CLARA: My name is Clara Aranda. I work for the GSMA as an Insights Manager. So today I'm going to talk to you about some of the work that we have been doing recently in terms of what we call the mobile disability gap in emerging markets. I will be talking about two specific countries, Kenya and Bangladesh. Perhaps you are asking what is the GSMA. We get asked that question very frequently! The GSMA, if you look at your phones you have probably a 4G or maybe 3G and sometimes it says GSM. The GSMA is a trade association that represents mobile operators. We have over 100 members globally. One of our main activities is to organise industry‑led events. We may have heard about the World Mobile Conference. These are organised by the GSMA. We lead the industry towards collective action for the social good, for social benefits. So, for instance, we led the industry towards committing to the Sustainable Development Goals.

As part of our programme, we have a programme called Mobile for Development. It is funded by the Department for International Development, UK Aid. Our main goal is to reduce inequalities in the world by using the power of mobile. One of our thematic areas is assistive tech. In assistive tech, our mission is to drive greater inclusion of people with disabilities by maximising the potential of mobile as a digital assistive technology. We gather stories from our customers and users of mobile phones and engaging with the mobile sector and DPOs, academic institutions. We also advocate for the digital inclusion of persons with disabilities and starting from this year we will be supporting start‑ups that are innovating in this space.

So, we've been really busy during the past year doing research in Kenya and Bangladesh to understand the mobile disability gap. I will share some of the findings we have and the research. Our publication will be published, the full report will be published on December the 3rd. So, I know many of you will be very busy during that day but I'll invite you to go to our website and look at our report where you will be able to see the full research that we conducted in Kenya and Bangladesh.

So, we have heard during the past sessions that there are around one billion people in the world that have some form of disability. The majority of persons with disabilities in many parts of the world, they live in situations in which they are marginalised by society. They don't have access to equal opportunities like non‑disabled individuals. For example, in developing countries 90% of children do not attend school. It is also estimated that 80% of adults with disabilities are unemployed. But the barriers for disabilities are usually socially, environmental, political creations. These barriers are what leads to the exclusion of persons with disabilities. But assistive technologies could help break some of these barriers. However, access to assistive technologies is very limited in many parts of the world. Around one in 10% of individuals that need assistive technologies have access to them.

Mobiles have a versatile nature. They cluster different assistive technologies in one device. But the connections between the mobile and the disability is not fully explored when we think about developing this in context. So, during this year, we conducted research to try to understand the characteristics of access ownership and use of mobile phones and mobile services by persons with disabilities. We tried to understand the role mobile plays in the enabler of participation.

This research funded by the programme, it is funded by the Department for International Development and led by the Global Disability Innovation Hub, so we did the work in collaboration with the DDI hub. For our research we conducted over 1,000 surveys in both countries. We conducted 40 qualitative interviews in each country and we conducted eight photo voice studies in each country.

Now I will present the findings from the research. When we started the research we thought initially, that we were going to find that persons with disabilities were not going to own mobile phones or the ownership would be low. To our surprise we found that access to mobile phones by persons with disabilities in these two countries is really high. This is whether they own the mobile phone or they borrow it from someone else but access is high. However, persons with disabilities are more than 10% less likely to own a mobile phone than non-disabled persons in the country. In each country -- and the majority of them own a basic or a feature phone, so less than 30% of persons with disabilities own a smartphone. This is something really important to highlight. A smartphone, they are the devices with the greatest capabilities to work as assistive technologies. When we look at the details around ownership and access to mobile phones, we found a couple of factors were key with regards to the levels of ownership. The first was the level of education. Individuals with no education or with lower levels of education are less likely to own a mobile phone.

Also, individuals with multiple disabilities are less likely to own a mobile phone. Individuals with multiple disabilities are amongst the group that is most marginalised within the settlement of different groups with disabilities. This is as access to education is challenging for them in this context. This relates to the previous reason, the levels of education are usually, or lower levels of education resorts in limited opportunities for employment, it means that individuals have a lower purchasing power so being able to buy a mobile phone is challenging. Also, with lower levels of education comes lower digital literacy levels so using a mobile phone is challenging.

So, I said that 30 or around 30% of persons with disabilities own a mobile phone. Who are they? We found that in both countries around 50% of individuals with hearing impairment own a smartphone. But when we look at other groups of disabilities, we see massive differences. We see that around 15% of individuals with visual impairment own a smartphone. This is for a few reasons but one of them is that in these countries where digital literacy skills are limited for some individuals, they use, the use of a mobile phone with a keyboard becomes years for them.

I also said, that there is a high level of ownership and access to mobile phones but what I want to highlight is that the majority of persons with disabilities in this country, they receive the phone as a gift, and when they buy it, they buy a second-hand phone. Also, those who don't own a mobile phone often borrow a mobile phone from a relative, a family member and in a few cases may pay someone to access this mobile phone. This means that the people that don't own a mobile phone tend to have a restrictive access to mobile services. So, while we identified a mobile disability gap, something that is really interesting is that when we looked at how persons with disabilities and non-disabled persons use mobile services, we really don't see a big difference. In fact, we see something that we call "the power users". The power users are groups of individuals that use mobile phones more than non-disabled persons. In Bangladesh, we found that persons with disabilities are power users of mobile services, 25% of persons with disabilities own a mobile registered account compared to 14% of non-disabled persons. In Kenya, 69% of individuals with visual impairment that own, 69% of visual impairment smartphone owners use mobile internet daily compared to 56% of non-disabled owners. So, we need to think about how we are designing mobile services when we think about inclusion.

When we look at the customer journey path, going from access to ownership to use of mobile services we identified different barriers that persons with disabilities reported when they use mobile services.

The first is that they often said that because of their disability they don't own a mobile phone or they use mobile services to a limited degree. I want you to keep this in mind. I'm going to come back to these points.

Affordability is a challenge, the majority of phones that have the best accessibility features are expensive for them, so they cannot buy them and digital literacy is a challenge, they report that they don't own a mobile phone because they don't know how to use it.

They don't use certain services as they just don't know how to use them. These three characteristics are perhaps common for other digital tools we can even think from a tech call perspective we can think of solutions, thinking of accessibility, we would think about low-cost device, we would think about ease of use or intuitive designs but we found two element, two barriers that are particular to mobile technologies. The first one is that persons with disabilities in these countries consider that mobile phones are communication tools, they value them as communication tools but they or their care givers or the lenders of the phones don't perceive them as assistive technologies, as a bridge to increase participation in society.

The second is that there are few mobile services that are required that the user inputs a PIN code or a password, and persons with disabilities are concerned about safe and confidential use because sometimes the services are not designed for inclusion, and they need to ask for someone for help to make certain transactions.

I will give an example in a few slides. So, you may be asking, well, there are accessibility features, right? I told you that they report. That disability is the reason that they don’t own a phone or have a limited use of services. So, yes, there are accessibility features but, in our research, we found that around 10% of mobile phone users use accessibility features. This is something really critical. When we look at smartphone users, we see that the numbers increase a little in Kenya to 22%, in Bangladesh it is 14%. A maximum of 22% of individuals that have access to accessibility features use them.

So why is that? The first reason is lack of awareness; they simply don't be known that accessibility features exist. The second is again, digital literacy, they don't know how to use the accessibility features. The third one is affordability. Many of the individuals own smartphones that are cheap and that don't have the full suite of accessibility features if they want to improve the accessibility features, they have to pay for the add-on apps to improve the quality of the functions.

For us, the apps may be cheap but for many they are not cheap and they are restrictive. So, I presented some of the research that we found from the surveys and the interviews but we spoke with individuals, like I said, and in the stories that were shared with us, we found that the mobile phones are helping persons with disabilities to break barriers, to access opportunities that they did not have access to before. For us, it is in the stories that we are able to gather the life-changing potential, the life-changing potential of mobile phones in the lives of persons with disabilities.

I will read a quote from one of our participants. He is a male; he is 25 years old with visual impairment and he is from Kenya. He told us, "For many of you mobile is just like any other device but for me it is a companion in my life." This for us is one of the reasons, why, as the GSMA, as assistive tech we are motivated to do more work in the area to close the digital inclusion gap.

We found that mobile enables access to financial services. We found that it enabled access to healthcare and access to education. We spoke to individuals of short stature that told us that when they go to banks, they can't reach a counter or can't get money from ATMs. We spoke with wheelchair users who said that they cannot access banks as in these countries, the infrastructure is not necessarily accessible. But for them, mobile money services are giving them a convenient way to access financial services.

To give you a short example, there is an operator in Kenya called Safari Com, the largest prayer in Kenya. In 2017, they decided to audit the services to see how accessible they were. They saw that individuals with visual impairment were the most disadvantaged users of their services. They looked specifically at their mobile money service called Impesa. When they spoke with users with visual impairment, they realised that they were actually very often the victims of theft and fraud as every time somebody made a transaction, they would receive a text message with a new balance. So this means if you have a visual impairment you would go with the agent, you would give him or her the money, you would make the transactions and only until you found someone that you trust you show them the balance and then you realise that the full money was not deposited. So, to avoid that, they would ask for someone that they trust to do the transactions for them and they would give them money so. There was a hidden cost that they were incurring to be able to access the services. So, Safaricom decided to introduce interactive response, for the mobile operators, it took three months to make the incompetent congratulation of the two technologies. What safari Com reported to us is that fraud has been reduced by more than 90% and they have an increasing number of users of these services.

When we asked them how do you know that the customers have visual impairment and they said, well, we think that they are because when you are a sighted user, using IVR is quite cumbersome. It has gone through word‑of‑mouth they are trusting and using the service and they are telling others to use the service.

Our findings on the mobile disability gap are in line with findings from the UN related to digital inclusion. A report recently published by the UN says that persons with disabilities have limited access to communication technologies but also have limited use of internet when you compare to non‑disabled persons, so it is clear that a digital inclusion gap exists. We need to do work around that.

Just to conclude, I'm going to highlight a few points. The first one is that digital accessibility solutions exist but they are not necessarily suitable for every context. One of our participants in Bangladesh, he was in the picture, he is using his phone and he was telling us that Bengali speakers when they try to use speech recognition technologies and try to use VoiceOver or talkback, they struggle a lot because the software doesn't recognise what they are saying. So, we are creating certain barriers for them that shouldn't exist.

Also, I mentioned that awareness and digital skills are critical. In the picture I'm showing one of our interviewees in Kenya who is visually impaired. She's holding her smartphone and she's using a magnifying glass. She uses the magnifying glass to read the text on her phone because she's not aware that the phone has a magnifying text function. So, if we want to close ‑‑ if we want to narrow the digital inclusion gap, we need to work on awareness and increase the digital skills of persons with disabilities in these countries.

To finish, I will summarise some of the few points I've highlighted in this talk. The first one is that persons with disabilities value mobile phones as communication tools but there is a barrier and a mobile disability gap still exists. Persons with disabilities are still less likely to own a mobile technology. In this market, the needs of persons with disabilities are not fully satisfied across the different stages of the customer journey. Although solutions exist that help address some of the barriers, they are not necessarily suitable for them or suitable for persons with disabilities in the developing countries.

So, I have in front of me many tech developers! You are probably at the top end of the development of some of these solutions and what I want to ask you is that when you design the solution, try to think about them so that they are designed for everyone. More importantly, once you design them, try to think about ways in which you can make sure that your customers, your users will know about them and will know how to use them. Otherwise we will create unintentional barriers. So, that's all from me. I'm happy to take questions.

[Applause]

MARK: I've got a couple of questions. The most obvious one at the beginning, what does this teach us that may be useful in other countries? Is GSMA using it to think about other countries outside of the two you have referred to?

CLARA: At the moment, we have only done this research in two countries. Next year, we're going to do more countries. We try to cover different regions. So, our main regions of focus are Africa and south‑east Asia, that's because of the funding that we receive. We want to expand to other countries and we want to see whether these findings are applicable to other regions or whether we find some surprising things.

When you think about more developed economies, I want to bring to you the concept of frugal innovation. There are some benefits you get when you design for certain contexts with restricted resources, for instance, that when you bring them back to more developed economies it might bring other benefits you didn't see before. So, what I'm hoping for you to get from these lessons is, like I said, think about your customers always. Think about your users and think about the differences in context in which your customers may be residing.

MARK: Thank you. Do you have any good examples of any awareness or education campaigns that you came across, particularly the ones we were talking about a moment ago where people are helping people find the accessibility features by some means, through customer support or other processes? If the gap that they didn't know were there, is there any work to fill that gap?

CLARA: So, we know that for instance, that GARI, it is a reporting initiative, it is a database that has been created for assessing accessibility for many different devices. It includes mobile phones, tablets and also smart TVs. For instance, some mobile operators have adapted GARI in their platforms so that customers can be aware of certain accessibility features that mobile phones may have. But something that we still need to address is mobile operators are putting that information there but we are not sure how much users are interacting with that information. We're not sure about whether users understand that information and it is something that we want to explore further.

MARK: You were talking about potentially working with customer services people who are working directly with customers.

CLARA: Yes.

MARK: Is that happening already?

CLARA: Yes, as part of our plans, as you can see from the talk, Digital Skills, digital literacy is quite critical. We need to ensure that disabled people learn to use the technology features are critical. One of the plans in the coming months is to develop a toolkit so we support agents, mobile operators or we support operators so they train agents to be able to support customers with disabilities so that they are aware of these features. It is something that we're working on. We are not aware at the moment of anyone else doing this.

MARK: I think there are people doing that but not in the telecoms sector that we know about. Certainly, in banking, we know about it.

CLARA: I would be very happy if you come to talk to me if you know of other initiatives and I'd be happy to learn about them and share some learnings.

MARK: When is the report available?

CLARA: December the 3rd. You have a lot of information there and you will be able to access all of our methodologies and all of our findings in detail. Please contact us if you have any questions. We would be very happy to speak to you.

MARK: Thank you very much. [Applause]

MARK: Thanks, Clara. That's great. Lovely, thank you. I think there was lots of questions on here a bit like: "How does this apply to us?" I know the gaps we heard about from Scope, we were discussing whether or not we could join the research together or not. What is the daily experience of people with disabilities in any country? One thing they didn't mention in Big Hack is the Hierarchy of Needs, which is really interesting. That is one of the first pieces of work you did, the Hierarchy of Needs and how disabled people use technology and the relationship between what they need and how they fulfil certain tasks in their life. The fact it has taken place in a developing country obviously still throws up lots of questions you recognise from your own experience of working with disabled people and trying to close that gap.