Internet use barriers and user strategies: South Africa Report

Prepared for Mozilla

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Executive Summary

Affordability is cited as one of the biggest challenges to Internet uptake and use. Some service providers and users of over-the-top (OTT) platforms and applications have devised strategies that allow the OTT services to be used as communication substitutes for traditional voice and SMS services over mobile devices. OTT services have become the main entry point to the Internet for most users in the prepaid mobile environment that characterises most African markets. To entice price-sensitive users and to encourage new Internet users, the availability of subsidised data - whether discounted or free - prompts questions of how Internet access and use are affected. Does it enable access to the Internet for first-time users? Does it improve the intensity of use, allowing people to explore the Internet without concerns of cost? Does it lock people into pared-down versions of social networking platforms? This report is based on the focus group study conducted in November 2016 as part of a comparative study on Kenya, Nigeria and Rwanda on internet use barriers and strategies used to overcome these.

The groups were stratified based on urban and rural location and on gender. The findings highlighted the relationship that Internet access and use have with the social and economic contexts of both users and non-users. By reviewing the findings based on geographical location, gender and the extent of Internet use, similarities as well as differences are seen. The Internet is an important means of communicating and finding information on various platforms whether social media, email or search engines. In an environment where voice and SMS tariffs are more expensive regardless of location, the Internet is perceived as an easier and cheaper alternative.

There is a general understanding of what having internet access enables amongst users and motivations for people to go online are widespread. Students go online for research purposes, professionals to communicate with colleagues and unemployed people go online to look for work opportunities. Staying in touch with friends and family, making new friends and possibly finding relationships online motivate people most to access and use the Internet, though this is seldom the sole reason.

Although respondents cannot autonomously name their top sites, email addresses and social media are the main starting points in connecting to online platforms. Google also provides the main entry point into the online space and for internet exploration. Differences between men and women emerge with regards to content accessed. Women only were interested in accessing health content while men focused on sporting sites.

Surprising perhaps, considering the controversy around zero-rated services such as Freebasics, people are not highly dependent on subsidised data to access the Internet, but they are a tactic of broader price-control strategies. None of the users reported going online because they had access to Freebasics.

Mobile phones remain the most popular means of Internet access the for most respondents. Mobile users resort to purchasing shorter term bundles or using specific products such as Facebook or WhatsApp-only bundles. To capitalise on data offers and promotions (and as an indication of poor network quality) people also used multiple SIM cards. Poor network quality and coverage limits the consumption of subsidised data since some respondents reported not having service coverage. This was mainly reported in the rural and deep rural areas. In some instances, users limit their internet use by switching off their data. Using personal laptops, however, or accessing computers elsewhere such as the Internet café or public library, are another means of access for urban and peri-urban users. Rural users rely heavily on mobile devices for internet access.

Subsidised data does not lock users into specific content avenues since other means of accessing the Internet were reported during the focus groups. Most respondents in urban and peri-urban areas used private individual connections, sought out free Wi-Fi provided by commercial entities, and sought the free public Wi-Fi provided. This service is mainly available in urban areas, as noted from the peri-urban and rural respondents who still had to travel to access public Wi-Fi points.

Supply-side barriers to Internet use for both users and non-users alike are cited as limited coverage, poor quality of service and electricity shortages. In the deep rural area, the extent of Internet use is limited by the limited sources of power to charge mobile phone batteries. The devices need to be taken to a different charging point, often overnight. The low affordability of data and devices is cited as another barrier to use by both Internet users and non-users.

There is concern about privacy and security as people fear being swindled or misrepresentation online. Gendered issues of patriarchy and power relations between men and women impair Internet use. Being online, in particular on social media is perceived, in some cases, as interfering with their relationships. Digital skills and illiteracy are demand-side issues that greatly affect non-users as well – even those who have smart devices, limiting their Internet use.

The evidence gathered here is based on focus groups with individuals selected on the grounds of locality (urban or rural) and gender to explore social, cultural and softer economic issues with the depth that cannot be quantified in surveys. Gathering evidence in this way enables the identification and inference of emerging trends, usage patterns, price-quality optimisation and the way social relations influence these. It also raises issues that require quantification in the forthcoming "Beyond Access" survey being undertaken in 2017 across 20 countries in the Global South.

This study serves to nuance the quantitative evidence and answers questions that cannot be quantified. To this end, the report indicates that subsidised data does not limit the extent of Internet use, but rather that the extent of Internet use needs to be understood in relation to several contextual factors. Internet users make use of

subsidised data to manage their data costs together with other tactics. Reducing the cost of data and providing affordable services should remain a policy solution to low Internet use. However, this should be done to improve infrastructural policy solutions, such as the release of spectrum and the promotion of community-based initiatives addressing rural connectivity where users often have little choice among services providers.

The analysis of the findings suggests that the 'beyond access' challenges require a rights-based approach to deal with barriers such as privacy and security online by ensuring and raising awareness thereof, for example. The possibilities of achieving this in a digital context where offline rights do not exist is one of the biggest challenge for many countries. Other factors limiting the participation of the poor and unskilled, particularly women and rural populations, will require much more extensive multi-generational policy intervention to address broader inequalities in the economy and society, particularly in relation to unequal education, that play out on digital platforms. Without such interventions of redress, the expansion of the Internet will perpetuate and even amplify digital inequality in society.

1.Background

In order to understand how people, use the internet when data is subsidised and when it is not, a qualitative study in the form of focus groups was conducted ahead of the broader nationally representative household and individual ICT access and use survey that is to be conducted during 2017. The focus groups conducted in South Africa are part of a wider comparative study with Kenya, Nigeria and Rwanda.

The main objective of the focus groups is to obtain qualitative information that reflects local perceptions about how people use the internet when they have their data subsidised and when they do not. Through the focus groups, the study seeks to shed light into the factors influencing internet use and the strategies that people employ in order to be able to access and use data for different purposes. The study also examines these factors through gender and location lenses by stratifying the groups into male, female, rural and urban focus groups.

The focus group discussions aim to test the following hypotheses:

- The use of subsidised services only forms part of data use;

- People do not move beyond the use of subsidised services; and
- Using the internet first through subsidised services leave people with a lesser understanding of the internet

2.Methodology

Focus groups were deigned to take place in identified urban, peri-urban, rural and deep rural areas in South Africa. Western Cape, Gauteng, Kwazulu-Natal and Eastern Cape were the selected locations for the study. From these provinces, we selected the urban, peri-urban, rural and deep rural sites.

A total of ten focus groups were conducted comprising of male only, female only or mixed participants as highlighted in table 1. Previous focus group studies highlighted that gender issues were more likely to arise in rural than urban areas hence the concentration of split focus groups in rural and deep rural.

Table 1: South Africa Focus groups distribution				
Area	Urban	Peri-Urban	Rural	Deep-rural
Gauteng	1 Mixed groups	1 Mixed groups		-

Table 1: South Africa Focus groups distribution				
Kwazulu-Natal	1 Mixed group	-	1 Female Group 1 Male Group	-
Western Cape	-	1 Mixed group 1 Female Group 1 Male Group	-	-
Eastern Cape	-	-	-	1 Female Group 1 Male Group

Urban Areas profile

The urban areas of Gauteng and Kwazulu Natal selected were representative of highly populated areas, with unequal access to resources and located further away from the central business districts. In Gauteng we conducted the focus group study in Soweto while in Kwazulu-Natal the study was conducted in Durban's Cato Manor. Both Soweto and Cato Manor are referred to locally as townships. They are characterized by high levels of unemployment, a mix of formal and informal dwellings and low levels of income.

Peri-urban profile

The peri-urban focus groups were conducted in locations on the periphery of urban centers - Orange farm in Gauteng and Ashton in the Western Cape Winelands. These are less developed communities in comparison to their urban counterparts. These areas are marked by a mix of houses, informal dwellings or backyard housing. They have access to basic amenities such as water, electricity and toilet facilities. With high levels of unemployment reflective of the general trend in South Africa, in both groups there was a mix of employed, self employed, employed and seasonal workers.

Rural and Deep rural

As in the rest of Africa, rural households in South Africa are where the concentration of poor households are found. They rely on a combination of subsistence agriculture, social grants and remittances from family members in urban areas. They often have limited access to service delivery such as electricity, water and sanitation and transport services[1]. Rural municipalities are concentrated in Kwazulu Natal and the Eastern Cape. Mjindi under Jozini town, in Northern KwaZulu-Natal is considered a rural municipality. In the Eastern Cape, Mankosi, is considered deep rural given the extent of disenfranchisement, spatial distribution of households-564 households from twelve villages (Rey-Moreno, 2015).

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[1] Delivering municipal services in rural areas. (2011) Local government budgets and expenditure review https://goo.gl/sVuWmf
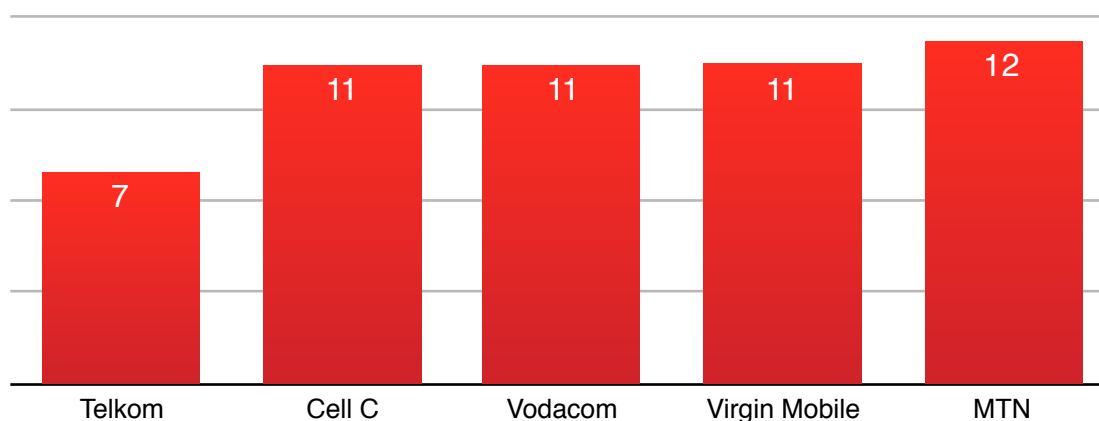
3 African market overview

FIGURE1: South Africa 1GB (USD) Price for Q1 2017. Source: RIA African Mobile Pricing Index (RAMP)

South Africa's mobile market is characterised by a duopoly. The two dominant operators, Vodacom and MTN have a market share of 37.7% and 35.9% respectively (Khan, 2016). Cell C and Telkom Mobile are the third and fourth largest operators. The prices above, have remained constant in the local currency with the lowest price of 1GB remaining unchanged since the third quarter of 2015. However, Telkom with the cheapest 1GB of USD7,49 has not managed to exert pricing pressure on other operators. Operators do not compete on the price of 1GB of data but rather offering personalised packages. Personalised packages refer to products that consumers may get if they meet certain criteria, such as products for under-25s or a tailored promotion after dialling a USSD code (Chair,2016).

All operators provide some zero-rated data and personalised packages, which include service specific bundles and rewards offers to attract and retain customers. At the time of the fieldwork in late 2016 all operators offered some zero rated sites, but only Cell C, a late entrant to the mobile market, with less than 20% market share offered zero-rated Freebasics and subsidised WhatsApp. In the beginning of 2017, Vodacom, the dominant operator began to offer subsidised social media (Facebook) whereas before it had only subsidised educational and career sites. Therefore, in the South African market, Facebook may now be accessed for free on either a dominant or non-dominant operator.

Other strategies which price-sensitive (and other) users adopt to access, or complement their use of the Internet is Public Wi-Fi. It is one of the ways in which provinces, and municipalities, implement the national broadband policy. Differing business models have been piloted mainly in urban areas of Gauteng and the Western Cape in rolling out public Wi-Fi (Geerdts, Gillwald, Calandro, Chair, Moyo and Rademan, 2016).

4 Findings

In the following section, we discuss the findings that emerged from the focus groups, divided into various themes.

4.1 Understanding what the internet is

Across the focus groups, from urban to rural there was more of an understanding of what one was able to do on the internet than what exactly the internet is. A male user in the urban area remarked:

> "Most of the programmes that we are using today cannot operate without the Internet. So you must have the Internet." *Male Urban Respondent.*

The internet served the functions of being a search engine, source of information, communicating, searching for jobs and for social media purposes. Thus moving away from the understanding that it is only for social media purposes. Understanding of the functions of the internet seemed for pronounced in urban areas. A female respondent in an urban area went on to cite the internet as a meaningful storage mechanism where one can conserve images and memories for the future generations to be able to access once she has passed on.

Rural respondents found questions on what the internet is more challenging than urban participants. Some of the respondents who engaged with the question of what the internet is indicated that it is a way of simplifying communication and a method to enable global interaction.

> "I can say that internet is a universal or group of interconnected computers that enable people throughout the world to communicate and make transactions with each other." *Deep Rural Male respondent.*

4.1.2 Motivations and perceived benefits of internet use

> 'umhh…. I think for me people use internet because they want to communicate and they want to socialise. For an example I was never going to use internet if it wasn't for Facebook and Google to set up my email account"- (Deep Rural Female user).

Internet users stated that the Internet was an integral part of their lives regardless of gender or location. Having internet access cuts down on cost to communicate in an environment where a large number of people are reliant on mobile network operators as their service providers as one peri-urban user stated "You don't have to spend a lot of money". Traditional

means of communicating are considerably more expensive in comparison to Voice over Internet Protocol platforms (VOIP). There is an understanding that the internet provides an easy platform for communication and social networks such as WhatsApp and Facebook were identified as major motivators for using the internet.

"Most people are on the internet for social networks like Facebook, Twitter, WhatsApp and Instagram. But also I think many people go to the internet to look for job opportunities and to check and send emails." (Deep rural male user).

Female respondents in the deep rural area, stated the Internet is a great source of information, even saving time and costs for travel. For all respondents, it is perceived to help one to research for information, facilitates communication and makes life easier.

"I use it (the Internet) to research a lot via google. It's my life." (Female Urban User)

and

"According to me, the Internet makes our lives easier. Everything that I want to know, I can go to the Internet." (Male Peri-Urban User)

Motivations to go online are also largely dependent on one's context and functional need for Internet services. A new older male Internet user highlighted being forced into using the Internet as he is a manager and is required to create a WhatsApp group. As a result, of this the only application he makes use off is WhatsApp. In fact, in this instance, the gain to having Internet access was for his children who made use of his device. Being a student also means that one makes use of the Internet to access academic material as well as conduct research. In some instances, to actually apply for further education you need to have some of online presence that is you need an email added:

"Sometimes when you want to apply for school… this I heard from school that if you are going to apply you need an email address or go to the library where they create an email for you"- (Peri-Urban User).

4.1.2 Content and platforms accessed

Social media platforms top the most popular platforms accessed. WhatsApp is the most frequently used application among respondents given the capacity of being an information and communication tool followed by Facebook. Some respondents noted that they were perpetually on WhatsApp:

 "WhatsApp is worse, we use it even at night, and we do not sleep, we use it even when we are cooking. Even though you don't type anything, you are online" (Peri-urban Male Respondent).

Despite the popularity of social media, users' activities online show they go beyond social media. Content and platforms that are accessed include job search sites, Google, health sites, music download sites, pictures, sermons, gaming and news sites.

> *"Yho! There are many, many things that I check on the Internet. For example, I am on WhatsApp, Facebook, Gmail, I check news, and I watch videos, download music and research."- (Deep rural female respondent).*

Differences between men and women appeared more distinctively in relation to content accessed. Women look for health information, specifically searching for remedies they could use at home, as well as fashion trends. Men search for sporting information in comparison. Reflective of economic challenges within these communities, job search sites were also quite popular. However, these were mentioned mostly by urban and peri-urban respondents.

The way in which new content is accessed is mainly through immediate family and friends or by internet exploration. Internet exploration is described as simply going through a search engine such as Google and discovering new content.

> *"There is another one called We Love It... like one time I went into Google to download something, I saw other stuff like We Love It, I got into it and I did not know it, they explained what We Love It was all about." Peri-urban female respondent.*

4.2 Mobile internet use

Internet access in South Africa is mainly through mobile phones, and corroborated by the participants in the study. In particular, in the rural and deep rural areas, for women it was the only option they had in accessing the Internet. Others might access it at their place of study or work or through public Wi-Fi. Most of the respondents from both Rural and Urban areas stated that they preferred to use mobile data to access the internet rather than using airtime, as mobile data is perceived to be a cheaper method to access the internet. This highlights that internet users are aware of higher out of bundle rates when one has not bought mobile bundled data.

In looking at the ways in which users save data, we asked how respondents selected a mobile network operator. Respondents in the urban and peri-urban areas seem to have options when it comes to balancing costs with having multiple SIM cards or switching to the cheapest network. For others, loyalty influenced their decision to stay on even the most expensive network.

In comparison, most rural and deep rural respondents were on the dominant operators, MTN and Vodacom, who were not as cheap nor offering social network promotions as on Cell-C and Telkom. Vodacom and MTN have wider rural coverage and better signal quality in some areas. Rural users often only have those two, or one of them, as an option. In the deep rural community, users were on MTN for one common reason, their relatives use MTN and therefore it is cheaper. This was also the one of the two networks that covered the area. Other reasons for using MTN included promotions, free MTN to MTN airtime and data. In the Kwazulu-Natal rural area, users

made use of Vodacom given the coverage and quality of the signal. In the instance where rural users have multiple SIM cards, it is because:

> "I use both MTN and Vodacom, reason being, I started by using MTN and then I changed to Vodacom because I always struggled with reception. Vodacom has a stronger signal than MTN." (Male Deep rural respondent)

And:

> "I use both MTN and Vodacom. MTN is for my personal phone and Vodacom is for the work phone. But I prefer Vodacom because of the strong network coverage, since we are staying in the coast MTN loses its signal all the time."(Female Deep rural respondent).

4.2.1 Mobile Data saving strategies

> "Data is very expensive in South Africa especially during the day, it's killing us. I don't use it for WhatsApp so during the day… if I want to check something you have to wait until late at night and then it will consume less"- (Peri-urban Male respondent)

Users make use of multiple strategies to maximise mobile internet access and save on costs. For all Internet users, they relied on internet bundles to access the internet. Respondents buy daily or weekly bundles in comparison to monthly bundles. These bundles often cost less than buying a gigabyte of data monthly. While other respondents opt to take advantage of the night bundle offerings from Cell C that provides users an allowance of 250MB between 1 am and 7 am for R6.

For other respondents the challenge lay to accessing the Internet was simply to purchase the data bundles. In one peri-urban area, data bundles were only available at the mall which was a distance away from the location and therefore was bought small sums of airtime and converted them it data bundles. Some respondents indicated data managing strategies through switching off their data, meaning they are not constantly online. Contract users among the respondents noted that they carefully manage the use of their data bundle within the contact packages to ensure that the allowance lasts an entire month so as to not over spend.

Another data saving strategy is that off taking advantage of promotions and bonus rewards from service providers. One respondent stated that she just buys airtime, knowing her network provider gives her free data. Bonus rewards refer to one being rewarded for purchasing a particular service then receiving points or credit that may be converted to data:

> "MTN depends on you having points, so you can still buy airtime with your points when you don't have airtime and you can even buy SMS with points and data too"- (Male peri-urban respondent).

These promotions have been one of the strategies which operators have been using to ensure consumer loyalty without bringing prices down. In urban and peri-urban areas

especially, there was a preference for Cell C, the third operator in the market because of the promotions. With these promotions for example, one could access WhatsApp monthly at 12 times less the price of a 1GB monthly bundle. However, this promotion is not inclusive of voice calling.

However, it was noted that the smaller bundles and promotional data did not last long and their airtime would be consumed in the process.

Specifically looking at zero-rated products, awareness of zero-rated services is found more in urban and peri-urban areas than rural areas. Respondents access zero-rated Free Basics: '*Yes you can download Free Basics, there is an App called Free Basics that you can download, it is also free' (Peri-urban respondent).* This offering forms part of the reason why some users choose to switch between networks in order to enjoy the benefits. These respondents were located in urban and peri-urban Kenya and South Africa.

> *R: It's free*
> *M: What do you mean it's free, you mean free, free, free?*
> *R: It's free, free, free.*
> *M: As in airtime showing zero, zero, free?*
> *R: Yes, because I ported today to Cell C and this lady said…'*
> *(Peri-urban respondent).*

However, one respondent raised concerns over free products stating that: "I think those free things to be honest do not motivate us to use the Internet, to buy data. Personally speaking those things do not motivate me."

4.2.2 Alternatives to mobile internet

While for main access and use of the Internet, mobile data provides a constant point of connection, Internet cafés, free Wi-Fi and libraries provide alternatives. Internet cafés can be used for an extended time, compared to when on a mobile device. They are more useful when users need to engage in data-heavy activities, including downloading or going onto YouTube, or for other services, such as scanning or CV typing. However, they are not as popular as respondents in one peri-urban area pointed out the challenge with an internet cafe is its location and cost. The Internet café costs more than a smaller mobile Internet bundle (thirty minutes of use) and they are not conveniently located in the areas we conducted the study in.

In the Western Cape province, peri-urban respondents indicated a use of computers at public institutions, either at the local school or the library. These facilities are free and open to the public. The area where the focus groups were conducted has the provincial

government Cape Access Project, which provides computers and Internet access at public libraries.

Free public Wi-Fi, whether it be provided by a public or commercial entity is very popular. Free Wi-Fi at work, universities, schools, hotels, restaurants, pubs, shopping malls, Internet cafés, or private individual networks. Free Wi-Fi at schools is usually only available to students and staff, thus limiting those who make use of it. Commercial spots, such as restaurants and hotels are often the most popular spots for Wi-Fi access with crowds of young people often found outside the Wi-Fi area. However, the commercial hotspots in some instances require one to purchase a service prior to accessing the internet or comes with a limited usage time:

> *'It can be accessed at the restaurant; they give you the password, if you have bought something inside' (Male respondent, peri-urban).*

Public Wi-Fi initiatives have been championed in the country, with provinces and municipalities tasked with the mandate of connecting their communities. However, the roll out has mainly been in urban centers and with challenges. In Soweto Gauteng, the municipal Wi-Fi was no longer available. In Ashton, none of the respondents knew of any initiative in their areas. In rural areas, Wi-Fi was available at schools and shopping centers but still required travel time to make use of the services.

Others relied on private Wi-Fi access, where one was given a password to the network or a mobile hotspot network would be created. Respondents revealed sharing office Wi-Fi passwords with friends, so they can use the service. Creation of private Wi-Fi was popular through mobile phone tethering, known as 'hotspots'. Internet access through mobile tethering was done for the purposes of assisting friends who could not at that time afford data:

> *"The thing is, I use Cell C [giggling] and Cell C has this thing of using WhatsApp for free and Facebook and since then my friend does not have data, I then have opened a hotspot for him using my data" (Peri-urban Male respondent).*

5 Barriers to internet use

While the popularity of internet access is quite clear, challenges for both users and non users limited internet use. This section discusses the challenges faced by both internet users and non users.

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5.1 Cost of data

The cost of data is a key barrier to the use of the Internet, larger data bundles were costly. The high cost of data and then the speed at which it is used up leaved many individuals frustrated. For example, the 1GB is more than R100. As a result, respondents opted for smaller bundles that were consumed quickly. While for other users, they opt not to go online at all due to the cost associated with access.

> *"I am not really interested because at times my phone consumes at lot of airtime, I sometimes find that my airtime is finished and I really do not know what happened to it" (Male Peri-Urban respondent).*

Others opted to rather spend their money on meetings their basic needs than using it for data, thus expressing it as a lack of interest. Affordability of devices as well impacted on access and use of the internet. Respondents indicated that the lack of an Internet enabled device was a barrier to the use of the Internet. Although, some entry level smartphones have been introduced in the market, these remain out of reach of some respondents that were unemployed or simply did not have sufficient income to spend on a device.

5.2 Electricity

> *"The issue of electricity is really restricting us from doing what we really want to do with our phones because we must always try to preserve the batteries." (Female respondent, deep rural).*

Given the lack of infrastructure in rural areas, in particular the deep rural area visited, the lack of electricity was cited as a challenge to extended internet use. Both men and women restricted themselves to using the Internet during the day because phones are taken to overnight charging stations.

5.3 Quality of service from mobile network operators

Regarding the available cellular networks, in the urban and peri-urban areas, for some respondents, the cheaper network Cell C has difficult network connectivity in comparison to the most expensive network Vodacom. In this instance some respondents made use of multiple SIM cards - the cheaper networks for data and the expensive network for calling.

5.4 Safety and privacy concerns.

In terms of experience or concerns with safety, privacy and content online, the main issues raised were from urban and peri-urban respondents. Deep rural respondents in particular had heard of negative experiences relating to privacy and safety, but did

not quite grasp privacy and data as an issue online. Misleading content was highlighted by both male and female users as a deterrent to Internet use. Users concerns are around individuals misrepresenting themselves after having interacted on social media. In particular misleading representation was associated with dating, as one urban female participant stated that someone on a dating site tried to steal from her.

In terms of safety, users were fearful of cult recruitments online and stalking. In particular, social media platforms where cited as the point of concern where these activities take place. Respondents from rural and urban have a common fear of potential evil spirits or "Satanists" their communities and in the social media. Despite the respondents' concern they say this would not stop them from using the Internet. Both men and women expressed safety concerns with interacting with new people as one male respondent reported to having being stalked online:

> *"I have been stalked before, I was chatting with someone on Facebook. I have come across pop-ups on Facebook whereby people will ask to be your friend. So I do not feel safe on Facebook" (Peri-urban Respondent).*

For some of the respondents, privacy was an issue, and they expressed concern about protecting passwords for websites and banking details and about hacking of private e-mails and social media accounts. In particular, they had concerns about malware that could be used to steal information. A peri-urban female respondent stated, '*On Google there are Spams, there are Trojans uhm…all those, people who are going to hack the…from your account, it is not safe*'.

Surveillance in the context of community or family members was of concern with some group participants observing what one does online or what ended up online was a problem. Some users opted not to use social media, as people would ask why they posted what they did. One urban respondent cited that, 'Some people fear ending up losing important things, such as respect and rights to be elected to public positions because of their stories and photos on the Internet'.

5.5 Barriers for non internet users

Digital skills proficiency remains a challenge and a barrier to the use of the Internet. Some non-users stated that they did not know how to use the Internet. Specifically, in the deep rural areas, the challenge for some respondents was that they were not literate, hindering Internet use. The issue is connected to education on what the internet is and how to use it optimally:

"I think I goes beyond that, if you cannot read or write you cannot use internet, many people in this community are not educated and I believe most of them want to be able to use internet because it makes life easier as it was said by one of the speaker hear earlier but, understanding of how the internet works becomes a major obstacle."-Deep rural male respondent).

However, the ability to use the Internet is becoming crucial given the digitisation of some crucial services. For example, registering children for their first year of primary school must be done online in the province of Gauteng. The respondents interviewed in this area cited it being a challenge as they did not know what to do.

Accessibility in terms of one's physical wellbeing impacts on access. An elderly female respondent in South Africa stated: 'I don't want to lie, I no longer see very well, I would love to use Internet but I can't keep up. But I am using a smartphone.' Although this issue was not probed further in the focus group, it would have been interesting to assess the disability functions on her device, specifically related to visual impairment.

6. Gendered issues

Although most respondents felt that men and women had equal access to the Internet. From a gendered perspective, the concern with the Internet was largely to do with expectations within romantic relationships and family responsibilities. Some respondents stated that the Internet was responsible for breaking up families and marriages due to the time spent online. A male respondent in peri-urban South Africa questioned why a married woman would go online: 'No, my point is what is she going to do there, what do married people want on WhatsApp?' This question was posed in a mixed focus group and female respondents pointed out that the concern went both ways.

One female respondent from an urban area noted that one of her family members had been prohibited by her husband from using the Internet although he had purchased a smartphone for his spouse. It was argued that the notion of privacy was another challenge as spouses were becoming secretive and even putting passwords on applications and their devices. This challenged the level of trust within relationships. Similar to this, in the deep rural area, social media is seen as the bone of contention in relationships. Female participants stated that partners feel uncomfortable with them being on social media sites, due to jealousy or fears that they will be unfaithful. In fact, in deep rural areas, the context of opting to not go online is connected to the levels of domestic abuse in the community

Sexual advances were perceived more as irritations by men. Male respondents in South Africa stated that they opted to block people, male or female users who solicit sexual or romantic

relationships without knowing them. This was different for female users. One female peri-urban respondent in South Africa actually resorted to changing numbers after having received sexual advances from a stranger.

7 Conclusion

The study tested the following hypotheses:

- the use of subsidised services only forms part of data use;
- people do not move beyond the use of subsidised services;
- using the Internet first through subsidised services leaves people with less of an understanding of the Internet.

Using subsidised data forms one of many strategies to use the Internet, confirming the first hypothesis. However, the second hypothesis was not confirmed, as respondents moved beyond subsidised data and in fact were seldom ever only on subsidized services. Concerns that zero-rated data, such as Free Basics locks users into one application, because it is fully subsidised were not supported by this research. What was apparent was the lack of awareness of and favour for this free service. Free services, in particular from mobile network operators, are viewed with scepticism, as the perception is that nothing is completely free.

The South African study, reflects the role of the context, particularly the urban rural experiences of internet access and use and data saving strategies. Mobile internet is the main point of access, providing an easier efficient means to communicate and find information. However, it does not come without challenges that impact on internet use. Cost of data is cited as a key barrier to internet use but users have found ways to circumvent this. This has been done through use of cheaper short time bundles services, promotions or finding alternative means to mobile connectivity. Looking at mobile specifically, from the respondents, urban and peri-urban respondents are more likely to have choice in switching operators than in rural areas. Being first to market and the extent of investment by dominant operators in South Africa, has meant that they are often the only or main service provider in rural areas. The network that offers subsidised zero-rated content and a lower priced, service specific bundle is not used in the rural community, primarily because it is not available or the quality is poor.

Furthermore, urban and peri-urban users, to some extent benefit from alternative means to internet access through free Wi-Fi, public access centers and internet cafes. However, locating public Wi-Fi spots is a challenge for respondents. Free commercial Wi-Fi, such as that in food outlets, is the most popular. Rural respondents however, do not benefit from similar options There is a need to extend the benefits of initiatives to increase connectivity to rural areas. Apart from specific internet initiatives, within the deep rural area site, basic services such as electricity need to be deployed to ensure people are not limited to using their mobile devices at specific times of the day.

Issues of content, privacy and safety online highlight beyond access challenges for internet users. Social media, even though very popular in terms of platforms accessed, poses a potential threat for safety and privacy. The possibility of losing your information online through hacking or experiences of being stalked are causes of concern for both men and women online. These issues fall under the rights to privacy and freedom of expression discourse and require an exploratory understanding of whether internet users have a grasp of these concepts.

Gender does hinder the extent of Internet use (as opposed to Internet access) though it appears that some men believe that women at different stages in their life should not have any need for certain products or services. Women may be more ready to limit and self-censor their use of the Internet, especially in relation to social networks than men. Women are concerned with how using the Internet could impact on their day-to-day lives. For women in rural areas in particular, the threat of prompting domestic violence further strengthens the gendered limitation to participating in the online space.

7.1 Recommendations:

• 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. There is also limited competition and the cost of devices to connect to infrastructures remains a major constraint to increased penetration Rural consumers do not have same choice of operators as urban users.

• Secondary spectrum use, such as TV white space, through to dynamic allocation of unused spectrum in rural areas could provide access at a fraction of the cost of current GSM data services. Unused GSM spectrum assigned to operators at the national level, and which is unused in many rural areas could be reassigned for community self-provision

• Generalised interventions that improve privacy and anonymity and generally contribute to an environment of security and trust online would also enhance the experience of women on the Internet by improving their protection from unsolicited content or surveillance.

• 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.

References:

Chair, C. (2016). Top operators for personalised prepaid products. RIA Policy Brief 3. http://www.researchictafrica.net/polbrf/Research_ICT_Africa_Policy_Briefs/2016%20Policy%20Brief%203_Top%20operators%20for%20personalised%20prepaid%20products_South%20Africa.pdf (Accessed 8 February 2017).

Geerdts, C., Gillwald, G., Calandro, E., Chair, C., Moyo, M. and Rademan, B. (2016). Developing smart public Wi-Fi in South Africa: Policy Paper. http://www.researchictafrica.net/publications/Other_publications/2016_Public_Wi-Fi_Policy_Paper_-_Developing_Smart_Public_Wi-Fi_in_South_Africa.pdf.

Khan, S. (2016). Rise of the living dead – SA's mobile operators wake up as 2020 draws closer. RIA Policy Brief 2. http://www.researchictafrica.net/polbrf/Research_ICT_Africa_Policy_Briefs/2016_Policy_Brief_2%20South_Africa_mobile_operators_wake_up_as_2020_draws_closer.pdf (Accessed 8 February 2017).

Rey-Moreno, C. 2015. *Community Telco: An acceptable solution for providing 3affordable communications in rural areas of South Africa*