ARE WE CONNECTED?

Digital Gender Gap in Peru

MARIELIV FLORES • DENISSE ALBORNOZ

HIPER DERECHO

WORLD WIDE WEB FOUNDATION
As a policy advocacy organization, the Web Foundation works to influence the corporate and government policies that shape the web to ensure that everyone has the right to access the Internet freely and safely.

In recent years, it has influenced the policies of more than a dozen countries, which helps unlock the benefits of the web for hundreds of millions of people.

HIPER DERECHO
Tecnología como libertad

HIPERDERECHO
A Peruvian civil nonprofit association engaged in research, facilitating the public understanding and promoting the respect for the rights and freedoms in digital environments. Hiperderecho conducting research projects and intervenes in public policy debates on issues related to freedom of expression, copyright, privacy, cybersecurity and gender violence.

ACKNOWLEDGEMENT
We thank all the people who let us interview them, as it helped complement the findings of the quantitative analysis. Their contribution has allowed us to have a more global vision of the achievements and challenges we face as a country in the issues of digital gender gap.

RESEARCH:
Marieliv Flores Villalobos
Denisse Albornoz Proaño

EDITING:
Carlos Guerrero Argote

LAYOUT:
Lorena Marks

CONTRIBUTIONS:
Ingrid Brudvig, Dinita Putri, Nanjira Sambuli, Dhanaraj Thakur

TRANSLATION:
Jimena Estefanía Elorreaga Tam

Lima, November 2019

To download this and other studies related to technology, visit hiperderecho.org/publicaciones

WORLD WIDE WEB FOUNDATION

SWEDEN

UN WOMEN
United Nations Entity for Gender Equality

Asociación Civil Hiperderecho
Av. Benavides 1944, oficina 901
Lima 15074, Perú
hola@hiperderecho.org

INTRODUCTION

In Hiperderecho, we believe that technology is a tool with great potential to develop opportunities for social inclusion and transformation from an equity approach. Much of our work involves identifying opportunities so that groups that have been historically excluded or discriminated against, such as Peruvian women and the LGBTIQ+ community, find a safe space to promote and acquire new abilities on the Internet.

On the other hand, in reference to digital equality, the Sustainable Development Goals (SDGs) point out the need to improve the use of technology and communications to promote the empowerment of women (SDG 5B); achieve universal and affordable Internet access in developing countries by 2020 (SDG 9C); and ensure access to basic services and new technologies for all women and all men by 2030 (SDG 1.4)[1].

However, there are still a number of threats and barriers that prevent these groups from taking full advantage of this tool. Therefore, and thanks to the support of the World Wide Web Foundation, we have conducted an analysis on the digital gender gap in Peru. To do this, we not only focus on the number of people who have Internet access, but also on the different reasons and uses they give to this technology.

This analysis allows us to have an overview of what the scenario looks like in Peru in relation to the digital gender gap. We investigate whether the state prioritizes this need and what approaches or suggestions can be made looking to a more diverse and equitable use of technology in our country.

PERU IN THE INTERNET ECOSYSTEM

Although the beginning of the Internet and its initial expansion took place in North America and Europe in the 1960s, the role that Latin American countries currently play in the Internet ecosystem has been growing in the last twenty years. It should be noted that, unlike other regions, Latin America experienced a similar social and political context in the period prior to the spread of the Internet, which reached its highest point by the end of the 1990s with the waves of privatization of public services, including telecommunications.

When we think of the history of the Internet in Latin America, we can recognize that the entire region shares a common trajectory since its beginning[2], especially in countries where Internet access was identified as a sign of progress.

Peru was one of the first countries in Latin America to establish a permanent Internet connection[3]. This promoted the creation of diverse local ecosystems, where the state gradually started to understand its responsibility as the guarantor of the access and development of this technology. However, from a social and technological approach, we could say that the Internet ecosystem in Peru is still disorganized[4] today, since the public and private entities that are involved, directly or indirectly, have failed to develop a space for meetings, discussion and planning that effectively responds to the needs of the Peruvian population regarding this technology.

1 World Wide Web Foundation, "Caja de herramientas para las hojas de calificación de la Auditoría de la Brecha Digital de Género", accessed on April 15, 2019, http://webfoundation.org/docs/2017/09/WRO-Country-Scorecard-Toolkit_Espanol.pdf.

2 Carlos Guerrero, «¡Ocupemos la Red!: Conociendo el Ecosistema de Internet en el Perú», *Hiperderecho*(blog), 2016, https://hiperderecho.org/2016/07/ocupemos-la-red-conociendo-ecosistema-internet-peru/.

3 Ibid.

4 Ibid.

It is important to point out that one of the elements that characterize the beginnings of the Internet in Peru was the fact that its precursors implemented a democratizing model of access: the model of public internet booths. These spaces contributed to the social inclusion of young people in popular urban and rural sectors and were consolidated, in many cases, as the only means by which they could access a computer and surf the Internet in an inexpensive way[5]. However, despite this initial boost, by 2017 only 48.7% of the Peruvian population had Internet access, of which 58.2% is located in urban areas and 15.4% in rural areas[6]. In that sense, it is important to point out that demographic criteria, such as: education, age, geographical location, language, gender, etc. play significant roles in determining who and how people access and use the Internet.

At this point, it is key to understand that the Internet is a technology that should function as a tool for social liberation that supports the development of abilities and provides instruments of resistance before a social system that historically excludes and oppresses minority groups and those that are far from the city.

GENDER AND TECHNOLOGY

The Internet is a space where people can exercise their rights, demand social and economic justice, have greater opportunities for political representation, and generate knowledge[7]. Internet access should be a way for women and minority and/or vulnerable communities to exercise their voice, challenge imposed gender norms, create new representation tools, connect with other people and strengthen their freedom[8]. Unfortunately, in Peru, the use of technology by these groups is very limited, whether due to the infrastructure, economic reasons, gender violence, educational causes or other issues. Throughout this report we will focus on several of the hindrances.

Understanding the access to technology from a gender perspective implies recognizing that the codes, cables and connections respond to decisions made by people who have their own biases, priorities and ways of seeing the world. Thus, the digital gender gap not only tells us about how men, women and people in general have a discernible experience and access, but also about how this affects how much they use the Internet and how content and technology are produced. Even among women and the LGTBIQ+ community, digital spaces can have different meanings and access limits may vary.

The access and affordability of women to the Internet and their participation in the creation and use of new technologies is, in that sense, a fundamental component of women's rights[9].

5 Francisco J. Proenza, "Tecnología y cambio social". El impacto del acceso público a las computadoras e Internet en Argentina, Chile y Perú, América Problema 35, (2012) https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/51521/IDL-51521.pdf?sequence=1.

6 INEI, "Población que accede a Internet", 2017, https://www.inei.gob.pe/estadisticas/indice-tematico/population-access-to-internet/.

7 Candy Rodriguez, "Ellas dominan las tecnologías ¿y tú?", Luchadoras, 2017, https://luchadoras.mx/dominar-tecnologias/.

8 Sambuli, Brandusescu y Brudvig, "Advancing Women's Rights Online". 2018. http://webfoundation.org/docs/2018/08/Advancing-Womens-Rights-Online_Gaps-and-Opportunities-in-Policy-and-Research.pdf.

9 Ibid.

AUDIT: DIGITAL GENDER GAP

METHODOLOGY

The World Wide Web Foundation, with support from UN Women, developed a methodology based on rating sheets with specific criteria to measure the digital gender gap and, in this way, ensure a sustained accuracy of the analysis of the context of each country and the implementation of policies in order to achieve the SDGs on women and technology.

The methodology consists of 14 indicators that are answered using official data published by the state. Each of them receives a score between 0 and 10 according to the compliance of criteria established by the methodology. These are grouped into 5 axes:

1. Internet access and women's empowerment
2. Affordability
3. Digital skills and education
4. Content and services relevant to women
5. Online safety

The rating sheets consolidate existing secondary data and approximate indicators to monitor government commitments and the implementation of gender equality access to ICTs and online digital equality.

The results of the rating sheets are designed to be used as a starting point for national, regional and global policy dialogues. They also highlight the responsibility of governments for progress in the gender and ICTs goals of the SDGs, by monitoring policy, implementation and results commitments at a country level on an annual basis[10].

So far, the methodology has been applied in the following countries: Colombia, Mexico, Paraguay, Cameroon, the Ivory Coast, the Dominican Republic, Egypt, Ghana, India, Indonesia, Kenya, Mozambique, Nigeria, the Philippines, Senegal, Myanmar and Uganda.

In the case of Peru, we have carried out the collection and analysis of secondary data, mainly through the information published by the Instituto Nacional de Estadísticas e Informática (National Institute of Statistics and Informatics) (INEI). It is important to mention that the information was collected from March to September 2019, when the content published on the INEI portal corresponds to the Encuesta Nacional de Hogares (National Household Survey) (ENAHO) of 2017.

In addition, we have conducted interviews with experts on the subject, which includes activists, rights defenders and government representatives, to learn more about plans and strategies regarding ICTs and gender. Each person interviewed was asked for their consent to use the information they gave us for this report.

After the seven months investigation and the subsequent analysis process, we were able to identify three difficulties:

10 World Wide Web Foundation, "Caja de herramientas" http://webfoundation.org/docs/2017/09/WRO-Country-Scorecard-Toolkit_Espanol.pdf.

1. In order to work with more updated data (2018), we requested INEI to provide us with this information. First, we tried to make this request by telephone, but they only made reference to the public information of the site. Then, we made a request to access public information as detailed in Law 27806. However, we have not received an answer as of yet.

2. The willingness of some public servants to grant us interviews was limited. We made calls and sent emails to request a meeting or so they could inform us which department we needed to contact, however this was not entirely successful.

3. During 2019, the political context of Peru was marked by conflict and uncertainty. In September 2019, the President of the Republic dissolved the Congress using the mechanisms granted by the Constitution, after almost a year of confrontations between the executive and legislative branches. This situation meant that the plan to request interviews with some offices of congressmen and other public servants could not be carried out.

OBJECTIVES

This research sought to meet the following objectives:

1. Analyze the context of Peru on the relationship between technology and gender from a gender approach.

2. Identify the level of priority of the Peruvian state regarding the inclusion of women in areas of technology.

3. Make specific recommendations for the improvement of specific policies related to closing the digital gender gap in Peru.

PERU'S SCORE: HOW DO PERUVIANS ACCESS THE INTERNET?

By investigating and analyzing the data collected according to the 14 indicators and following the rating criteria, Peru obtains a score of 44% in regards to the digital gender gap. This reflects great challenges to face in reference to commitment and specific policies and strategies to reduce the gap.

Each of these criteria are rated on a scale of 0 to 10, where 0 is the absence of data and 10 is the optimal fulfillment of the criteria.

1. INTERNET ACCESS AND WOMEN'S EMPOWERMENT = 5

Understanding the Internet access not only as the action of being connected leads us to question how the process by which women begin to use this technology works and what possibilities the state offers so that people use the Internet as a tool of freedom and development.

1.1. COLLECTION AND NATIONAL REPORTING OF ICTS DATA DISAGGREGATED BY SEX = 5

The ENAHO, in charge of the INEI, collects information on Internet access annually[11]. This data details the percentage of the population over six years of age that has Internet access according to eleven categories: age, geographical area, educational level, language, use location, frequency of use, reasons for use, area of residence, etc. **As of 2017, the information corresponding to the field of information and communication technologies details that 48.7% of the Peruvian population of six years of age and older makes use of the Internet[12].**

Although this represents an increase compared to previous years, this data is not disaggregated by sex. The information regarding Internet access according to sex is found within the INEI portal, but as part of gender indicators related to health, education, economy, the digital gap, etc. (See indicator 1.3). In addition, this information is also disaggregated by area of residence, natural region (coast, the highlands and the jungle), departments of the country, age, language, education and frequency of use, which we used to evaluate the following indicators[13].

While we do recognize INEI's work to disaggregate data and identify how many women and how many men have Internet access, it is important to point out that separating and presenting this information in a different field of the one of technology, frames the digital gender gap as a problem that must only be treated in an isolated way by those who defend and support gender equality. This decision also shows us that gender is not yet a transversal indicator in the measuring prior to the formulation of public policies, and that an equity agenda in the development of technology remains absent for now.

11 INEI, "Perú - Encuesta Nacional de Hogares sobre Condiciones de Vida y Pobreza 2017", 2017, https://webinei.inei.gob.pe/anda_inei/index.php/catalog/613.

12 INEI, "Tecnologías de la Información y Comunicación", accessed on May 23, 2019, https://www.inei.gob.pe/estadisticas/indice-tematico/tecnologias-de-la-informacion-y-telecomunicaciones/.

13 INEI, "Indicadores de Género", accessed on June 10, 2019, https://www.inei.gob.pe/estadisticas/indice-tematico/brechas-de-genero-7913/.

> Regarding the issue of access and gender gap, it remains constant; it has not been reduced in a long time. The problem with the figures given by INEI is that they are single-entry charts; the double-entry ones do not include gender so you cannot see where the gap is.
>
> Juan Fernando Bossio - Professor at the Pontifical Catholic University of Peru (PUCP)

In this sense, we believe it is essential that entities that manage national statistical databases collect data disaggregated by sex. With this information, we could monitor gender equity in the use of technologies more effectively, analyze if the policies implemented are giving the desired results, and develop concrete goals to close the digital gender gap[14]. Having measurable information about the gap also allows the development of a budget that responds to specific needs and that supports the policies and measures taken to reduce it.

1.2. EXISTENCE OF NATIONAL ICTS STRATEGIES OR BROADBAND PLANS OF OBJECTIVES WITH CLEAR DEADLINES TO OVERCOME THE GENDER AND POVERTY GAPS IN THE USE OF THE INTERNET AND THE ALLOCATION OF A BUDGET FOR ITS IMPLEMENTATION = 2

In 2012, the Law for the Promotion of Broadband and Construction of the National Dorsal Fiber Optic Network was approved[15], which highlights the importance of developing infrastructure, services, content, digital skills, etc. as a means to benefit social inclusion. In addition, its regulation[16] specifies that access for less favored social groups will be promoted and that the policy must follow principles of accessibility, affordability, inclusion, among others.

On the other hand, in recent years, the Ministry of Transportation and Telecommunications (MTC) has carried out specific activities aimed at the gender gap problem in the use of the Internet. For example, this year, a forum was held for the International Day of the Girl Child in ICTs[17], which facilitated dialogue between girls of school age and women who have careers in STEAM fields (Science, Technology, Engineering, Art and Mathematics). In addition, within the framework of the Inter-American Telecommunication Commission (CITEL), an agreement has been signed for Peru to be part of the Rural Women's Alliance: Empowering Rural Women through ICTs to strengthen the role of women in the telecommunications sector[18].

> The public policies that are managed in the Ministry do take into account the gender approach; perhaps it is not explicit in writing but it does have it in mind.
>
> Cristian Mesa - Digital Public Policies Specialist at the MTC

14 UNESCO, "Measuring Gender Equality in Science and Engineering: the SAGA Toolkit", 2017, http://uis.unesco.org/sites/default/files/documents/saga-toolkit-wp2-2017-en.pdf.

15 Normas Legales, Ley 29904, 2012, https://busquedas.elperuano.pe/normaslegales/ley-de-promocion-de-la-banda-ancha-y-construccion-de-la-red-ley-n-29904-817111-1/.

16 OSIPTEL, Reglamento de la Ley N° 29904, Ley de Promoción de la Banda Ancha y Construcción de la Red Dorsal Nacional de Fibra Óptica, 2013, https://www.osiptel.gob.pe/repositorioaps/data/1/1/1/PAR/ley-29904-promocion-banda-ancha-rdnfo/ds014-2013-mtc.pdf

17 MTC, MTC inauguró foro por el Día Internacional de las Niñas en las TIC 2019, 2019, https://www.gob.pe/institucion/mtc/noticias/27817-mtc-inauguro-foro-por-el-dia-internacional-de-las-ninas-en-las-tic-2019.

18 MTC, Firman adhesión a la Alianza de Mujeres Rurales en Lima, 2019, https://www.gob.pe/institucion/mtc/noticias/28007-firman-adhesion-a-la-alianza-de-mujeres-rurales-en-lima

Although the MTC is developing actions to work to reduce the digital gender and poverty gap, these are only sectoral and they are not part of a national plan that specifies clear objectives and goals at a country level. In addition, it is important that the approaches are intersectoral and that they are not carried out separately[19]. For this, it is also necessary to have updated information on the regions of Peru in order to find out where the digital gender gap is wider and what the levels of scientific culture are[20], and in this way, have an overview of the places where it is most urgent to invest in technology with an inclusive approach.

1.3. WOMEN'S ACCESS TO THE INTERNET = 4

According to the data presented by the INEI, in 2017, **51.5% of men and 45.9% of women access the internet, with which the number of women who have access to the Internet does not seem low[21].** Even with the figures presented one could say that Internet access is almost equal between women and men, however the distance between the percentages increases when we analyze them with other data. This gross figure has variables that, when applied, widens the gaps between men and women, according to age, place of residence, language, etc.

For example, when analyzing data according to geographical area, we find the following scenario: if we compare the number of people who speak a native language (other than Spanish) with the one of Internet access, we find that in the case of men, 21.9% of them have access; while in the case of women it is only 13.7%. In the urban area, 54.8% of women use the Internet, while in the rural area it is only 12.5%; reflecting that there is a disparity in regards to the access to technology according to where women live. This is a clear indicator of economic, social and infrastructure access gaps that the INEI measurements do not take into account when assessing access matters.

In a 2017 study conducted by the Association for Progressive Communications (APC), it is analyzed that focusing on the act of accessing technology is insufficient to understand the appropriation that women may have of it. Thinking about access also implies ensuring economical, safe, free and unconditional channels for an equitable use and enjoyment of technology[22]. In that sense, access must be addressed by the responsible institutions, with investment in intersectional and multicultural infrastructure and digital literacy processes that seek to give access to technology and knowledge to indigenous and rural women, who have been historically marginalized from political, economic and social processes. As María Fernanda Zamora - *Laboratory Manager Alumnae points out: "the economic inequality hinders the means necessary for access to technology and education in general."*

1.4. EMPOWERING USE OF THE WEB = 5

In the Technical Report of the INEI for the months of October, November and December 2018[23], we find that the total number of men and women, as Internet users, which are

19 UNESCO, "Measuring Gender Equality", http://uis.unesco.org/sites/default/files/documents/saga-toolkit-wp2-2017-en.pdf.

20 CONCYTEC, "Popularización de la Ciencia", 2016, http://portal.concytec.gob.pe/images/publicaciones/libro_popularizacion_oct.pdf.

21 INEI, "Brecha Digital de Género", accessed on May 6, 2019. https://www.inei.gob.pe/estadisticas/indice-tematico/brecha-digital-de-genero-7920/.

22 APC, "Mapping research in gender and digital technology", 2017, https://www.apc.org/sites/default/files/IDRC_Mapping_0323_0.pdf.

23 INEI, "Estadísticas de las Tecnologías de la Información y Comunicación en los Hogares", 2019, https://www.inei.gob.pe/media/MenuRecursivo/boletines/01-informe-tecnico-n01_tecnologias-de-informacion-oct-nov-dic2019.pdf

89.7% and 90.9%, respectively, use it to communicate via email or chat; 89.6% of men and 90.2% of women use it to obtain information; and 85% of men and 79.7% of women use it for entertainment activities (video games, movies, music, etc). **That is, more women than men use the Internet to communicate and search for information, but fewer use it for entertainment purposes.**

This shows a difference in the way women and men make use of the Internet. In general, women use the Internet as an instrument to carry out specific activities (maintain communication, participate in dialogue groups and obtain information)[24]. While men make greater use of the network for recreational purposes, women have a tendency to opt for services of practical and social content. Likely, this trend is because women are doing more unpaid care work, and feel they do not have enough time to use the Internet[25].

It is also important to take note of the political use that is being made of the Internet, particularly from the activist and feminist groups, and the defenders of the LGBTIQ+ rights in Peru. These groups find in digital spaces a tool to gather information about their communities and try to influence the formulation of public policies.

> It would be important for the LGBT community to collect hate crime data and to spread it in a transparent manner, or to include the matter of sexual orientation in the census. To do this, the use of the Internet could be a tool that facilitates the collection and analysis of information looking to outline policies.
>
> Jorge Apolaya - Communications Advisor at Promsex
>
> In our society, there are not many socialization spaces for trans women, but on the Internet we can find spaces to share information and for empowerment. But, it is also difficult to access and use the Internet, because girls have been segregated and pushed away from the education system.
>
> Isabella - Activist from Féminas[26]

On the other hand, according to the 2016 data of ENAHO, indigenous women and men access the Internet at 11.9% and 20.3%, respectively; while non-indigenous women and men do so at 48.9% and 53.8%, respectively. In addition, indigenous women living in rural areas face the disadvantages of remoteness, the lack of accessible means of transport and communications, and the multiple discriminations rooted in ethnic-racial inequalities, which make their Internet access more difficult[27].

24 INEI, "Perú Brechas de Género 2017 Avances hacia la igualdad de mujeres y hombres", 2017 https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1444/libro.pdf

25 Web Foundation, "Women's Rights Online Translating Access into Empowerment", 2015, http://webfoundation.org/docs/2015/10/womens-rights-online_Report.pdf

26 Community center for trans women.

27 INEI, "Perú Brechas de Género 2017", 2017 https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1444/libro.pdf

> The gap is huge in the elderly and in indigenous, rural, and lower income populations. How is this explained? In areas of lower economic income, the access does not happen through a smartphone, but in internet booths. This can mean a lack of security for women: which woman would walk at night to go to a booth, when this can expose her to some risks?
>
> Juan Fernando Bossio - Professor at PUCP

If we analyze these differences taking into account the Web Foundation's report on women's rights[28] and the APC's research[29] on gender and technology, we can say that while both men and women can experience similar barriers when it comes to Internet access, women face structural inequities that not only restrict their access to the Internet, but also the reasons for using it. According to the Web Foundation report, one of the main barriers for women is the lack of time to use the Internet more frequently and, with this, to expand or discover the many uses that it can have. At this point we can ask ourselves whether social barriers are found behind this behavioral pattern, such as the time women spend at home, taking care of their children, etc.

1.5. GENDER GAP IN INTERNET ACCESS = 7

In Peru, the gender gap in Internet access between men and women is 12%[30], with women accessing the Internet less than men. As we have seen, this responds to cultural and structural factors that have an impact on how people understand technology and its use, and how the state understands the problem and propose bills. Thus, we must keep in mind the way we can work with technology under an inclusion approach, where its development responds to the needs and curiosities of the different groups that make up our society:

> The important thing is that all people have representation in the development of technology. For it to be a space of inclusion and diversity, since we all use it as a product that directly affects our lives, and if there is no representation of minorities, then that product is not focused on all users.
>
> Maria Fernanda Zamora - Laboratory Manager Alumnae

It is essential to expand the vision on the uses that we can give to technology, and especially, that the state develops specific strategies and clear goals to close social gaps in a Peruvian context, where inequalities are replicated in digital spaces.

28 Web Foundation, "Women's Rights Online Translating Access into Empowerment", 2015, http://webfoundation.org/docs/2015/10/womens-rights-online_Report.pdf

29 APC, "Mapping research in gender and digital technology" https://www.apc.org/sites/default/files/IDRC_Mapping_0323_0.pdf

30 A specific formula was applied to calculate the gender gap, according to the research methodology: (men% - women%) / women% = the result * 100

2. AFFORDABILITY = 7

Affordability is one of the most significant barriers for women when accessing the Internet, because they are the ones who usually have the lowest income, compared to men[31].

2.1. EXISTENCE OF SPECIFIC PUBLIC POLICIES TO PROMOTE FREE OR LOW-COST PUBLIC INTERNET ACCESS = 6

In the country there are different public policies of national scope that promote access to different public services, which are usually aimed at social groups in vulnerable situations. Regarding affordable Internet access, we can mention:

The Programa Nacional de Telecomunicaciones (National Telecommunications Program) (PRONATEL[32]) seeks to strengthen the policies on infrastructure and communications products promoted by the Ministry of Transportation and Communications to improve the services offered to citizens. In this way, to intensify regional projects in rural areas and to bring digital services where private activity does not arrive[33].

> One of the objectives of PRONATEL is to provide Internet access in rural areas to approximately 4 million Peruvians, highlighting the development of digital skills, for which it has a financing of 2 billion dollars.
>
> Cristian Mesa - Digital Public Policies Specialist at the MTC

While there are attempts and efforts by the government to promote public access to the Internet, they must be designed in response to the social challenges that intensify the restrictions on Internet use. In addition, it is important to note that even though public policies of affordable access propose improvements in general terms, the progress of the real changes they propose remains slow[34]. This is evidenced from how half of the country is still unable to access the Internet and there are no ongoing public or private initiatives that aim to fill this gap.

2.2. INTERNET AFFORDABILITY (PRICE OF 1GB OF DATA / AVERAGE MONTHLY INCOME) = 7

In Peru, remuneration resulting from work is the main economic resource for households, as it represents more than 70% of the total monetary income[35]. In this context, according to **the study conducted by the Alliance for Affordable Internet in 2019, the price of 1 GB of Internet is 1.66% of the average income in Peru[36].**

According to the ENAHO of 2017, 48.8% of people who have a job have Internet. However,

31 APC, "Mapping research in gender and digital technology" https://www.apc.org/sites/default/files/IDRC_Mapping_0323_0.pdf

32 MTC, "Puente Informativo", accessed on june 15, 2019, http://puenteinformativo.mtc.gob.pe/boletin-47/.

33 MTC, "MTC crea el Programa Nacional de Telecomunicaciones (PRONATEL) para llevar internet de alta velocidad a todo el país", 2018, https://www.gob.pe/institucion/mtc/noticias/23526-mtc-crea-el-programa-nacional-de-telecomunicaciones-pronatel-para-llevar-internet-de-alta-velocidad-a-todo-el-pais.

34 Alliance for Affordable Internet, "Informe de Asequibilidad 2018: Resumen Ejecutivo", 2018, https://a4ai.org/2018-resumen-ejecutivo/#.

35 INEI, "Perú: Indicadores de Empleo e Ingreso por departamento 2007-2017", 2018, https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1537/libro.pdf.

36 Alliance for Affordable Internet, "Mobile Broadband Pricing", 2019, https://a4ai.org/extra/mobile_broadband_pricing_gnicm-2019Q2.

within this Internet user population, there are groups with greater access than others, such as men who have higher education in universities, have formal jobs and reside in urban areas[37].

On the other hand, Isabella de Féminas explains that it is important to relate the access and use of the Internet to the economic factor, especially of the population that is in vulnerable situations, such as trans women:

> What makes it difficult for us to access the Internet are two things: the economic and educational matters, because not all of us can buy a smartphone and that limits us with the options of obtaining knowledge, when the education system excludes us.

In these figures, the economic factor between the relationship of having Internet access and having the economic possibilities of using it is highlighted. In addition, it is possible to visualize the positive link between the access to education, work, use of technology and economic autonomy to enjoy the Internet[38]. Therefore, the state as an entity that protects our rights must play a proactive role to ensure that the cost of using the Internet is not an impediment for its access.

3. DIGITAL SKILLS AND EDUCATION = 5

From the educational sector, the fact that women face specific obstacles to access technology should foster the necessary impulses to generate specific resources from a social approach which promotes the development of skills in the STEAM fields, and in this way, to guarantee equal access and use by people in a medium term.

3.1 PROPORTION OF TEACHERS WITH TRAINING IN ICTS IN SCHOOLS = 2

Currently, **the campaigns focused on training teachers in ICTs topics that have been developed in various areas of the country respond to specific needs of some regions, and not to a national government plan or strategy**[39].

At national level, the Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica (National Council of Science, Technology and Technological Innovation) (CONCYTEC) manages the Special Program for the Popularization of Science, Technology and Innovation that includes the Teaching Update. This project aim to support teaching activity through the strengthening of capacities for the development of skills in the field of science and technology[40]. The trainings that are being developed are carried out thanks to commissions from other projects, in coordination with the Educational Management Units. In a year, an average of one thousand teachers are trained.

On the other hand, it is also important to recognize that teacher skills should not be purely

37 INEI, "Perú: Indicadores de Empleo e Ingreso" https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1537/libro.pdf.

38 CEPAL, "Persiste brecha de género en inclusión digital en países de la región", 2013, https://www.cepal.org/cgi-bin/getProd.asp?xml=/socinfo/noticias/noticias/1/49601/P49601.xml&xsl=/socinfo/tpl/p1f.xsl&base=/socinfo/tpl/top-bottom.xsl.

39 FONDEP, "Ministerio de Educación inicia capacitación para docentes de apoyo tecnológico", accessed on July 9, 2019, https://www.fondep.gob.pe/ministerio-de-educacion-inicia-capacitacion-para-docentes-de-apoyo-tecnologico/.

40 CONCYTEC, "Popularización de la Ciencia", http://portal.concytec.gob.pe/images/publicaciones/libro_popularizacion_oct.pdf.

cognitive, but also including soft skills:

> It is important to encourage teachers of schools to be mentors in technology issues and, at the same time, to encourage children with fun things like: sticker codes, videos, music, etc. There is also a lot of work that needs to be done with parents, so they expose girls to technology and forget the idea that technology belongs to men.
>
> María Vélez - CEO of Crack the Code

It is essential to have plans and strategies that have an overview of the diverse actors that are involved in the development of technology abilities of students, such as teachers. For instance, developing and strengthening alliances between the Ministry of Education, CONCYTEC, other state entities and the private sector to strengthen the abilities of teachers. According to the Web Foundation, education is a determining factor for using the Internet for women in urban areas and in poverty. Women with secondary education are usually online six times more than women with primary education or without education from the system[41].

3.2. PERCENTAGE OF WOMEN IN FIELDS OF RESEARCH AND DEVELOPMENT IN TECHNOLOGY AND ENGINEERING = 5

According to CONCYTEC, **the percentage of professional women dedicated to science, technology and innovation in Peru reaches 34% of the total number of professionals registered in the Directorio Nacional de Investigadores e Innovadores (National Directory of Researchers and Innovators) (DINA)[42].**

In an investigation carried out by CENTRUM[43], Centro de Negocios de la PUCP (Business Center of the PUCP), it is shown that only 29.2% of the students enrolled in STEAM careers are women, despite the fact that, in terms of school and university studies, the number of women students are above 50%[44].

> It is not true to say that girls and female adolescents are not interested in science and technology. In the national phase of the Feria Escolar Nacional de Ciencia y Tecnología (National School Fair of Science and Technology) (EUREKA), almost 60% of the finalists are women. The gaps are seen by cultural factors; subsequently, for example in the Systems Engineering major, there is a ratio of 9 men to 1 woman.
>
> Marco Rinaldi - Coordinator of the Popularization of Science, Technology and Innovation Program

41 Web Foundation, "Women's Rights Online", http://webfoundation.org/docs/2015/10/womens-rights-online_Report.pdf.

42 CONCYTEC, "Índice de investigadores", accessed on August 29, 2019, https://portal.concytec.gob.pe/index.php/cientificos-inc-informacion-general/129-indice-investigadores-peru/627-i ndice-de-https://portal.concytec.gob.pe/index.php/cientificos-inc-informacion-general/129-indice-investigadores-peru/627-indice-de-investigadores-peru.htmlinvestigadores-peru.html.

43 CENTRUM, "Factores que Influyen en el Ingreso, Participación y Desarrollo de las Mujeres en Carreras Vinculadas a la Ciencia, Tecnología e Innovación en el Perú", 2018, https://www.centrumthink.pucp.edu.pe/Docs/files/folleto.pdf

44 RPP, "Menos del 30% de estudiantes de ciencia y tecnología son mujeres según estudio de CENTRUM PUCP", 2018, https://rpp.pe/campanas/publirreportaje/menos-del-30-de-estudiantes-de-ciencia-y-tecnologia-son-mujeres-segun-estudio-de-centrum-pucp-noticia-1171977.

> As there are more women in the world of technology, whatever is developed will be designed from another point of view, which does not mean having pink laptops. The point of view does a lot on how solutions to problems are thought. An app against violence against women designed by men will not be the same as one designed by women, as it will not take into account the same things. There needs to be more women in technology.
>
> Juan Fernando Bossio - Professor at the PUCP

The development of programs and strategies of the education and economy sectors must take into account the relationship between low representation of women in STEAM and the loss of talent, ideas, analysis and approaches, and how it translates into various difficulties for a country to be able to reach its maximum potential[45]. Given this, having data disaggregated by sex regarding the barriers/reasons that women face in these fields could identify the challenges they face when balancing the social expectations of what it means to be a woman and their professional careers[46].

3.3. INTERNET ACCESS IN SECONDARY SCHOOLS = 7

According to the statistics from the Ministry of Education of 2018[47], 74.1% of secondary schools nationwide have internet access. However, when we analyze this figure according to the type of management, a greater disparity can be observed: Internet access in public secondary schools is 68.4%, and 84.5% for private schools. Also, in the rural area, 44.1% of secondary schools have Internet access, while in the urban area it is 88.6%.

> Political instability affects things being carried out in the education sector; this is one of the most serious limitations we face. In addition, I believe that not all people have the same resources.
>
> María Vélez - CEO of Crack the Code

Social barriers in education are also replicated in Internet access, not only due to infrastructure issues, but also for how the state prioritizes its citizens according to where they live and their purchasing power. On the other hand, thinking about the digital gap implies not only seeing the access portion of it, but also the content gap and the technological skills gap[48]. Given this, it is necessary to ask how the education system is designed and what social, economic and perspective obstacles girls and women face in the technological space.

45 UNESCO, "Measuring Gender Equality", http://uis.unesco.org/sites/default/files/documents/saga-toolkit-wp2-2017-en.pdf.

46 CONCYTEC, "Estudio sobre los diferentes factores que influyen en los jóvenes a inclinarse por una formación científico-técnica", accessed on August 28, 2019, http://portal.concytec.gob.pe/index.php/publicaciones/informes/item/208-informe-n-4-estudio-sobre-los-diferentes-factores-que-influyen-en-los-jovenes-a-inclinarse-por-una-formacion-cientifico-tecnica.

47 MINEDU, "Estadística Online", accessed on June 6, 2019, http://escale.minedu.gob.pe/ueetendencias2016?p_auth=hsv3ZbhT&p_p_id=TendenciasActualPortlet2016_WAR_tendencias2016portlet_INSTANCE_t6xG&p_p_lifecycle=1&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_pos=1&p_p_col_count=3&_TendenciasActualPortlet2016_WAR_tendencias2016portlet_INSTANCE_t6xG_idCuadro=53.

48 INEI, "Perú Brechas de Género 2017" https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1444/libro.pdf.

4. CONTENT AND SERVICES RELEVANT TO WOMEN = 2

Women in our country have different contexts and needs. Considering this reality, ICTs are a good option to provide information spaces and generate tools that can facilitate their daily performance. However, the generation of content and services that are available to women is not easily accessible or, in some cases, is non-existent.

4.1 AVAILABILITY OF USER-FRIENDLY INFORMATION THROUGH ICTS (INCLUDING WEB/INTERNET, INTERACTIVE VOICE RESPONSE (IVR) AND SMS MESSAGING) ABOUT SEXUAL AND REPRODUCTIVE HEALTH RIGHTS AND SERVICES FOR WOMEN AND GIRLS = 2

When searching for information on reproductive health on state platforms, what was found were guides, technical standards[49] and reports related to STIs, HIV, pregnancy, etc. These documents appear to be addressed to an audience with prior knowledge of reproductive health.

On the other hand, the Ministry of Women and Vulnerable Populations has Line 100 and Chat 100[50]. People can contact these lines to ask for guidance in case of violence, but by this means no information on sexual and reproductive rights is provided.

In Peru, those who work and spread sexual rights matters are NGOs and groups of activists, such as Serena Morena and Línea Aborto - Información Segura (Abortion Line - Safe Information), two organizations that also provide information on safe abortion under the protection of the right to freedom of information, since abortions are currently illegal in Peru, with the only exception in case when the mother's life is in danger if the pregnancy is not interrupted.

> Beyond the fact that the websites of the state are a mess, the use that the state has of technology is very precarious. The interconnection of technology as a spreading tool in reproductive health issues is very precarious.
>
> Milagros Olivera - Serena Morena
>
> The state is not doing its job; the little information on reproductive health is not easily accessible or public.
>
> Fátima Valdivia - Feminist anthropologist

In that sense, it is important to question how is the relationship between reproductive health issues for women and the utilitarian role of technology as an information tool from government perspective. In this way, identify what content is being created and spread online, which in turn respond to the basic needs of women and encourage their participation in technologies. That is, that the content is easily accessible, in their language, relevant to its context, etc[51].

49 MINSA, "Norma Técnica de Salud para la prevención y el control de la infección por el virus de la inmunodeficiencia humana en pueblos indígenas amazónicos, con pertinencia intercultural", 2016, http://bvs.minsa.gob.pe/local/MINSA/3972.pdf.

50 MIMP, Programa Nacional Contra la Violencia Familiar y Sexual", accessed on September 3, 2019, https://www.mimp.gob.pe/contigo/contenidos/pncontigo-articulos.php?codigo=18

51 APC, "Mapping research in gender and digital technology" https://www.apc.org/sites/default/files/IDRC_Mapping_0323_0.pdf

4.2. PERCENTAGE OF WOMEN WHO USE MOBILE FINANCIAL SERVICES IN PERSON = 2

In 2017, **the World Bank conducted an investigation in Peru, where it was identified that only 2.3% of women of 15 years of age and older used mobile financial services in the last 12 months**[52]. On the other hand, since 2015, Peru has a national financial inclusion strategy developed with assistance from the World Bank[53]; one of its objectives for 2021 is that at least 75% of adults have access to a transaction account[54].

Speaking of women's financial inclusion implies understanding that the incorporation of women in the labor market is different from that of men, depending on the level of education, professional career, hours of work, social factors, etc[55]. On the other hand, according to various researches, although the economy network promotes the employment of women and their economic independence, it is not necessary or directly leads to women's development and their arrangement[56].

5. ONLINE SAFETY = 4

Having Internet access, the possibility of acquiring it and developing skills to be able to enjoy it are key factors, but so is recognizing the difficulties women face when they are online. At the same time, this implies questioning what role the state plays in guaranteeing the protection of women and populations in vulnerable situations in cases of online gender violence.

5.1. DEGREE TO WHICH COMPETENT AUTHORITIES AND COURTS ACT IN CASES WHERE ICTS TOOLS ARE USED TO COMMIT ACTS OF GENDER VIOLENCE = 3

In the research about Online Gender Violence in Peru, which was carried out by Hiperderecho in 2018[57], identified up to ten ways of using technology to exert violence against groups in vulnerable situations (women, the LGTBIQ+ community, activists, etc.). The same research found that the Internet is not a space free of violence, but that it is replicated and amplified according to the inherent characteristics of the Internet, such as anonymity, proximity, speed and permanence of content.

In September 2018, the Legislative Decree 1410 was published, which makes bullying, sexual harassment, sexual blackmail and the distribution of intimate images without

52 The World Bank, "Global Financial Inclusion", accessed on September 20, 2019, https://databank.worldbank.org/reports.aspx?source=1228.

53 The World Bank, "Perú pone en marcha Estrategia Nacional para Ampliar la Inclusión Financiera", 2015, https://www.bancomundial.org/es/news/feature/2015/08/05/peru-launches-national-financial-inclusion-strategy-to-expand-financial-inclusion.

54 The World Bank, "La inclusión financiera es un factor clave para reducir la pobreza e impulsar la prosperidad", 2018, https://www.bancomundial.org/es/topic/financialinclusion/overview.

55 ILO, "La brecha salarial entre hombres y mujeres en América Latina", 2019, https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/documents/publication/wcms_697670.pdf.

56 APC, "Mapping research in gender and digital technology" https://www.apc.org/sites/default/files/IDRC_Mapping_0323_0.pdf.

57 OIT, "La Brecha Salarial entre hombres y Mujeres en América Latina", 2019, https://hiperderecho.org/tecnoresistencias/informe/violencia/.

consent a crime[58]**.** However, there is still no clarity about the authority that is responsible for receiving and processing reports on this type of violence. More importantly, it is not known to what extent the authorities have sufficient tools and knowledge to investigate these cases, act against the aggressors and prove their guilt. This void also translates into a poor response from public institutions, universities and private companies, where there are no clear protocols to regulate online gender violence.

> In general, a regulation does not help much if people are not aware and involved; it's like a task that must be understood from the limitations in which we live. The law is important, it already states the problem, but just that.
>
> Milagros Olivera - Serena Morena

Knowing that in these cases the most vulnerable populations to suffer violence are women, the LGBTIQ+ community, human rights activists and defenders, clear response strategies should be developed. However, this type of violence relies on the impunity of the justice system due to the ineffective routes of denunciation and assistance for victims[59]. Therefore, it is a priority that justice operators receive the relevant training to address these cases and ensure adequate access to justice by those facing cases of online gender violence.

5.2. STRENGTH OF EXISTING NATIONAL DATA PROTECTION LAWS = 5

The protection of personal data is a fundamental right in Peru recognized in the Political Constitution of Peru in its article 2, subsection 6, and developed in Law No. 29733: "Law on Protection of Personal Data (LPDP)[60]**" and in its regulations.** The LPDP establishes a framework of protection of people, offering them different tools to control the use that other private or public entities make of their data.

In addition, it creates obligations for those who access personal data under the European scheme of rights called ARCO (Access, Rectification, Cancellation and Opposition): request prior authorization before collecting data, inform how it is treated and with whom it is shared, etc. Finally, it creates a set of administrative sanctions for those who break these rules. To monitor compliance with this rule, the Autoridad de Protección de Datos Personales (Personal Data Protection Authority) was created, an administrative entity under the Ministry of Justice.

Although when talking about its design, the LPDP and its Regulations achieve substantial protection for personal data, when it comes to its application and when the one who processes the data is a public entity, this is not always true. In fact, there are three exceptions under which these entities may breach the provisions of the LPDP: By legal mandate (laws), for reasons of national security, and in compliance with the public function.

58 Hiperderecho, "Decreto Legislativo convierte en delito el acoso y la pornografía no consentida por Internet, acceso", accessed on July 16, 2019, https://hiperderecho.org/tecnoresistencias/2019/01/decreto-legislativo-convierte-en-delito-el-acoso-y-la-pornografia-no-consentida-por-internet/

59 Albornoz y Flores, "Conocer para Resistir: Violencia de Género en Línea en Perú", 2018, https://hiperderecho.org/tecnoresistencias/informe/.

60 MINJUS, Ley de Protección de Datos Personales, 2011, https://www.minjus.gob.pe/wp-content/uploads/2013/04/LEY-29733.pdf.

CLOSING THE ONLINE GENDER GAP: A 5-STEP PLAN

CLOSING THE ONLINE GENDER GAP: A 5-STEP PLAN

1. **Collect national data on gender and ICTs:** analyze from a rights approach how access and the use of technology play a role in inequalities and gender violence.

2. **Integrate digital skills into the education system:** digital skills and technology education must be universal, and include an intersectional and multicultural approach. Additionally, digital skills education must focus on the three actors that influence education: teachers, students and families. It is also important to produce knowledge in the native language of people and to respect their culture in order to eliminate social barriers that influence the use of technology.

3. **Develop strategies and public policies with a gender perspective:** create gender-specific goals and objectives for policies related to technology, broadband, and internet infrastructure, to ensure public policies do not exclude women. Assigned responsibilities to the interested parties to implement policies that narrow the digital gender gap.

4. **Promote digital abilities of girls and women to create more content:** support women and girls to develop content, applications and services that are relevant and empowering according to their needs and interests.

5. **Enforce the Legislative Decree 1410, and consult with women's and LGTBIQ+ groups on the best mechanisms to ensure their access to justice:** in this way, to be able to propose specific national strategies that promote concrete actions according to their contexts for a greater use of technology in a safe space.

BIBLIOGRAFÍA

Albornoz y Flores. "Conocer para Resistir: Violencia de Género en Línea en Perú". 2018. https://hiperderecho.org/tecnoresistencias/informe/.

Alliance for Affordable Internet. "Informe de Asequibilidad 2018: Resumen Ejecutivo". 2018. https://a4ai.org/2018-resumen-ejecutivo/#.

Alliance for Affordable Internet. "Mobile Broadband Pricing". 2019. https://a4ai.org/extra/mobile_broadband_pricing_gnicm-2019Q2.

Asociación Progresiva de Comunicaciones. "Mapping research in gender and digital technology". 2017. https://www.apc.org/sites/default/files/IDRC_Mapping_0323_0.pdf.

Banco Mundial. "La inclusión financiera es un factor clave para reducir la pobreza e impulsar la prosperidad". 2018. https://www.bancomundial.org/es/topic/financialinclusion/overview.

Banco Mundial. "Perú pone en marcha Estrategia Nacional para Ampliar la Inclusión Financiera". 2015. https://www.bancomundial.org/es/news/feature/2015/08/05/peru-launches-national-financial-inclusion-strategy-to-expand-financial-inclusion.

Brandusescu y Brudvig. "Advancing Women's Rights Online". 2018. http://webfoundation.org/docs/2018/08/Advancing-Womens-Rights-Online_Gaps-and-Opportunities-in-Policy-and-Research.pdf.

CENTRUM. "Factores que Influyen en el Ingreso, Participación y Desarrollo de las Mujeres en Carreras Vinculadas a la Ciencia, Tecnología e Innovación en el Perú". 2018. https://www.centrumthink.pucp.edu.pe/Docs/files/folleto.pdf

Comisión Económica Para América Latina. "Persiste brecha de género en inclusión digital en países de la región". 2013. https://www.cepal.org/cgi-bin/getProd.asp?xml=/socinfo/noticias/noticias/1/49601/P49601.xml&xsl=/socinfo/tpl/p1f.xsl&base=/socinfo/tpl/top-bottom.xsl.

Congreso de la República. Ley de Protección de Datos Personales. 2011. https://www.minjus.gob.pe/wp-content/uploads/2013/04/LEY-29733.pdf.

Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica. "Estudio sobre los diferentes factores que influyen en los jóvenes a inclinarse por una formación científico-técnica". Acceso el 28 de agosto de 2019. http://portal.concytec.gob.pe/index.php/publicaciones/informes/item/208-informe-n-4-estudio-sobre-los-diferentes-factores-que-influyen-en-los-jovenes-a-inclinarse-por-una-formacion-cientifico-tecnica.

Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica. "Índice de investigadores". Acceso 29 de agosto de 2019. https://portal.concytec.gob.pe/index.php/cientificos-inc-informacion-general/129-indice-investigadores-peru/627-indice-de-https://portal.concytec.gob.pe/index.php/cientificos-inc-informacion-general/129-indice-investigadores-peru/627-indice-de-investigadores-peru.htmlinvestigadores-peru.html.

Consejo Nacional de Ciencia, Tecnología e Innovación Tecnológica. "Popularización de la Ciencia". 2016. http://portal.concytec.gob.pe/images/publicaciones/libro_

popularizacion_oct.pdf.

FONDEP. "Ministerio de Educación inicia capacitación para docentes de apoyo tecnológico". Acceso el 9 de julio del 2019. https://www.fondep.gob.pe/ministerio-de-educacion-inicia-capacitacion-para-docentes-de-apoyo-tecnologico/.

Francisco J. Proenza, "Tecnología y cambio social". El impacto del acceso público a las computadoras e Internet en Argentina, Chile y Perú, América Problema 35, (2012) https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/51521/IDL-51521.pdf?sequence=1.

Guerrero, Carlos. "¡Ocupemos la Red!: Conociendo el Ecosistema de Internet en el Perú". Hiperderecho (blog). 2016. https://hiperderecho.org/2016/07/ocupemos-la-red-conociendo-ecosistema-internet-peru/.

Hiperderecho. "Decreto Legislativo convierte en delito el acoso y la pornografía no consentida por Internet, acceso". Acceso el 16 de julio de 2019. https://hiperderecho.org/tecnoresistencias/2019/01/decreto-legislativo-convierte-en-delito-el-acoso-y-la-pornografia-no-consentida-por-internet/.

Instituto Nacional de Estadística e Informática. "Brecha Digital de Género". Acceso 06 de mayo de 2019. https://www.inei.gob.pe/estadisticas/indice-tematico/brecha-digital-de-genero-7920/.

Instituto Nacional de Estadística e Informática. "Estadísticas de las Tecnologías de la Información y Comunicación en los Hogares". 2019. https://www.inei.gob.pe/media/MenuRecursivo/boletines/01-informe-tecnico-n01_tecnologias-de-informacion-oct-nov-dic2019.pdf.

Instituto Nacional de Estadística e Informática. "Perú: Indicadores de Empleo e Ingreso por departamento 2007-2017". 2018. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1537/libro.pdf.

Instituto Nacional de Estadística e Informática. "Indicadores de Género". Acceso 10 de junio de 2019. https://www.inei.gob.pe/estadisticas/indice-tematico/brechas-de-genero-7913/.

Instituto Nacional de Estadística e Informática. "Perú Brechas de Género 2017 Avances hacia la igualdad de mujeres y hombres". 2017. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1444/libro.pdf

Instituto Nacional de Estadística e Informática. "Perú - Encuesta Nacional de Hogares sobre Condiciones de Vida y Pobreza 2017". 2017. https://webinei.inei.gob.pe/anda_inei/index.php/catalog/613.

Instituto Nacional de Estadística e Informática. "Población que accede a Internet". 2017. https://www.inei.gob.pe/estadisticas/indice-tematico/population-access-to-internet/.

Instituto Nacional de Estadística e Informática. "Tecnologías de la Información y Comunicación". Acceso 23 de mayo de 2019. https://www.inei.gob.pe/estadisticas/indice-tematico/tecnologias-de-la-informacion-y-telecomunicaciones/.

Ministerio de Educación. "Estadística Online". Acceso el 06 de junio de 2019. http://escale.minedu.gob.pe/ueetendencias2016?p_auth=hsv3ZbhT&p_p_id=TendenciasActualPortlet2016_WAR_tendencias2016portlet_INSTANCE_t6xG&p_p_lifecycle=1&p_p_state=normal&p_p_mode=view&p_p_col_id=column-

1&p_p_col_pos=1&p_p_col_count=3&_TendenciasActualPortlet2016_WAR_tendencias2016portlet_INSTANCE_t6xG_idCuadro=53.

Ministerio de la Mujer y Poblaciones Vulnerables. "Programa Nacional Contra la Violencia Familiar y Sexual". Acceso el 03 de septiembre del 2019. https://www.mimp.gob.pe/contigo/contenidos/pncontigo-articulos.php?codigo=18

Ministerio de Salud. "Norma Técnica de Salud para la prevención y el control de la infección por el virus de la inmunodeficiencia humana en pueblos indígenas amazónicos, con pertinencia intercultural". 2016. http://bvs.minsa.gob.pe/local/MINSA/3972.pdf.

Ministerio de Transportes y Comunicaciones. Firman adhesión a la Alianza de Mujeres Rurales en Lima. 2019. https://www.gob.pe/institucion/mtc/noticias/28007-firman-adhesion-a-la-alianza-de-mujeres-rurales-en-lima.

Ministerio de Transportes y Comunicaciones. MTC inauguró foro por el Día Internacional de las Niñas en las TIC 2019. 2019. https://www.gob.pe/institucion/mtc/noticias/27817-mtc-inauguro-foro-por-el-dia-internacional-de-las-ninas-en-las-tic-2019.

Ministerio de Transportes y Comunicaciones. "MTC crea el Programa Nacional de Telecomunicaciones (PRONATEL) para llevar internet de alta velocidad a todo el país". 2018. https://www.gob.pe/institucion/mtc/noticias/23526-mtc-crea-el-programa-nacional-de-telecomunicaciones-pronatel-para-llevar-internet-de-alta-velocidad-a-todo-el-pais.

Ministerio de Transportes y Comunicaciones. "Puente Informativo". Acceso el 15 de junio de 2019. http://puenteinformativo.mtc.gob.pe/boletin-47/.

Normas Legales. Ley 29904. 2012. https://busquedas.elperuano.pe/normaslegales/ley-de-promocion-de-la-banda-ancha-y-construccion-de-la-red-ley-n-29904-817111-1/.

Organización Internacional del Trabajo. "La Brecha Salarial entre hombres y Mujeres en América Latina". 2019. https://hiperderecho.org/tecnoresistencias/informe/violencia/.

Organismo Supervisor de Inversión Privada en Telecomunicaciones. Reglamento de la Ley Nffl 29904. Ley de Promoción de la Banda Ancha y Construcción de la Red Dorsal Nacional de Fibra Óptica. 2013. https://www.osiptel.gob.pe/repositorioaps/data/1/1/1/PAR/ley-29904-promocion-banda-ancha-rdnfo/ds014-2013-mtc.pdf.

Radio Programas del Perú. "Menos del 30% de estudiantes de ciencia y tecnología son mujeres según estudio de CENTRUM PUCP", 2018. https://rpp.pe/campanas/publirreportaje/menos-del-30-de-estudiantes-de-ciencia-y-tecnologia-son-mujeres-segun-estudio-de-centrum-pucp-noticia-1171977.

Rodriguez, Candy. "Ellas dominan las tecnologías ¿y tú?". Luchadoras. 2017. https://luchadoras.mx/dominar-tecnologias/.

The World Bank. "Global Financial Inclusion". Acceso el 20 de septiembre de 2019. https://databank.worldbank.org/reports.aspx?source=1228.

UNESCO. "Measuring Gender Equality in Science and Engineering: the SAGA Toolkit". 2017. http://uis.unesco.org/sites/default/files/documents/saga-toolkit-wp2-2017-en.pdf.

World Wide Web Foundation. “Caja de herramientas para las hojas de calificación de la Auditoría de la Brecha Digital de Género”. Acceso el 15 de abril de 2019. http://webfoundation.org/docs/2017/09/WRO-Country-Scorecard-Toolkit_Espanol.pdf.

World Wide Web Foundation. “Women’s Rights Online Translating Access into Empowerment”. 2015. http://webfoundation.org/docs/2015/10/womens-rights-online_Report.pdf.

APPENDIX: DIGITAL GENDER GAP AUDIT SCORECARD TOOLKIT

http://webfoundation.org/docs/2017/09/WRO-Country-Scorecard-Toolkit_Espanol.pdf

Indicador	Source	Scoring criteri		
1. Internet Access and Women's Empowerment		**For a score of 0**	**For a score of 5**	**For a score of 10**
National collection and reporting of sex-disaggregated ICT data	ITU gender and ICT data or Data available at National Statistics Offices (NSOs) on Internet users, disaggregated by gender	No sex-disaggregated ICT data is systematically collected at the national level	ICT data on Internet users is disaggregated by sex but it may not be readily accessible online or through national departments.	Sex-disaggregate d ICT data is collected and available from the national statistical office or any other government source
Existence in national ICT strategies or broadband plans of clear time-bound targets to overcome gender and poverty divides in Internet use, and provision of budget for implementation	Web Index (2014) as a baseline — with new expert assessment review	There is very little, if any, discussion at any level of government about the need to encourage greater access to and use of the web by women and girls, or of increased training in how to use the web for women and girls.	There may be sub-national and/or national policies encouraging increased access, training and use of the web by women and girls, but no official national concrete targets exist.	There is an official national policy or directive designed to encourage increased access, training and use of the web for women and girls, with concrete targets for gender equity in this area.
Women's internet accesst	Women's Rights Online study (2015) or other national data source on the percentage of women with access to the Internet	Menos del 10 % de las mujeres encuestadas han usado Internet, según el informe.	50% - 59% of women surveyed reported having used the Internet.	100% of women surveyed reported having used the Internet.

Empowering use of the web	Women's Rights Online study (2015) — average of data for women's use of the Internet to: a) look for work, b) seek information, c) voice opinion	Under 10% of women surveyed reported having used the Internet in the past six months to: a) look for work, b) seek information, c) voice opinion	50% - 59% of women surveyed reported having used the Internet in the past six months to: a) look for work, b) seek information, c) voice opinion.	100% of women surveyed reported having used the Internet in the past six months to: a) look for work, b) seek information, c) voice opinion
Gender gap in internet access	This indicator comprises the average gender gap across (1) Women's Rights Online study of poor urban areas (2015) & (2) Pew Global Attitudes nationally representative	The online gender gap is more than 80%	The gender gap is 30%	The online gender gap is less than 2%
2. Affordability		**For a score of 0**	**For a score of 5**	**For a score of 10**
Existence of specific policies to promote free or low-cost public internet access	A4AI Affordability Drivers Index (2015	There is no evidence of a policy or ICT/Broadband Plan that supports/ promotes public and/ or access.	There is evidence of policies for public access and shared access in the country, but resources to implement policies and plans are limited and/or there are very few places set up to offer those services/options.	There are specific policies to support public or shared access in order to create affordable access
Internet affordability (price of 1 GB data / average monthly income)	ITU, World Bank (2014)	The price of 1GB is 11% of more of average monthly income.	price of 1GB is between 6-6.99% of average monthly income	Price of 1GB is less than 2% of average monthly income

3. Digital Skills and Education		For a score of 0	For a score of 5	For a score of 10
Proportion of ICT-qualified teachers in schools	Web Index (2014) as a baseline-with new expert assessment review	Very few - if any - education sector workers are trained in the use of web-powered ICTs to deliver better education services children, and those who are, tend to be in the private education sector.	A few pilot projects have been implemented in some districts, but there is no systematic uptake;	Teachers and administrators in almost all the regions of the country have to receive regular training (at least once every 3 years) on how to deliver better education services using web-powered ICTs, especially to poor and marginalised communities.
Percentage of women in technology and engineering research and development (R&D) fields	UNESCO indicator: "Female researchers as a percentage of total researchers in technology and engineering".	The percentage of women in technology and engineering research and development (R&D) is 10% or less	The percentage of women in technology and engineering research and development (R&D) is at least 30%	The percentage of women in technology and engineering research and development (R&D) is at least 50%
Internet access at secondary schools	UNESCO Data on "Educational Institutions with Access to the Internet"	No data is collected on this indicator at the national level	50% or fewer secondary schools report having Internet access	Over 90% of secondary schools report having Internet access

4. Relevant Content and Services for Women		For a score of 0	For a score of 5	For a score of 10
Availability of user friendly information via ICTs (including web/ Internet, IVR and SMS) about reproductive and sexual health rights and services for women and girls	Web Index (2014) as a baseline - with new expert assessment review	The government and private service providers do not provide any information on the Web/other ICT platforms about reproductive and sexual health rights and services, or such information is not easy to find, outdated or incomplete so as to render it useless	The government and/ or CSOs/ private service providers make available on Web-powered ICT platforms some information about reproductive and sexual health rights and services, but some key information may be incomplete or out of date.	The government and/or CSOs/ private service providers make available via web-powered ICTs information about reproductive and sexual health rights and services in the main local languages.
Percentage of women personally using mobile financial services	World Bank Financial Inclusion Data/Global Findex (2014)	Less than 1% of women are personally using a mobile phone pay bills or to send or receive money	5%-15% of women are personally using a mobile phone pay bills or to send or receive money	Over 60% of women are personally using a mobile phone pay bills or to send or receive money

5. Online safety		For a score of 0	For a score of 5	For a score of 10
Extent to which law enforcement agencies and the courts are taking action in cases where ICT tools are used to commit acts of gender-based violence	Web Index (2014) as a baseline - with new expert assessment review	Neither training nor clear guidelines are provided to the police or the judiciary on how to deal with gender violence carried out using ICT tools.	There are some legal and regulatory stipulations in place. Training and guidelines are provided to both police and judiciary, but enforcement is non-existent or very inadequate	Clear legal protection and laws in place. Training and clear guidelines are provided to both the police and judiciary on how to deal with such issues.
Existence and robustness of national data protection laws	Open Data Barometer (2016)	A legal or regulatory regime to promote data protection does not exist or is so devoid of precision and/or the understood best practice as to render it useless in practice	A legal or regulatory regime exists but is missing some of the key elements understood to promote best practice around data protection policies, including broad applicability, the right of choice/consent to individuals...	A legal or regulatory data protection framework exists that is broadly applicable, provides the right of choice/consent to individuals, provides the right to access and/or correct one's personal data.