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USES AND ADOPTION OF THE INTERNET

CONSULTANCY FOR MOZILLA CORPORATION

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Objective:

To analyze perceptions of Internet use, its current uses, and how use differs with and without subsidized data.

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This publication was prepared by *Roxana Barrantes Cáceres and Daniela Ugarte Villalobos* for Mozilla Corporation with the objective of analyzing Internet uses and the impacts of zero-rating policies on Internet users and non-users.

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1 EXECUTIVE SUMMARY

The present study have to two main objectives. The first is to understand how people use the Internet and how they have appropriated certain platforms or pages. The second is to analyze the users' views of zero-rating plans, for those who use them, and whether these plans influence their Internet use. With these objectives the study seeks to identify gaps in Internet access and how the use of Internet change depending on the individual user's conditions. In this section we present the main findings focus in the questions raised in the ToR for the consultancy.

1.1 Regarding subsidized data: Hypothesis posed in ToR: "The use of subsidized services only form part of data use"

- Most focus group participants are not aware of whether they have or use plans with subsidized data. Those who are aware indicate that social network platforms are the most subsidized.
- There is a difference between rural users in Tarapoto, who have more access to Smartphones, and rural users in Ayacucho, where almost no participants have access to those devices.
- Young people have the greatest access to mobile devices and indicate that although they used social networks before they had unlimited access, they now look at them more frequently, in both rural and urban areas.
- They look at these networks more frequently and manage Internet data differently. People who are aware of how much data some pages consume prefer to use them only when they have WiFi.
- We find a difference between young people and professional adults, especially in urban Lima, where they say they look at social networks the same way, whether subsidized or not. In this case, we see that they do not place much importance on the amount of data used on these platforms.

- In general, we find that the subsidized plan of which most people are aware is that of social networks, such as Facebook and Whatsapp. All users of these plans indicate that they were already using these platforms, so the plans were not the motivation for using them. It is important to note that participants in one group, especially at lower socio-economic levels, indicate that the subsidized plans have increased their frequency of use.

2. Internet use from a cellular phone: Hypothesis posed in ToR: “People do not move beyond the use of subsidized services”

- The fact that social networks are subsidized has not meant that users use only those services; instead, data management is different. Smartphone users make more frequent use of platforms that consume less data, but do not limit themselves to subsidized services. If they have to search for information, for example, they also use the cell phone even though they do not have unlimited access to those pages.
- Users with technical or university education in upper socio-economic groups, especially in Lima, indicate that the subsidy is not important to them; rather, they use Internet platforms as they need them.
- Most participants prefer to use data-hungry platforms, such as YouTube, or to download apps when they have WiFi, so they do not use data and their data purchases last longer.
- In general, people who use the Internet from their mobile devices are aware of the plans' data management. Nevertheless, data use is not limited to subsidized plans. When asked if there is something to which they would like unlimited access, they indicate that YouTube is one of the most data-hungry apps.

3. Understanding of the Internet: Hypothesis posed in ToR: “Using the Internet first through subsidized services leaves people with less understanding of Internet use”

- People who have Smartphones are aware that there are plans with unlimited apps, but they do not limit their use only to those apps.
- Understanding and knowledge of the Internet tends to be mediated by uses and needs; people who need the Internet to search for information for work or studies tend to have greater understanding of and confidence in the Internet than people who use it only for communication such as email and social networks. Educational level also influences the way in which people use the Internet; participants with higher education tend to make more diverse use of it. Examples include students who must do searches for assignments and who do not use it only for communication, as is the case with many adults who have not completed secondary school.

4. Reasons for people's use of their top five sites

- The reasons why people connect to the most frequently visited sites is based on their interests and their roles in society. Students use the Internet for homework, for assignments and to communicate. Professionals use it for work. Many mothers use the Internet to help their children with homework.
- Among users who spend less time connected to the Internet and who do not use it for work, especially adults and senior citizens, the main motivation for using the Internet is to stay in touch with relatives, especially through Facebook. This is especially true of women who participated.
- The most frequently used platforms are Facebook, the email platforms Gmail and Hotmail, and the Google search engine. While electronic mail is important for work and studies, the search engine is the main tool for finding work- or school-related information and for entertainment. Facebook is the main communication platform used by young people, adults and senior citizens, although it has different uses and meanings depending on the participant's age.

5. Are people interested in using the Internet beyond the top 10 services?

- In general, focus group participants indicate that they always use the same pages, and that these depend on their routines and needs. New pages are used only when they need to seek specific information.
- The most common way in which participants enter new sites is through the Google search engine when they are looking for particular information. They indicate that they often find out about new platforms, such as Facebook, through networks of acquaintances and news.
- It is important to note that although most do not visit more than 10 pages in their daily routines, the majority of participants do not recognize a gender gap in Internet use. It is clear, however, that young people seem to use it most.

6. To what degree does discounted access to the Internet affect a new user's decision to go online?

- In both Ayacucho and Tarapoto, access cost is crucial for non-users. A discount on the cost of Internet services will influence non-users to begin using the Internet. Nevertheless, most of these people indicate that they prefer to connect from a computer, because it seems easier to use.
- Although there are economic constraints on access, there are other elements that limit Internet use. The main one is fear of learning how the Internet works and of being willing to learn. Many female participants who are not users indicate that there is fear of doing damage to the "machines" when they are learning.
- Most would like to learn to use the Internet, especially because they have the idea that they can find all kinds of information. But many indicate that they have nowhere to learn or no one to teach them, especially in rural areas.
- There is a gender gap at the lowest socio-economic levels, where women indicate that they do not have time to devote to learning, because they are responsible for household tasks and for caring for children or grandchildren, besides their work outside the home. This leaves them little time to devote to learning to use the Internet.

- There is an access gap in rural areas, not only because the Internet is expensive, but because the signal is not good and there are few places to connect.
- Non-use of the Internet among adults is mediated by their professions or work. In most cases, those who have learned to use it are professionals, while manual laborers indicate that the Internet is not important or necessary. Young members of the family sometimes serve as a bridge between participants and the Internet, because older relatives ask younger ones to look for information if they need something.
- It is important to note that in rural areas of Ayacucho, the language barrier becomes a crucial factor in Internet use, because the first language of many participants is Quechua.
- In all regions, willingness to use the Internet is related to the participants' years of formal education. This is not only because many professionals need the Internet for work, but because of the participants' level of reading comprehension, especially in rural areas, where many have not completed primary school

2 INTRODUCTION

Various statistics show that access to Information and Communication Technologies (ICTs) has increased in Latin America in recent decades. Peru is no exception: access to computers and mobile telephones has increased significantly. It is therefore increasingly important to understand how people use and appropriate ICTs.

In recent years, companies worldwide have also developed "zero-rating" marketing policies, which consist of providing subsidized access to an app or web page. In Peru, most mobile telephony operators have rate plans that include these offers; the most common are those offering unlimited access to social networks

(Facebook, Twitter, Whatsapp). The question is whether these policies promote restricted access to or limited understanding of the Internet.

This study has two main objectives. The first is to understand how people use the Internet and how they have appropriated certain platforms or pages. The second is to analyze the users' views of zero-rating plans, for those who use them, and whether these plans influence their Internet use. The study also seeks to identify gaps in Internet access and how they change depending on the individual user's conditions.

This document responds to the hypotheses and questions posed in the terms of reference (ToR) for the consultancy. The three hypotheses are as follows:

- The use of subsidized services only form part of the data use
- People do not move beyond the use of subsidized services
- Using the Internet first through subsidized services leaves people with a lesser understanding of Internet.

Besides these hypotheses, the ToR raise three questions that the study seeks to answer:

- The reasons for people's use of their top 5 sites
- Whether people are interested in using Internet beyond the top 10 services
- To what degree did free or discounted access to the Internet affect the decision of new Internet users to go online

The qualitative methodology enables us to analyze the users' subjectivities, allowing us to understand how people's routines and roles influence their views of ICTs, especially the Internet. Focus groups enable us to observe the participants' exchange of opinions about their experiences and their perceptions of Internet use and to identify the different conditions under which these experiences occur.

To respond to these objectives and questions, focus groups were held between 24 September and 15 November 2016 in three regions: Lima, Ayacucho and Tarapoto. These cities are identified with orange dots on the map below.

Figure 1: Map of Peru with cities identified



Source: <http://www.pintarcolorear.org/mapa-del-peru-para-colorear/>. Compiled by authors.

Fourteen focus groups were held in the three regions —five in Ayacucho (three urban and two rural), five in Lima (three urban and two rural) and four in Tarapoto (two urban and two rural). The following table shows the distribution of the focus groups.

Table 1: Distribution of focus groups		
	Rural	Urban
Lima	Users	Users
	Non users	Users
		Non-users
Ayacucho	Users	Users

	Non-users	Users
		Non-users
Tarapoto	Users	Users
	Non-users	Users

Each focus group included participants from three age groups: young adults between ages 18 and 29, adults between ages 30 and 59, and senior citizens ages 60 and over. An effort was made to ensure that each group had a proportional number of men and women. It is important to note, however, that in rural areas it was difficult to find people willing to participate in the focus groups, because they live in remote areas and it is expensive for them to travel. In addition, in places such as Huaycán (a low-income neighborhood on the outskirts of Lima), fewer people participated because they were unwilling to take part or uninterested in collaborating.

The findings of the study are presented here in the following order. First, the conditions under which the focus group participants access the Internet are described, to understand how these conditions also affect adoption of the Internet. Second is an analysis of how the participants understand subsidized data plans, to see the impact on their use and understanding of the Internet. Third is an explanation of the users' uses and representations of the Internet, to identify the adoption processes under way. Fourth is an explanation of non-users' perceptions of the Internet and their reasons for not using it, to identify gaps in Internet access. The last section presents conclusions.

3 FINDINGS

3.1 ACCESS CONDITIONS AND ACCESS TO DEVICES

Before analyzing Internet use by the focus group participants, it is important to look at the conditions under which they access Internet, because these change and condition people's processes of adoption.

In Peru, four companies provide mobile telephony. Telefónica (Movistar) has operated for the longest time and therefore has more coverage nationwide. The last to enter the domestic market was Viettel, about two years ago. The following table shows their market share, in percentages.

Table 2: Mobile telephony market	
Company	Market share (%)
América Móvil Perú S.A.C. (Claro Perú)	33.4
Entel Perú S.A.	11.9
Telefónica del Perú S.A.A. (Movistar)	47.9
Viettel Perú S.A.C. (Bitel)	6.8
Mobile lines (total for Peru)	36,585,881
Domestic teledensity	121.4

Most focus group participants have mobile terminals, which are their main tools of communication. Both users and non-users have mobile phones (though different models). Movistar is the main operator, as Table 2 shows.

One key difference among mobile terminals is that most non-users tend to have a simple device that does not allow them to connect to the Internet. There are exceptions, however. For example, one participant in rural Lima had a Smartphone, but it was her son who used it for Internet access. The following table shows Smartphone distribution among focus group participants.

Table 3: Distribution of mobile telephony operators among participants						
	Locality	Telefónica	Bitel	Claro	Entel	Don't know/No response
Lima	<i>Urban</i>	4	0	8	6	3
	<i>Rural</i>	4	0	4	3	1
Ayacucho	<i>Urban</i>	11	0	3	1	2
	<i>Rural</i>	10	1	0	0	2

Tarapoto	<i>Urban</i>	14	0	0	1	4
	<i>Rural</i>	8	4	1	0	3

As the table shows, Smartphones predominate in urban areas, especially Lima. This is due not only to the various operators' supply of mobile phones and plans, but also to the participants' different socio-economic levels. Professional participants with a higher education tend to have greater access to these devices and use them more.

Table 4: Participants with Smartphones			
Region	Locality	User	Non-user
Lima	Urban	15	0
	Rural	5	1
Ayacucho	Urban	9	2
	Rural	0	0
Tarapoto	Urban	6	0
	Rural	5	0

In considering differences among the regions, it is important to distinguish between Internet access available in Ayacucho and Tarapoto. In Ayacucho, people have less access to the Internet and to ICTs in general. This is due not only to a lack of supply, but also to the quality of the signal and the places where it is possible to connect. These difficulties are accentuated in rural areas, where participants say even basic services are unavailable in many places.

In Tarapoto, the telecenters established by Cedro programs¹ resulted in a fundamental change in the districts where they were implemented. They have provided many adults and senior citizens with the opportunity to learn to use the Internet and have provided many young people with a place where they have free

¹ Cedro is an NGO dedicated to combating the use and cultivation of illegal drugs in the country. One of its action areas is digital inclusion in zones that traditionally have been coca-producing areas, such as Tarapoto.

access. As a result, many people who use the Internet there are not necessary professionals; that is not the case in Ayacucho.

Besides differences based on socio-economic level, determined by the participants' level of formal education, there are also age gaps. There are almost no differences in access by young people in urban areas. In rural areas, despite less access to the Internet and a more limited supply, except in Lima, young people still make greater use of the Internet.

It is also important to note that Internet users distinguish between use of computers and mobile phones. While the former are used for more complex tasks that involve creating documents or downloading files, mobile phones are used especially for communication, with calls or through social networks.

“In my case, it's different. I have a cellular smartphone, but it's different, it's mainly for using social networks. Also, let's say I want to use electronic mail. I also glance at headlines. If I really need to look at it, I look at it there, but if I want to send things, or something like that, I use my laptop” (adult woman, urban user, teacher, Ayacucho).

“I use the cell phone all day. From the time I get up. I look at the news in the morning. If I need some information, I get it. Or I chat with my wife. Or with friends, you know? And my computer, I have a desktop computer at home that I use when I need to print something or do some work that requires a keyboard, because it's not very comfortable to do that on the cell phone. But I think I use the cell phone 95 to 97%, all day” (adult man, urban user, lawyer, Lima).

These comments show that most users make differentiated use of devices, and that is the use targeted by the subsidized plans offered by mobile operators. In addition, most rural Internet users, except for those in Lima, use the computer more because it seems more accessible to them.

3.2 SUBSIDIZED DATA PLANS

In Peru, zero-rating plans are exclusively aimed at mobile data consumption. Most telephony operators have such policies for pre-paid or post-paid plans.

Not all internet users are aware that these plans exist or know if they have them. Table 5 shows the distribution of participants who know that they have these plans and use them.

Table 5: Participants with zero- rating plans				
Region	Locality	Social networks	Social networks and YouTube	Unlimited Internet
Lima	Urban	8	0	3
	Rural	4	1	0
Ayacucho	Urban	12	0	0
	Rural	2	0	0
Tarapoto	Urban	6	4	0
	Rural	6	0	0

As the table shows, these plans are better known in urban areas, especially among young people and adults around age 30, who are the "intensive" mobile phone users. The following comment shows how the choice of operator can be conditioned by special offers from these companies, indicating that this could also condition the way in which the Internet is used in mobile phones. .

“Regarding Internet use, I changed operators because of the special offers that the different telephone companies have for services, mainly social networks. They let you avoid the expense of constantly adding minutes—you can just communicate by Whatsapp or Facebook. Personally, at the university it was common to change companies on the condition of having everything unlimited. And most of my classmates and I mainly used social networks. So it wasn't necessary to make calls” (young women, urban user, university student, Ayacucho).

Although the participants value the existence of special offers, most who use them say they do not use apps or platforms just because they are subsidized; rather, they used them before the special offers existed. This indicates that subsidized services do not necessarily lead to new Internet uses; rather, these marketing

policies encourage uses that already existed. Most users of these plans say that although they do not view new content via these special offers, they do view their social networks much more frequently.

The pages included in zero-rating plans are not the only ones consulted, as noted in the comments above. Users also use mobile phones when they need to find specific information or to view electronic mail, a platform that is not subsidized.

"In my case, I only use Internet on my cell phone to look at things—I look and look and look, but when I need to do something, send email or do some type of work, I use the computer. The cell phone is mainly for looking at the Internet" (young man, urban user, communicator, Tarapoto).

It is important to note that the participants' use of subsidized data differs depending on socio-economic level. People at the lowest socio-economic levels are more careful about data use and tend to use subsidized services more, while users at higher socio-economic levels tend to worry somewhat less about whether the service they are using is subsidized or not. This is seen especially in the Lima focus group with professionals, where all said that they would continue using apps the same way even without special offers of unlimited access.

"When I had a more limited plan, I paid less for the plan, I had fewer gigas for using the Internet. I obviously limited my use. If I was not at home, I tried to use it little. Or when I was at home, I used Wi-Fi so I wouldn't use up gigas. Now I have slightly more gigas; now I'm not as worried about using them. I don't pay as much attention to when I'm using them" (adult man, urban user, lawyer, Lima).

"For example, I use Whatsapp all day, regardless of whether it's being charged to my plan or I'm connected to Wi-Fi. But for example, YouTube, if I'm not at home and I'm using my data, I'm more careful. To some extent. When I'm using Wi-Fi, there's no problem" (adult man, urban user, lawyer, Lima).

Despite these differences, all of the participants who know that their mobile phones have unlimited Internet manage their data, limiting the time they spend on data-hungry pages, such as YouTube. This is also true of the youngest participants in

both rural and urban areas. There are some web pages that they only access from mobile phones if they have Wi-Fi.

“When you need to download, the computer is like having unlimited Internet access. You can download any amount. The cell phone isn’t like that, unless you’re connected to Wi-Fi. If you’re using megas, that’s something else” (young man, rural user, Lima).

“With data it’s different. If I have Wi-Fi, I can download apps or music on my phone or look up information. With data, no” (young woman, urban user, Ayacucho).

There is a difference, therefore, in the impact of subsidized data on participants' use. This difference is mainly related to the person's locality and socio-economic level; unlimited platforms appear to be much more appreciated in the regions, especially Ayacucho. People's understanding of the Internet does not depend on these special offers, however, as most were already Internet users when they began to use mobile phones; when that is not the case, the first contact tends to be via computer. As we will see below, understanding of how the Internet functions tends to be mediated by intensity of use, the place where participants learn to use it, their material resources (devices) and their educational level.

3.3 USES AND PERCEPTIONS OF THE INTERNET

3.3.1 USES OF THE INTERNET

Internet users who participated in the focus groups, both urban and rural, indicated that they use the Internet most to search for information and to communicate. These are the two main tasks that nearly all participants attribute to the Internet, and which make it indispensable. As one urban user in Tarapoto said, "It makes your life easier." The idea that the Internet makes life easier underscores the elements that are most highly valued: saving time and being able to communicate from anywhere.

Although the participants note that they mainly use the Internet for the same two functions, we see three ideal types of Internet users. These ideal types are related

to the way people use the Internet and the conditions under which users access it. The first type of user is the professional, whose Internet use from the very beginning is related to studies or work. These people tend to be the most intensive Internet users, they connect with different devices, and nearly all are in urban areas (except in the case of young people in rural Lima). For these users, ICT socialization begins at an early age, blurring access gaps. These users make the greatest use of various apps and web pages in their daily routines.

Within this ideal type of user, there are differences depending on socio-economic level. Those in the highest socio-economic strata have access to apps such as Netflix, Instagram and Spotify, as seen among professional users in urban Lima. Economic and symbolic capital therefore continue to create distinctions in access to certain platforms and in the users' ability to manage their free time.

The second type of user is the person who learned to use the Internet as an adult, but who has still taken advantage of it as a useful tool for work. These people's Internet use is not limited to communication with family and friends. One example is Wilmer, who participated in training provided by Cedro and who now uses the Internet to sell his handicrafts.

"It's direct information that doesn't require sending an envelope or a letter, which takes longer. Or mail or fax, for example. Cell phones and Internet arrived in Chazuta five years ago. You used to have to wait two or three days or a week for a letter to arrive. I'll tell you about one experience. The handicraft association exported ceramics between 2005 and 2007, and every envelope that was sent took a month to get here from the United States. (...) Now people can look on the web and choose the design they want. That's a basic step forward, isn't it?" (Adult man, rural user, craftsman, Tarapoto).

Wilmer's experience shows how the Internet has also changed the way work is done, even in types of work that appear to have little to do with ICTs. Compared to earlier users, these users are better able to manage various devices, not only for material reasons, but because they consider the computer their main device for

connecting. These users mainly tend to be adult men in rural areas who have had to learn to use the Internet to adapt to their work.

The third type of user is the person who only uses the Internet to communicate with family and friends. For these people, Internet use focuses especially on social networks that enable them to be in constant communication. These users also show difficulty in differentiating Internet use from computer use in general; they therefore often do not differentiate the apps they use.

“At first, I didn't know much. I didn't use it. I used to think the Internet was just the computer. But over time, I've realized that it's through social networks. Before, as I said, I thought the Internet was the computer. But I realize the Internet is a social network” (male senior citizen, rural user, Ayacucho).

As the above comment shows, these users tend to be senior citizens, and often are women, especially in rural areas. These people use the Internet less frequently, because they are still in the process of learning, which tends to begin with use of social networks. Nevertheless, one woman from Tarapoto noted that once people lose their fear and learn, everyone begins to connect equally. This indicates that the learning curve is crucial for understanding different adoptions of the Internet.

Identifying these three ideal types of users also enables us to identify which Internet pages are used most and why. Among the first ideal type, the most-used pages are mainly in two areas: entertainment, especially the ability to listen to music or see videos and social networks, and information, where most indicate that they use Google. When asked what they most enjoyed doing, however, all, especially young people and adults, mentioned entertainment-related activities. The second ideal type said the pages they used most often were mail and Internet browsers. Unlike the first group, they said what they most valued about the Internet was the possibility of searching for any type of information. These users tend to be more critical of indiscriminate Internet use, especially by young people who spend a great deal of time on line. The third type of user said they tend to use social

networks most because they are able to communicate with family and friends far away.

Although each group values and makes greater use of certain aspects of the Internet, most of the participants routinely look at the same pages. These are Facebook, electronic mail and Google, which are used for communication and to search for information.

The Internet users indicate that they tend to enter the same pages because those pages respond to their daily needs and routines, as the following comments show:

"I think it depends on work schedules, too. The use of these programs. For example, Facebook, Whatsapp. Take videos, for example. On the weekend, I connect and forget about what's going on in the world outside. With the family, at home. You look at some things, but it's not like the weekend" (adult woman, urban user, vendor, Lima).

"In depends on the mindset you have when you go into the Internet. If you have work, you focus on that work. If it's your day off, you can do anything—browse, find information, do nothing, practically" (young woman, rural user, student, Ayacucho).

"With the Internet, I think it's like the refrigerator—I know there's nothing new there, but even so, I keep opening it! (Laughter.) But when I need something, when I'm really interested in something, I dive in" (young man, urban user, communicator, Tarapoto).

These comments show that the users' uses of the Internet tend to be the same, because they respond to established routines. The participants look at the same pages almost every day. They say they only look at new pages when they are searching for specific information and the search engine sends them to those pages, or when a member of a close network tells them about or recommends new content that has "gone viral." With regard to subsidized data, these routines help explain why these zero-rating policies do not create new content for people who were already Internet users, and why they could limit understanding of what the Internet is in the case of Type 3 users, who mainly use social networks.

3.3.2 PERCEPTIONS OF THE INTERNET

The uses that characterize the users described above are accompanied by perceptions of the Internet and how it affects their daily life. In general, all the participants, both users and non-users, consider the Internet positive, because it has enabled them to have access to all kinds of information.

"The Internet is very important, because I have a 10-year-old grandson. And when I ask him something, "What is this used for?" he helps me. He enters and finds it. It's very important. I don't know how to use it yet, and they study and don't have time to teach me. My oldest son tells me that when he comes back, he'll write to me and he'll teach me. It seems very important to me. Because you don't have to read so many books. You go into it and everything is there" (female senior citizen, urban non-user, Ayacucho).

In the benefits that users describe, there is again a distinction between what participants value depending on their socio-economic level. Participants at lower socio-economic levels tend to emphasize use of the Internet to find information, and how that has helped them in their studies.

"Information, because in the past, when you were doing some sort of work, you had to go to the library. Now you can download books from the Internet or just look think up with Google. The information you need, and you get a lot of options" (adult man, rural user, Lima).

Although participants at higher socio-economic levels also value the change in their studies and in their ability to search for information, they also value other apps that, according to the interviewees, help them save time and make daily life easier.

"In the past, if we wanted to find a particular address, we had to buy a book this big that had all the streets and maps in it. Not any more. 'We have to go to so-and-so's house.' So you open the page, you look up the street. 'That's how I get there.' It's easier" (male senior citizen, urban user, Lima).

All the participants say the Internet has positive elements that have changed people's lives, especially in work and studies. They also say that young people use the Internet most because they use it for their studies and because they learned to use it from an early age. This is especially noted by adult participants and senior citizens, who see a significant difference in the way in which young people and children use the Internet with no difficulty.

"Kids are born nowadays with another 'chip,' so to speak. I have a 2-1/2-year-old son. He grabs my cell phone and he watches how we use it. He grabs it and does this (moves fingers as if using a tablet). (...) When I was that age, I was playing in the street with my ball, all dirty, playing. But at that age, they're playing with Smartphones. They enter a game and know where to press..."
(Adult man, urban user, Lima).

For many participants, especially in rural areas, the fact that children and young people use the Internet most is considered a negative, because it could lead to addiction. It is important to note that in urban Lima, possible addiction to the Internet is not considered a problem; this could be because it is more normalized and the use of the Internet is seen as more natural.

Many participants indicate that one of the main negative aspects of the Internet is that children and adolescents are exposed to pages that they should not see. This problem is mentioned most often in Ayacucho, in reference to pornography. Many users, especially adult women, believe Internet use should be regulated by parents.

It should be noted that most participants in the regions say that the Internet is not secure. This is especially true among rural users, who are more reluctant to engage in on-line transactions and payments for fear that their data will be stolen or that they could be scammed. In contrast, in urban areas, although users still feel that the Internet is not secure, they believe that on-line transactions and payments are an advantage because they save time and money.

These perceptions show that intensive Internet use changes understandings of the Internet and enables users to use more apps or web pages. In contrast, users who

are just beginning and who use the Internet less frequently have less understanding of it and see it as something that could have negative consequences in their lives. They tend to place greater emphasis on the negative aspects and hazards that accompany its use. These perceptions and understandings of the Internet are also related to the users' symbolic and economic capital, which enable people to use platforms that have more limited access (such as Netflix).

3.4 INTERNET NON- USER

Like users, non-users have both negative and positive perceptions of the Internet. These perceptions are mainly based on the experiences they have had watching relatives who use the Internet or on things they have heard people say. When asked what they most associate with the Internet, non-users who participated in the focus groups mentioned searching for information. This shows that there is a widespread idea, among both users and non-users, that all kinds of information can be found on the Internet.

Non-users are concentrated especially in rural areas, with particular emphasis on adult women and senior citizens. Ayacucho appears to have a greater proportion of non-users because of the difficulty in finding places to connect in rural areas. In addition, although there are young people who do not use the Internet, it is more difficult to find them in rural areas and nearly impossible in urban zones. This indicates that the gaps begin to blur among younger age groups.

When non-users are asked why they do not connect, they mention four main reasons. The first refers to material aspects and is accentuated in the Ayacucho region,² because access costs tend to be high due to the conditions under which the Internet is installed and the cost of reaching remote communities. Many rural

² In rural areas of Ayacucho, another factor that perpetuates non-access to the Internet is educational level and native language. Many focus group participants, especially adult women, are illiterate and their first language is Quechua. This also perpetuates the access gap for these people because of the lack of information in Quechua on the Internet.

dwellers indicate that it is difficult for the Internet to reach their communities, and when it does, it is expensive and of poor quality. In addition, many rural communities that do not have Internet access also lack basic services such as electricity, which makes the likelihood of Internet access even more difficult.

"What I see with regard to young people could be because of geographic location, the rural area or small communities or peripheral neighborhoods. (...) Another thing is socio-economic: the parents' income level, as well as the amount of education they've had, let's say their possibilities for the future. That means a lot, too" (young woman, rural non-user, Ayacucho).

The second reason is that there is no need to use the Internet for many of the types of manual labor that people in rural areas perform. Various participants noted that it is not indispensable or necessary for them, so they do not feel a real motivation to invest time in learning to use it. This is mainly because learning to use the Internet requires dedication and an investment of time that many people do not have.

"My partner is a person who sells wood, firewood, charcoal and brooms. When I began this Telecentro program to learn ... he told me, 'I'd like to learn. Go learn and then teach me.' I told him it would be better for us to go together, but he doesn't have time ..." (adult woman, rural user, Tarapoto).

When Internet non-users were invited to meet, there were significantly more women than men. This shows that there is still a gender gap in access. According to participants, this gap is due to the distribution of household tasks. Many women said they do not have time to learn, because they must care for children or grandchildren and take care of household tasks. This is further accentuated when they lack devices that enable them to access the Internet at home.

The third reason mentioned is the lack of places where people can learn to use various devices. The study found that many non-users have no one to teach them. Even when they have relatives who use the devices, many say the relatives lack the patience to teach them to use a computer or Smartphone.

The fourth reason is related to family dynamics, particularly the existence of what we have called "hinge people." These are family members, usually children or grandchildren, who know how to use the Internet; they are the ones to whom non-users turn when they need to search for information. Some non-users indicate that they have no immediate need to learn because these relatives help solve their problems. These dynamics, as the following comment indicates, are seen especially among senior citizens.

"Yes, I have Internet. I also have a laptop. But I don't use them. My grandson and granddaughter use them. When I want to know something, I ask them" (male senior citizen, rural non-user, Lima).

Despite these reasons for non-use, participants who are non-users say they would like to learn to use the Internet, especially if they had the opportunity to have it at home. Most non-user participants said they would like to learn on a computer, because it seems easier to use. The participants also said learning did not appear to be very complicated, but it requires practice and persistence, and it would therefore be helpful to have a device at home.

The non-user participants' experiences and responses indicate that their non-user status responds to economic issues and access conditions. But it also responds to needs and routines in the non-users' daily lives. The main incentive for them to connect would be not only to ensure that they have devices, but that they spend time learning to use the Internet. Many say they believe classes would be necessary for that.

4 CONCLUSIONS

In general, the study shows that access conditions influence understanding and adoption of the Internet. People's first contact with devices is key to understanding the conditions under which they learn to use the Internet. The devices used to connect also have an impact on the differentiated ways in which people use the Internet in their daily lives.

In rural areas, access conditions mark many ways of relating to the Internet, because the possibility of connecting tends to be limited unless there are programs such as those of Cedro, in Tarapoto, which create places for low-cost connection and learning. The region with the least access is Ayacucho, because access in rural areas is more difficult and because many people are Quechua speakers and are nearly illiterate.

Regarding age gaps, we find that in both urban and rural areas, the gaps between young people tend to disappear, confirming perceptions about the degree to which this group is connected. Among adults and senior citizens, however, there are still gaps for women, who have less time to learn to use the Internet because of their household responsibilities.

There is also a gap related to socio-economic level. Those at higher levels have access not only to more devices, but also to other types of platforms that go beyond social networks and searching for information, and which allow for a deeper understanding of the Internet.

With regard to zero-rating plans, we find that young people and adults around age 30 make the greatest use of these plans and are most aware of their existence. Most participants have such special offers in their plans, allowing for subsidized use of social networks.

Regarding the hypotheses posed by the ToR, which are listed in the introduction to this document, we find that the first hypothesis best describes the participants' behavior regarding subsidized data. This is because the platforms included in zero-rating policies are only part of mobile data use. The participants indicate that having zero-rating plans has not made them new users of these pages, since they were already using them, but the plans do enable them to use the pages more frequently. These special offers do not tend to make users limit their Internet use on mobile phones to these pages; rather, many participants use the devices to look for specific information or to view their mail. This behavior contradicts the second hypothesis, which states that users might limit themselves to using only those services. Although these plans could encourage the use of specific platforms, we

find that they do not limit Internet use, especially among urban users. People do move beyond the use of subsidized services.

With regard to the third hypothesis, about whether using the Internet first through subsidized services leads to less understanding of the Internet, we find that for all participants, first contact with the Internet came with computers and without zero-rating plans. Understanding of the Internet therefore responds not only to the pages visited by users or non-users, but also depends on the person's level of education, the access conditions available and representations of the Internet.

Besides these three hypotheses, the ToR posed three questions about users' Internet use. We find that there are three basic reasons why most users use the most-visited sites: to find information, for communication, and for entertainment. The uses vary, however, depending on two variables: how long the person has used the Internet and needs created by everyday routines and tasks.

Regarding the second question, about whether people are interested in using the Internet beyond their habitual sites, we find that this does not occur frequently, because Internet uses respond to people's routines and tasks: most people tend to look at the same pages. The participants indicate that they only go to new pages when they need some specific information, when those pages or platforms are recommended by someone within their close networks, or when the new content has "gone viral" and appears in other media.

Regarding participants' perceptions of the Internet, we find that they consider it to have both negative and positive aspects. The former tend to be emphasized more in rural areas, where there is still a strong distrust of the Internet because of constant negative comments that circulate by word of mouth and on television. Nevertheless, all of the participants believe that it is important to know how to use the Internet, because it enables people to find information to which they did not have access in the past, and to communicate with family and friends more rapidly and from anywhere.

Finally, we find that non-user status is due not only to economic issues, but also to access conditions, especially in rural areas. Participants also indicate that having

time to learn is crucial, because learning to use the Internet requires practice. Being a non-user therefore also responds to the person's routines and needs. Most non-user participants tend to be in lower socio-economic strata and in rural areas of the country. Although discounted or free Internet access could encourage use among many non-users, other conditions must also exist, such as access to devices in the home, the possibility of dedicating time to learning to use it, and the existence of a need that motivates the person to learn.