Barriers to internet access in Africa revealed

Only about 25% of the African population has access to the internet and significant barriers to internet access remains in four African countries: Rwanda, Kenya, Nigeria and South Africa.

Jochai Ben-Avie, senior global policy manager at Mozilla.

Mozilla-backed research has revealed the main barriers to internet access in African countries and aims to understand, from a comparative perspective, how the citizens use the internet when data is subsidised and when it is not. The research was carried out by Research ICT Africa.

Knowing that affordability is one of the primary barriers to internet access and particular optimal use, the main objective of the focus groups was to obtain qualitative information that reflects the perceptions of female and male internet users, new users, and non-internet users from urban and rural locations about how people use the internet.

A 2016 International Telecommunications Union report estimates that only about 25% of the population of Africa has access to the internet. Results of the research included the following findings:

- In all the countries, across demographics, access to subsidised data did not result significantly in new users going online.
- Use of subsidised data is just one of many strategies employed by users to manage costs in these four African countries.
- Uptake of zero rating varied across the four countries. Awareness was low and scepticism of free services was high in Nigeria, whereas in Rwanda bundles with unlimited WhatsApp and Facebook were very popular. In Kenya and South Africa, the zero-rated services were welcomed for their cost-reducing nature.
- There was substantial interest and uptake in Equal Rating-compliant, partially subsidised data bundles that provide access to the entire internet not just some parts of it (e.g., Cell C's offering of 250MB between 1am and 7am for R6 in South Africa; or an MTN bundle in Rwanda for Rwf800 (USD 0.96) that provide 24 hours unlimited data).
- Poor network quality and coverage limited the consumption of subsidised data since some respondents, especially in rural areas of Kenya, Rwanda and South Africa, reported that telcos with those offerings did not have coverage in their area. Indeed, many of these users only have access via the most expensive operator in that country.
- Women face additional barriers to internet use, including concern of being exposed to inappropriate content online and its consequences in their intimate relationships and family responsibilities.

"Our research reveals that a significant urban-rural divide remains in opportunities to access the internet." said Dr Alison Gillwald, executive director of Research ICT Africa. "Too often the debate over zero rating glosses over the fact that many people in rural communities don't even have access to the best subsidised offerings and have to spend largely disproportionate amounts of their already low income on mobile access, and that's assuming they can even find electricity to charge their devices."

> *More must be done to connect the unconnected… It's critical we focus on barriers like healthy competition outside urban areas, electricity, digital literacy, and gender power relations.*

"Given all the controversy around zero rating, it's surprising to see how few research respondents in these African countries actually use or depend on zero rated data. We are, however, seeing a lot of interest in Equal Rating compliant models which provide access to all of the internet, not just some parts of it," said Jochai Ben-Avie, senior global policy manager at Mozilla.

"More must be done to connect the unconnected. This research makes clear that it's critical we all focus more on barriers like healthy competition outside urban areas, electricity, digital literacy, and gender power relations."

Affordability barrier

Zero rated services are still relatively new to the Nigerian market, with Airtel launching Facebook's Free Basics and Facebook Flex only last year. Awareness and use of zero rating remains low in Nigeria, a country which enjoys some of the cheapest data prices in Africa. Results of the research included the following findings:

- Many rural users see the internet as their access to the civilised world and the gateway to the places around the globe where they have friends and family.
- Overall awareness and use of the internet has gained traction especially as social interactions, business or career enabler, and majority of participants, whether in rural or urban areas, rank the purchase of data high on their personal expense list.
- There is a general belief that mobile network operators charge a hidden tariff, and whatever airtime is on the phone will be eventually deducted by the operator if one subscribes to a subsidised service.
- Many non-users want to use a "big phone" (a smartphone) and would rather wait until they can afford one than use a more limited version of the internet.
- Though the price of brand new smartphones keeps dropping and they can be bought for as low as $20, affordability challenges persist.

As Gillwald explained: "Even in a country with some of the lowest rates for data and devices in Africa, the cost of buying a

smartphone in Nigeria is still a challenge for many. Affordability gets disproportionate attention, but we need to do much more to improve digital literacy and supply side issues like network quality and speed."

Ben-Avie added: "This research demonstrates that Nigerians want access to all of the internet, not just some parts of it. If we're to bring all the internet to all people, we need to do more to improve digital literacy and understanding of the internet, especially among low-income individuals and those in rural and deep rural communities. We believe in equal rating for all internet users so that this shared global resource is not held hostage by the wealthy."

Security fears

The Communications Authority of Kenya reports that some 38 million people – about 82% of the population – were online in 2016. The four mobile operators in the country have 4G internet connections on mobile, but not in all parts of the country. Researchers' findings include:

- Social media tops the list of uses for the internet and there is even a perception among some users that the internet is about social media.
- The price of data bundles and internet-enabled phones render the cost of doing what most users want to do online prohibitive to many.
- Strategic solutions for high costs include working late into the night before reward bundle periods expire, visiting friends who have Wi-Fi at home, and using multiple promotions from different operators.
- Even when people have smartphones, they do not always carry them for offline security reasons. In particular, there are concerns that, thieves may frequent areas with free public Wi-Fi in order to steal patrons' internet enabled devices
- National network coverage was seen to be a challenge for both voice and data particularly in rural areas.

"While internet access is good in Kenya relative to elsewhere in Africa, real barriers remain to internet use," said Gillwald. "If we don't look beyond access issues to the real concerns around privacy and security, for example, we'll never bring all of the internet to all people."

Ben-Avie continued: "One participant in this study reported concerns about getting skin cancer from their phone, proving there's a lot more we still need to do to improve digital (and health) literacy. At the same time, Kenyan internet penetration is on par with some of the most developed countries, and that's due to the ingenuity of Kenyans to find ways to connect despite the relatively high cost of data."

Subsidised data

Internet use and access in Rwanda has been exploding largely due to the Government of Rwanda's Vision 2020 to enable Rwanda to leap-frog the key stages of industrialisation and transform her agro-based economy into a service, information-rich and knowledge-based one that is globally competitive. While internet penetration is relatively high, the diversity of content accessed by participants in this study is relatively low. This is of concern. Results of the research including the following findings:

- Most participants only use a very limited number of websites and services, and make heavy use of subsidised data.
- While the use of subsidised data services allows mobile network operators to retain a large number of subscribers that use the internet, an Airtel representative was quoted as saying the company is considering ending their current zero rating offers because the majority of users that are benefiting from zero rated services are no longer using other services, and therefore are not spending on data.
- The types of bundles and packs from the three MNOs keep changing almost every week due to tough competition going on, and some promotion offers – including zero rated services – are not even publicised on the website to prevent competitors access to the information.
- The majority of participants with mid or high income when asked how they would react if subsidised data was no longer available, responded that they may reduce the time spent on the internet, while participants with low incomes

responded that they may stop using the internet.

- Significant access barriers remain, especially in remote areas, including the cost of data as well as illiteracy and lack of understanding of foreign languages to manipulate devices and understand internet content.

"Rwanda has been a real leader in bringing people online, including through innovative models like internet connected buses and other public Wi-Fi efforts," explained Gillwald. "The limited number of sites and services Rwandans use points to the need for the government and other stakeholders to consider issues beyond access that leave many Rwandans accessing just a small part of the internet."

Ben-Avie said it was inspiring to see the boom in internet access in Rwanda, however, many Rwandans were still stuck in the "walled gardens" of subsidised services and hadn't yet experienced the full diversity of the open internet.

"Rwanda is a fascinating testbed of different experiments in connecting the unconnected and we hope the Government of Rwanda and other stakeholders will focus on solutions like Equal Rating that seek to bring all of the internet to all people," he said.

Opportunity

The research sees opportunity and a greater outlook in the future of internet use for these countries. Infrastructural issues still need to be addressed in rural areas, in particular to increase quality of service, which would allow users to choose any operator offering the cheapest product. The intensity of use could be enhanced through redirecting universal services funds directed at access, often by subsidising the already planned roll out of services, towards supporting the rollout of public Wi-Fi points at all public facilities such as schools, clinics, libraries and police stations.

Other factors limiting the digital participation of the poor and unskilled, particularly women, will require policy interventions than extend way beyond digital policy to the much greater challenges of human development.

Without interventions to redress broader social and economic inequality in society more, the entry of more sophisticated services and devices will amplify digital inequality.