POLICY BRIEF

# INTERNET ACCESS AND USE EXCLUSIVELY ON MOBILE DEVICES IN TIMES OF PANDEMIC: CHALLENGES AND RECOMMENDATIONS

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# The importance of mobile telephones

For many people, mobile phones offer the first contact with the Internet and may be the only opportunity to access technologies in developing countries.

Over the past decade, mobile penetration has reached universal levels around the world (a 96% increase since 2018), meaning that every person in the world has access to a mobile device (with more cell phones than people on the planet). However, the differences in access rates must be taken into consideration in light of the social and economic aspects within each country and region (World Bank, 2019).

The widespread increase in the use of cell phones in the world and specifically in developing countries is due to the low barriers to access that this technological device has compared to others. In most cases around the world, these devices offer people their first contact and opportunity of access to technologies thanks to their low cost (relative to other devices), portability, and low usage requirements (skills).[1] In addition, cell phones articulate connectivity, increasing the number of people using the Internet to meet their needs.

Internet users who connect exclusively to this service from a cell phone do so on a daily basis (frequency of use) and/or wherever they are (place of use). In this regard, cell phones are not only used to connect to the Internet, but may also represent the only means of communication, especially in the context of the pandemic. In addition, cell phones can help improve productivity, facilitate the exchange of information and knowledge that many people need for development and decision making in their daily lives, overcome geographic barriers to sustain social relationships, and enable important networking for health, economic activities, and government programs.

1 In this regard, Barrantes & Matos (2020) show that the choice of technological devices depends largely on the type of activities a person wishes to perform using the technologies. For example, the use of social media is generally via mobile devices, while the use of word processors and databases is generally by means of a desktop or personal computer (laptop).

# The Global South: A space of challenges for disseminating ICTs.

## According to ITU (2018), Global South countries are lagging behind in the dissemination process of ICTs with an impact on people's lives.

Most sources of information about access to and use of Information and Communication Technologies (ICT) focus on collecting binary indicators (access/non-access or use/non-use). Those that go beyond this focus on specific contexts and populations in developed countries for the most part. The implementation of new information gathering tools that also address perceptions, barriers, and potential risks faced by the population is a pressing need in the Global South. Methodologies that allow for comparisons between countries, highlighting the characteristics of the different social groups that exist within each country, are needed.

According to the International Telecommunication Union - ITU (2018), the countries of the Global South are lagging behind in the process of ICT diffusion, making it difficult to reap the benefits and adequately develop and appropriate the new changes that technology generates in people's lives.

In 2017 and 2018, After Access[2] conducted a study in three regions to analyze barriers to access and technology use, the opportunities technology can generate for the population, and the challenges that come with progressive use. The data collected are nationally representative of several countries in the Global South.[3] Going beyond binary indicators, they include information about different uses and perceptions of ICT. As such, they comprise a unique data source that makes it possible to understand the Internet user that connects exclusively from a cell phone, thereby informing policy recommendations in the context of a pandemic.

2 See: https://afteraccess.net/

3 African countries include: Nigeria, South Africa, Tanzania, Kenya, Ghana, Uganda, Senegal, Mozambique, and Rwanda. Countries in Asia include: India, Pakistan, Bangladesh, Nepal, Sri Lanka, and Cambodia. Countries in Latin America include: Argentina, Colombia, Peru, Ecuador, Guatemala, and Paraguay.

## Characteristics and digital skills of the Internet user that connects exclusively from a cell phone[4]

There is a marked diversity in the sociodemographic characteristics of this type of user, not only between regions, but also within them. For example, in Argentina (Latin America) and Nigeria, Ghana, and Rwanda (Africa), more than half of this type of Internet user has a higher level of education (above high school level), compared to the other countries. The percentage of this type of user with a lower level of education is more acute in Asian countries (Pakistan, Bangladesh, and Sri Lanka), and Latin America (Ecuador and Paraguay).

Secondly, women represent 45% of this type of Internet user with high percentages in Latin American countries like Argentina, Colombia, Peru, and Ecuador; and lower percentages in Asian countries like India, Pakistan, Bangladesh, and Sri Lanka. Similarly, one out of two users that connect to the Internet from a mobile device are single and one out of three live in a rural location. This latter result shows the importance of cell phones as a means to connect to the Internet in urban areas.

After Access survey results and analysis allows us to calculate more closely the dimension of digital demand gaps: those that are determined by the digital skills users have or do not have to use technologies (OECD, 2016; ITU, 2019). In Latin American countries, with respect to the ability of users to solve their technological problems on their own, the gap between users that connect to the Internet only using a mobile device and users that connect to the Internet using any device is not significant. In contrast, in countries in Asia (Sri Lanka) and Africa (Nigeria, South Africa, Kenya) the skills gap is greater among these types of Internet users.

The other measure of digital skills that the After Access survey results allow us to study are the years of experience in using the Internet, the most widely used measure of digital skills in literature (Srinuan & Bohlin, 2015; van Laar, 2017). As shown in ***Figure 1***, for all the countries analyzed, users who connect to the Internet exclusively from a cell phone have fewer digital skills than other Internet users, which is the most notable difference between the types of users.

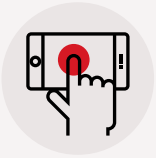
4 For more detailed information on demographic characteristics and Internet usage in the countries studied, visit: https://olatics.net/ (Latin America), https://researchictafrica.net/ (Africa), https://lirneasia.net/ (Asia).

## Figure 1: Years of experience using Internet

# Internet Uses in the Global South

***Figure 2*** shows that the most used mobile applications are instant messaging and social networks, both of which are real-time information exchange applications.

These types of applications are especially relevant in the context of a pandemic because they provide access not only to information associated with breaking news about the virus and public policies to contain infection, but also because they provide a wealth of opportunities to obtain information about potential vendors of consumer goods and various services required during the pandemic. It is important to keep in mind that information shared mainly over social networks is not always true (Barrantes et al., 2019), which can be a trigger for mass hysteria in the population.



The most used mobile applications are instant messaging and social media networks. In some African countries the use of educational applications is predominant.

Another important point is that there are differences in the use of mobile applications within regions among Internet users that connect to the Internet only using a mobile device and users that connect to the Internet using any other device. Firstly, the gap in appications use among both types of Internet users is lower in countries such as Guatemala and Paraguay (Latin America), India, Sri Lanka and Cambodia (Asia), and in almost all of the African countries analyzed (except for Kenya and Rwanda).

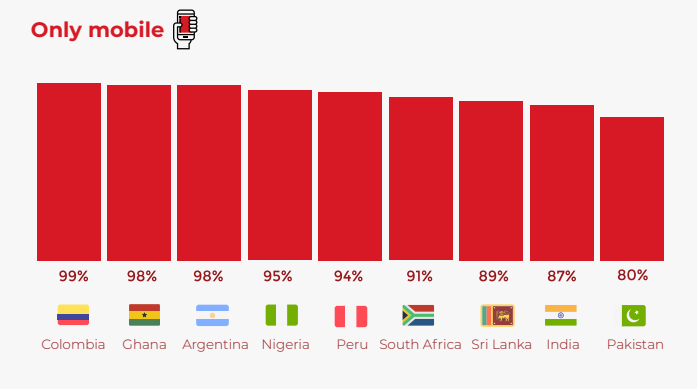
Secondly, in certain African countries like Nigeria, Ghana and Uganda, the use of educational applications is relevant for users who connect to the Internet from a mobile terminal. As a result, providing educational services through mobile applications becomes a potential tool especially during times of pandemic during which less social contact is prioritized, but also provides an important opportunity to initiate the debate and formulation of educational policies based on the use of technologies in the future.[5]

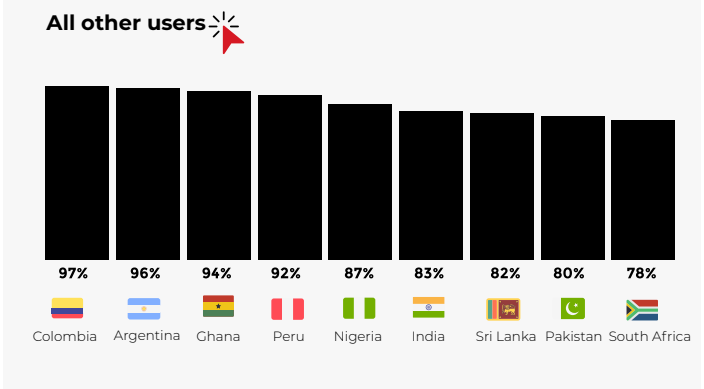
Apps represent opportunities to digitize everyday activities in times of pandemic.

5 In particular, the opportunities provided by technology to achieve universal education at a lower cost, namely cost-effective educational policies Hirsh-Pasek et al., 2015; Seyed et al., 2015; García-Martínez et al., 2019).

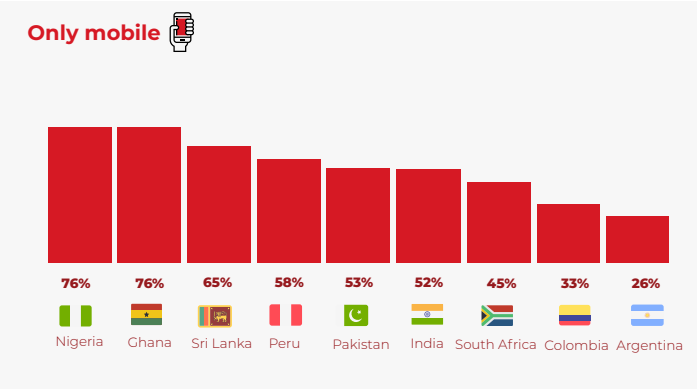
## Figure 2. Use of mobile applications by users that connect to the Internet exclusively from a mobile device

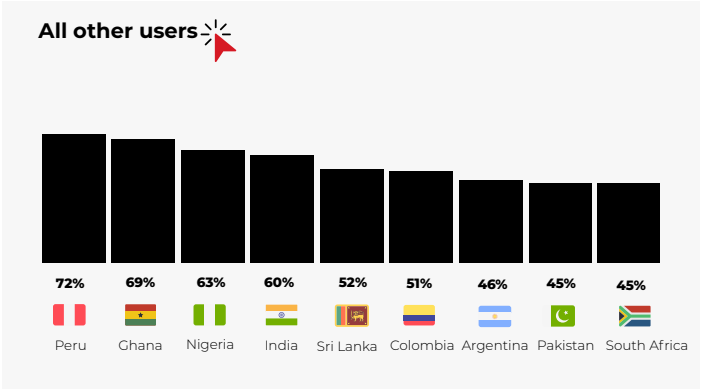
### Social Media



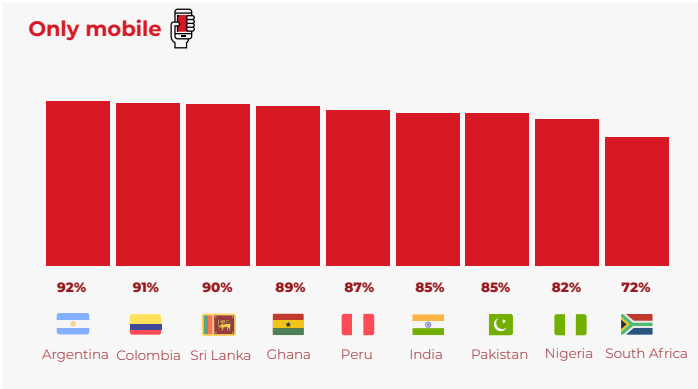



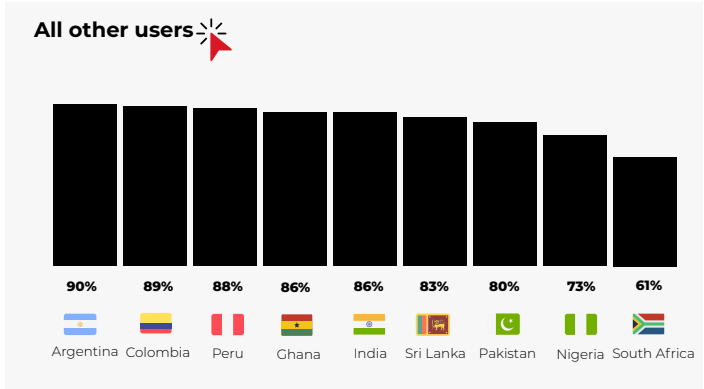

### Education




### Messaging



This contrast in the use of mobile applications is a key indicator of the activities carried out by these types of users on the Internet and their needs, making mobile devices the most viable alternative for maintaining contact and interacting with the world using only a cell phone and different mobile applications in the context of a pandemic and voluntary or mandatory confinement policies.

## Public policy options

In the context of the pandemic, confinement policies have to assess the use of digital technologies from a social inclusion perspective, meaning that no one be left behind in the process of addressing the particular needs of the entire population. These technologies have been fundamental for governments' communication with citizens (i.e., the provision of public services) about issues related to health, the provision of social benefits (vouchers or non-conditional economic transfers) and education, among others.

In this document we have identified the characteristics and different uses of a type of Internet user that connects exclusively from a mobile phone. The opportunities for implementing public policies through technologies seen during the COVID-19 pandemic present a policy tool that can be leveraged even in the short term. If a considerable proportion of people in a country primarily use cell phones to obtain and exchange information, not only can governments implement secure, reliable and transparent information channels regarding the measures they plan to implement, they can establish a means of communication with the government (open government) to identify the population's principal demands and improve the efficiency of their performance.

The confinement policies generated during the pandemic have revealed each country's capacity to support their Internet networks. In this regard, the new opportunities offered by the incorporation of technologies in public management must be supported by policies targeting the supply and improvement of telecommunications infrastructure, which not only reduces access barriers, but also allows the population to take full advantage of the benefits offered by this tool (Internet speed, latest generation technologies, among others). Some other relevant policy options

in this context are **(1) increase connectivity to guarantee access and use; (2) subsidize the delivery of cell phones, particularly for the most vulnerable population (children and the elderly); (3) foster alliances with the private sector to expand access to digital infrastructure; and (4) consider issues of privacy and information security**.[6]

In this document we have identified the characteristics and different uses of a type of Internet user that connects exclusively from a mobile phone. The opportunities regarding the implementation of public policies through technologies that have been evidenced by the COVID-19 pandemic pose a policy tool that can be taken advantage of in the short term, as well. If a considerable proportion of people in a country primarily use cell phones to obtain and exchange information, governments can implement secure, reliable and transparent information channels not only regarding the measures they plan to implement, but also as a means of communication with the government (open government) to identify the population' s principal demands and improve the efficiency of their performance.

In the context of a pandemic, in addition, mobile applications can be developed to control the spread of the virus that: **(1) detect crowds of people (possible sources of infection); (2) help people report their health status in emergency situations; (3) keep the population informed about prevention, care and related public policies; (4) provide public services (education, taxes, paperwork, etc.).**

6 For example, see this case in Argentina: https://bit.ly/3qR9oqu

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