensure access and affordability of digital services

- Rationalise industry taxes, duties and fees on mobile communications, public and data communications services, mobile money services and international gateways to encourage digital communications and transactions during the pandemic.

- Incorporate a special programme under SOF rules to establish a common mobile network infrastructure to ensure affordable access of digital services for the COVID-19 impacted population and the people or places deprived from such facilities.

3. Leverage e-health, big data and telemedicine to address the health crisis

- Initiate close dialogue with key stakeholders to determine how to adopt a whole of government approach to address the health crisis that prioritises the harmonisation of policies related to key sectors such as telecoms, e-health, big data and telemedicine across all national development plans such as Vision 2021.

- Create a framework that clearly states how data (including the repository of telcommunication and health data) is shared and handled between key sectors during the pandemic.

Conclusion

Beyond COVID-19, mobile internet will continue to connect people to new opportunities and life-enhancing services, drive economic growth and advance progress towards meeting both the UN's SDGs and Digital Bangladesh. It will also play a key role in supporting recovery from the impacts of COVID-19. It is therefore vital that the people of Bangladesh are able to access and use the internet and fully realise the social and economic benefits that mobile internet can enable.

Bangladesh's telecommunications sector is critical to supporting the development and growth of the country's mobile internet, especially in more remote areas. Pressures on revenues, as a result of changing consumer behaviour during COVID-19; reduced incomes; industry taxes and fees; and discounted and subsidised short-term measures taken by operators to alleviate pressures on networks, will all affect operators' efforts to connect the unconnected by expanding their services and developing their networks. To ensure the industry's ability to fully contribute to Bangladesh's socio-economic development, it is imperative that the government and regulator work with the mobile industry to identify the regulatory and cost barriers to deployment, support the expansion of commercially sustainable networks and address the key barriers to mobile internet use.

Endnotes

1. For more information, see:
    http://pubdocs.worldbank.org/en/788991588006445890/Speedboat-Partners-COVID-19-Digital-Development-Joint-Action-Plan.pdf

2. For more information, see: https://ourworldindata.org/coronavirus/country/bangladesh?country=~BGD

3. For more information, see: https://www.imf.org/en/Countries/BGD

4. For more information, see here: http://bbs.portal.gov.bd/sites/default/files/files/bbs.portal.gov.bd/page/057b0f3b_a9e8_4fde_b3a6_6daec3853586/2020-08-10-14-49-94b60708240f454c1036d64090cf38ec.pdf

5. ibid

6. ibid

7. For more information, see: https://openknowledge.worldbank.org/bitstream/handle/10986/34449/Losing-Livelihoods-The-Labor-Market-Impacts-of-COVID-19-in-Bangladesh.pdf?sequence=1&isAllowed=y

8. For more information, see: https://www.dhakatribune.com/business/economy/2020/08/03/adb-bangladesh-s-remittances-to-decline-by-27-8-in-2020-due-to-pandemic *Study conducted in Dhaka and Chittagong City Corporations and Cox's Bazar district

9. For more information, see: www.gsma.com/r/gender-gap

10. For more information, see: https://data.unwomen.org/resources/surveys-show-covid-19-has-gendered-effects-asia-and-pacific

11. ibid

12. For more information, see: https://www.aa.com.tr/en/asia-pacific/covid-19-bangladesh-extends-lockdown-until-may-30/1840126

13. For more information, see: https://home.kpmg/xx/en/home/insights/2020/04/bangladesh-government-and-institution-measures-in-response-to-covid.html

14. Calculated using data on average MB consumption per user per month and internet subscriber from operators Q2 report. Formula: (Average data consumption per user x Internet subscriber at the end of the quarter) x 3

15. For more information, see https://www.speedtest.net/insights/blog/tracking-covid-19-impact-global-internet-performance/#/Bangladesh

16. a2i is a whole of government programme under the of the ICT Division, and supported by the is a Cabinet Division and UNDP. The programme catalyses citizen-centric public service innovation to simplify public service delivery and improve the lives of citizens

17. a2i (2020)

18. For more information, see: https://www.gsma.com/publicpolicy/wp-content/uploads/2020/04/The-GSMA-COVID-19-Privacy-Guidelines.pdf

19. For more information, see: https://weltrisikobericht.de/english/

20. For more information, see: http://pubdocs.worldbank.org/en/788991588006445890/Speedboat-Partners-COVID-19-Digital-Development-Joint-Action-Plan.pdf

21. Taxes on mobile services comprise VAT (15%), supplementary duty (15%) and surcharge (1%)

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