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Gender and Digital Access Gaps and Barriers in Asia: But What About After Access?

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Gender and digital access gaps and barriers in Asia: But what about *after* access?

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This paper explores the gender gaps in digital access and the underlying reasons for those gaps in the Global South. It shows that over time some progress in closing those gaps in certain parts of South Asia, however it then goes on to argue that getting women simply connected is not the end goal. By examining the cases of India and Sri Lanka, the paper then identifies two key barriers to women's meaningful access, specifically knowledge/awareness and digital skills barriers. The evidence shows that in these countries, the levels of digital skills and awareness of digital opportunities (such as online freelancing, using platforms to sell goods/services) are particularly low. The paper argues that in order to be digitally empowered, women need to firstly be aware of the possibilities of being online and have the necessary skills to enrich that experience.

Introduction

Compared to two decades ago, today, digital access gaps are being given increasing amounts attention by researchers, governments, and industry alike. Women consistently lag behind men when it comes to technology adoption and use. This has been seen in mobile phone adoption internet use, social media use, digital skills and beyond (GSMA, 2021a; ITU, 2021; ITU, 2017; LIRNEasia, 2019; United Nations Division for the Advancement of Women, ITU & UN ICT Task Force Secretariat, 2002; World Bank, 2016; World Wide Web Foundation, 2020; Zainudeen, Iqbal & Samarajiva, 2010).

Disparities in women's access to digital technology limit women's ability to benefit from and be empowered by the technology in the numerous ways that have evolved. This can include access networks, resources, livelihood opportunities, voice and agency among others (GSMA, 2021a; Broadband Commission, 2017; Scott Balasubramanian & Ehrke, 2017; World Wide Web Foundation, 2016 UNCTAD & ILO, 2014; Moyo & Deen-Swarray, 2013). These benefits not only accrue at the individual level, but at a society level also (such as better health and education outcomes for children). Achieving many of the SDGs is tied to connectivity in an increasingly digitized world, therefore the impetus for women –of all walks– to be meaningfully connected is even greater.

With technology becoming increasingly central to all spheres of life, women who are not able to take advantage of these benefits will risk being doubly excluded; not just from digital services themselves, but from core services like government services, ecommerce, amongst others which rely on digital access in some way or the other. Research suggests that they could even face bigger difficulties in managing their lives than in a pre-digital era (Scott et al., 2017; Cummings & O'Neil, 2015; Galperin Mariscal & Barrantes, 2014; Broadband Commission, 2013).

This paper explores the gender gaps in access and the underlying reasons for those gaps. It shows that over time some progress in closing those gaps in certain parts of South Asia, however it then goes on to argue that getting women simply connected is not the end goal; women need to also have the knowledge and skills to make meaningful use of that access and be empowered in their lives.

Digital access gaps in the Global South

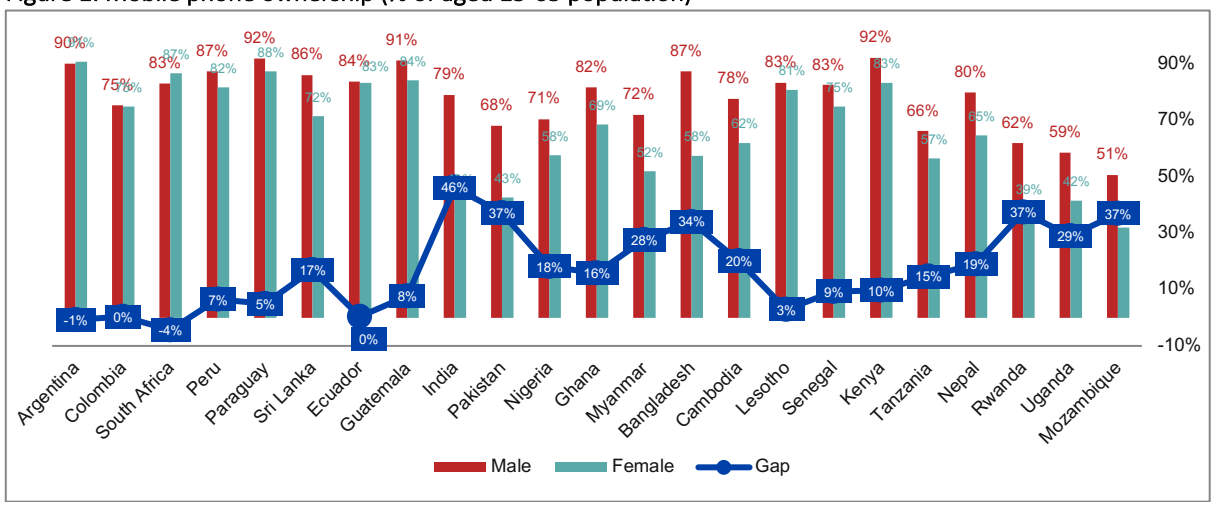
While the collection of comparative gender-disaggregated data on ICT access and use is rarely done at a national level, there have been substantial efforts by international research organizations to measure the gaps in access and usage across countries, especially in developing markets (e.g., the efforts of the Broadband Commission for Sustainable Development, GSMA, APC, Alliance for Affordable Internet [A4AI], World Wide Web Foundation etc.). The empirical evidence indicates major differences between men and women in the volume, frequency, and quality of ICT access, particularly among those in developing countries. For instance, ITU data showed that in 2019 globally, 57% of women were online, compared to 62% of men; when considering least developed countries ITU estimates that just 19% of women were online in 2019, compared to 86% in developed countries (ITU, 2022). Other available gender disaggregated data on access and usage indicates similar disparities between men's and women's digital access (e.g., A4AI, 2015; GSMA, 2015a, 2021a; Scott et al., 2017 World Bank, 2016; World Wide Web Foundation, 2020, among others).

The GSMA's most recent global gender gap study indicates that women in low and middle income countries were 15% less likely to use mobile internet than men in 2020, noting that mobile internet access (almost the entirety of internet use in many Global South countries). The corresponding number for the South Asia region was 36%, which along with the Middle East has consistently seen relatively high gender gaps in digital access (GSMA, 2021a).

LIRNEasia's research in Asia between 2006-2011 has similarly shown wide gender gaps in mobile access and ownership among the lower income segments in these countries over time. The gaps were especially large in South Asian countries compared to the Southeast Asian countries studied. By 2011, the little Internet use that could be seen was predominantly by men (LIRNEasia, 2011; Zainudeen et al., 2010).

More recently, the AfterAccess surveys conducted between 2017 and 2019 across 23 countries of the Global South measure mobile ownership and internet use among men and women in the age 15-65 population groups. The gender gaps in both mobile ownership and internet access[1] are clearly highest in the South Asian region, in particular India and Bangladesh. For example, aged 15-65 women in India were 46% less likely to own a mobile than men of the same age group at the time of research (Figure 1); similarly in Bangladesh were 62% less likely than men of the same age group to use the internet by 2019 (Figure 2).

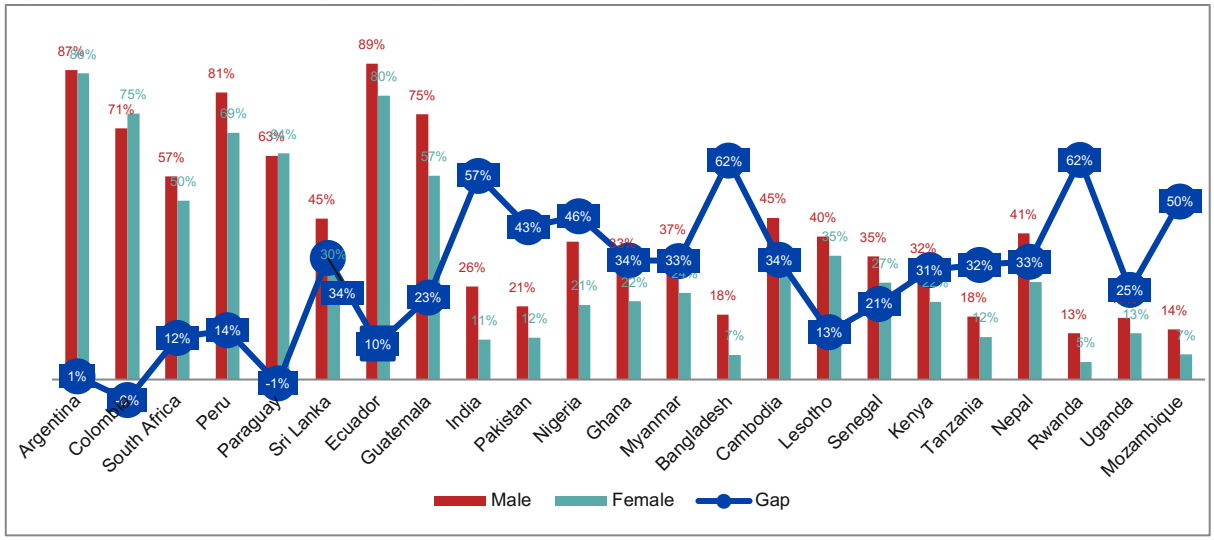
Figure 1: Mobile phone ownership (% of aged 15-65 population)



Source: AfterAccess nationally representative surveys, 2019

[1] Defined as the percentage less likely women are --compared to men-- to own a mobile or use the internet, respectively.

Figure 2: Internet use (% of aged 15-65 population)



Source: AfterAccess nationally representative surveys, 2019

Further disaggregation of the data shows that the gaps are not uniform. Women who also belong to other marginalized groups (such as rural populations and lower socioeconomic segments) are even less connected, and therefore likely to be further disadvantaged than women on average.

When considering the GNI per capita of the 23 countries[2] South Asia is somewhat of an outlier, with its gender gaps at similar levels, if not higher than poorer African countries. This points toward the importance of the underlying social norms within the region which influence access, discussed in the following sections.

Underlying demand side barriers

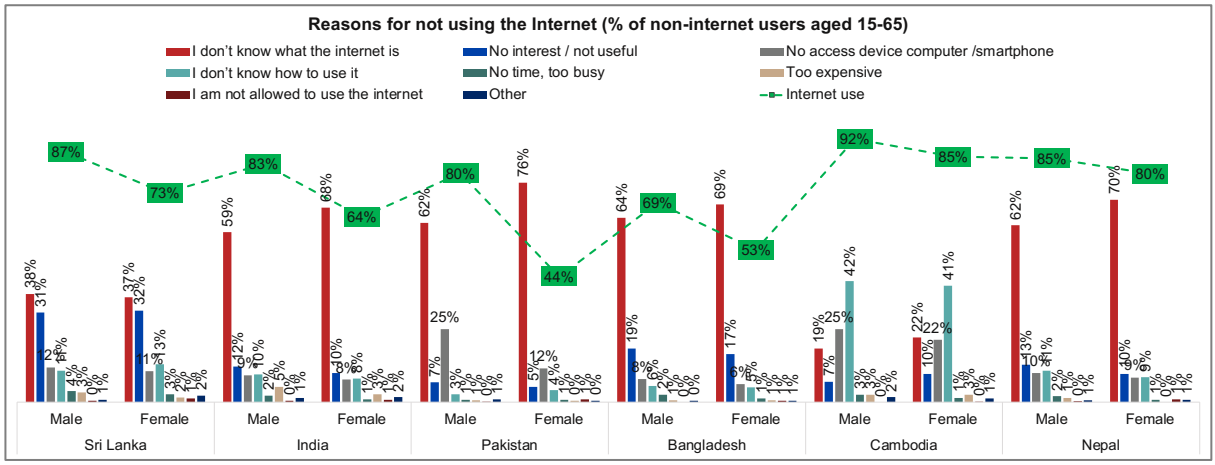
Understanding why the gaps exist is the first step to finding ways of narrowing them. Often, the reason that women lag in access is due to a combination of factors, which can play out differently depending on the social context. A mix of quantitative and qualitative data is needed to get the full picture.

Demand side surveys report on the stated barriers. These are usually summed up under the notions of a lack of knowledge or awareness, lack of a need or relevance and not being able to afford it. The relative mix of these reasons tends to depend on the stage of the mobile internet journey the user is at, but also the market penetration as a whole (LIRNEasia, 2019; GSMA 2021a; A4AI, 2016; Zainudeen & Galpaya, 2016).

The AfterAccess surveys show that in several Asian countries, the key reason cited for not being online is simply not knowing what the internet is. A higher proportion of women reported this reason compared to men in five of the six Asian countries where the question was asked (Figure 3).

[2] Ordered in decreasing GNI per capita from left to right.

Figure 3: Reasons for not using the internet (% of non-internet users aged 15-65



Source: AfterAccess nationally representative surveys, 2019

Statistical modelling can help to uncover the underlying drivers of the gender gap. Several empirical studies have shown the importance of education and income in explaining a considerable part of gender disparities in digital access in developing countries (Perampalam, Zainudeen & Galpaya, 2016; Rajapakse, Zainudeen, Galpaya & Perampalam, 2016; Deen-Swarray, Gillwald & Morrell, 2012; de Silva, Ratnadiwakara & Zainudeen, 2011; Milek, Stork & Gillwald, 2011; Hilbert, 2011; Zainudeen & Ratnadiwakara, 2011). Similar evidence has also been seen in developed markets, with respect to adoption of mobile phones and Internet in the late 1990s/early 2000's (Wasserman & Richmond-Abbott, 2005; Rice & Katz, 2003; Bimber, 2000, among others).

Several of these studies have statistically shown --particularly in Asia-- that once the gender disparities in education and/or income have been statistically accounted for (along with other variables such as age, location, etc.), gender still is a statistically significant determinant of the likelihood of digital adoption. Simply put, being a woman *does* make one less likely to be digitally included. For instance, Perampalam et al. (2016) show that once the differences in education and employment status between men and women are (statistically) taken into account, being a woman in Myanmar reduced an individual's odds of owning a mobile by 42%.

Interesting regional contrasts have become evident when comparing these findings to those of Research ICT Africa, where in 2012 study early, gender was a significant determinant of the gender gap in mobile adoption only in 6 of 17 countries (GIllwald, Milek & Stork, 2010).

Unpacking the intrinsic role of gender in determining the likelihood of an individual owing a mobile or being online is often a complicated exercise, beyond statistical modelling, one that requires context-specific understanding of the specific country or population to which it applies to.

For instance, in Pakistan, women having less access than men could be reflective of social norms which limit women's mobility, their role in household decisions, and their involvement in spending decisions; and in some cases being out-right not given the opportunity to have a device or be online (Adeel, Yeh & Zhang, 2017; GSMA, 2021b). This can even be reflective of women's own conscious decisions to limit their use to ensure safety and minimize 'additional disruption[s] in their daily lives' (Media Matters for Democracy, 2021; p.69).

While in Myanmar, the impact of gender in determining mobile ownership seen earlier (Perampalam et al., 2016) is reflective of a *different* set of social gender norms. Qualitative research in 2016 showed that women in Myanmar in fact play a central role in financial decisions in the household according to social norms. This includes decisions such as whether or not to purchase a mobile phone. However, due to the affordability constraints in a newly liberalized economy, male household members were automatically prioritized since they were more likely to go out of the house for work or study. If the house was able to afford a second mobile, that too would be given to the next most likely person to have to be out of the house on a regular basis —usually another male. Though as respondents noted, slowly changing gender roles, meant that women and girls would have a better chance at getting their own phone. When it came to spending on airtime and data, the same research showed that, as the family's financial manager, women would feel the need to prioritize others' needs before theirs and ensure that household income is spent prudently. They would not see the 'need' for them to have their own mobile or spend on top-ups for themselves (even though they might want to) in this regard thus contributing to the gender gap (Zainudeen & Galpaya, 2016).

These two examples highlight the importance of context-specific knowledge in understanding the gender gap and its causes to design effective policy solutions to remedy it.

Moving beyond access: How can access enable socioeconomic empowerment?

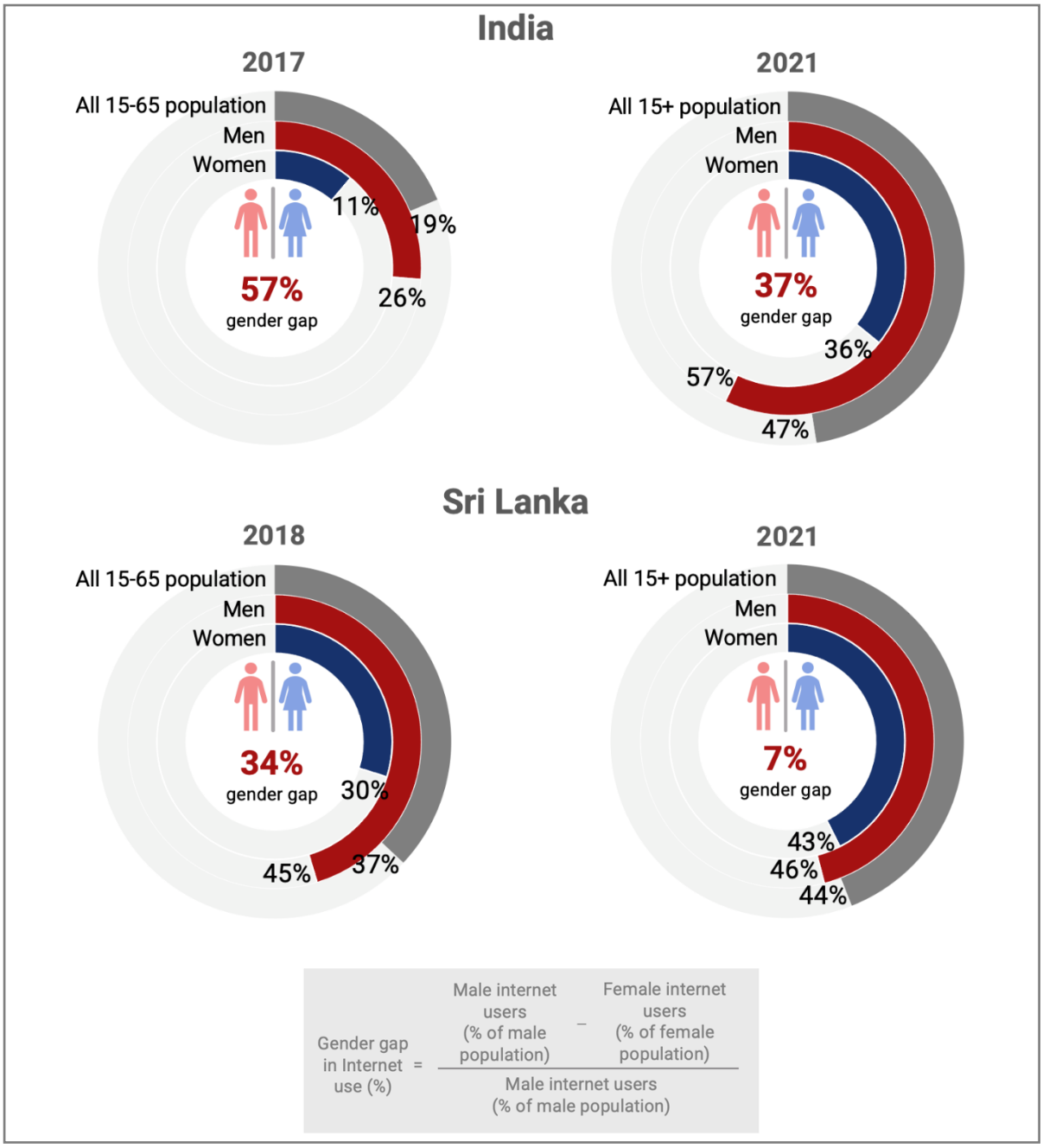
There has been considerable progress in narrowing the access gaps over recent years. In particular the COVID-19 pandemic boosted the need to be online for school, work and other needs accelerating the closing of gaps in mobile ownership and internet access. Updated nationally representative surveys in India and Sri Lanka for instance show the genders gaps in internet use dropping from 57% to 37% in India and 34% to 7% in Sri Lanka by 2021 (Figure 4).

This is commendable progress. However access to a device and a connection (even of the best quality) alone are not sufficient to meaningfully transform the lives of women and girls. There is a clear need to move beyond the focus on access and ensure that women ---across all segments and intersections--- are equipped with knowledge, awareness and the skills to use that access to be economically and socially empowered. Applying a broad definition of women's empowerment, this can include anything which enhances women's resources, agency and achievements (Kabeer, 1999). This can be through gaining access to employment and earning opportunities, knowledge, skills, networks, voice, inter alia. With the rise of the platform economy there have been great expectations around what this can do specifically for women and other hitherto marginalized groups. But awareness is the first step along this road, awareness of the range of possibilities for working, earning, learning, and being empowered through use.

Awareness barriers

Survey data from 2017-2019 shows that awareness levels of these kinds of opportunities among mobile owners in several Asian countries was low, among men *and* women (LIRNEasia, 2019). More recent 2021 survey data shows in India, less than a quarter (23%) of the 15+ population were aware of the possibilities of various earning opportunities offered by the platform economy. These range from ride sharing to online freelancing to selling home bakes and crafts over social media or ecommerce platforms. Men's awareness was 29% compared to 16% of women. Sri Lanka had a comparatively higher level of awareness (44%), with women's awareness more or less on par with men's (LIRNEasia, 2021).

Figure 4: Internet use (% of 15-65 population [2017-18] and % of 15+ population [2021])



Source: AfterAccess and LIRNEasia nationally representative surveys, 2017-2021

Notes: (1) 2017 and 2018 percentages given on the base of the age of 15-65 population of each country respectively; 2021 percentages given on the base of the age 15+ populations of each country respectively. (2) 2021 survey sample excludes Kerala, which had to be excluded due to the ensuing pandemic.

When it came to making actual use of these opportunities, just 4% of the 15+ population in India made use of them for earning; in Sri Lanka use was higher at 9% of the same group. In India there was a visible gender gap in use, with 6% of Indian men compared to 2% of women, at albeit low levels of use anyhow. The gap in Sri Lanka was not so large. The little awareness that exists has barely translated into actual use among men or women on a wide scale for any of these uses (LIRNEasia, 2021).

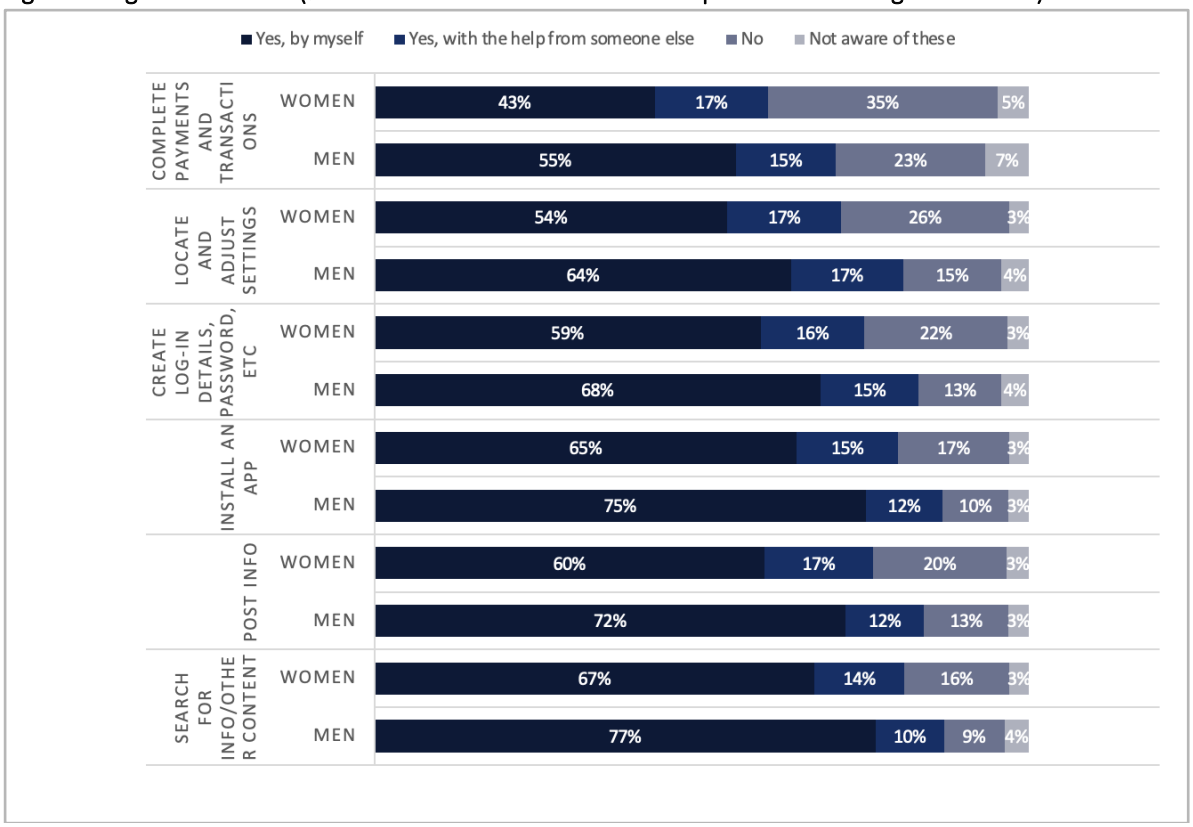
Skill barriers

Another key prerequisite for women to be socially and economically empowered by technology is the necessary skills, or know-how: for example, how to set up and manage a social media business page or an online freelancing

account, or how to download, install and set up a ride-sharing app, etc. Women without digital skills tend to lack the confidence needed to use the internet (Zainudeen & Galpaya, 2016; GSMA, 2015b; World Wide Web Foundation, 2015) and may limit their use to only a selection of services or applications as a result (Broadband Commission, 2013). Where mobile devices are concerned, for example, the GSMA has found that women with limited skills tend to constrain their use to so-called 'application islands' due to the inability to adapt and apply skills to new applications. Often this is limited to social media as AfterAccess surveys have shown (LIRNEasia, 2019). Women also rely on friends and family who may have limited skills themselves to teach them how to use mobile applications and services (GSMA, 2015b).

To gauge the level of digital skills, recent LIRNEasia surveys asked respondents about their ability to complete various tasks online. These ranged from basic information searches, to creating and managing online accounts for online services and apps services, to the more complex online payments and transactions. The results show that while overall Indian internet users report higher levels of digital skills than Sri Lankan counterparts, there is a considerable gender gap in these skills levels, with Indian women lagging (Figure 5). For instance, among Indian internet users in the 15+ age group, 68% of males compared to 59% of female internet users are able to create log-in details and set up a password to use an online service or app by themselves (LIRNEasia, 2021). This implies that in order to set up a profile for a digital work platform, many women would either have to rely on someone else to set up their account (and previous research indicates that this is often a male family member) or simply would not be able to do it at all. The ability to make use of digital platforms for earning and empowerment is less among Indian women who are online -- and as pointed out in previous sections, women are far less likely to be online in the first place in India

Figure 5: Digital skills: India (% of 15+ internet users that can complete the following tasks online)



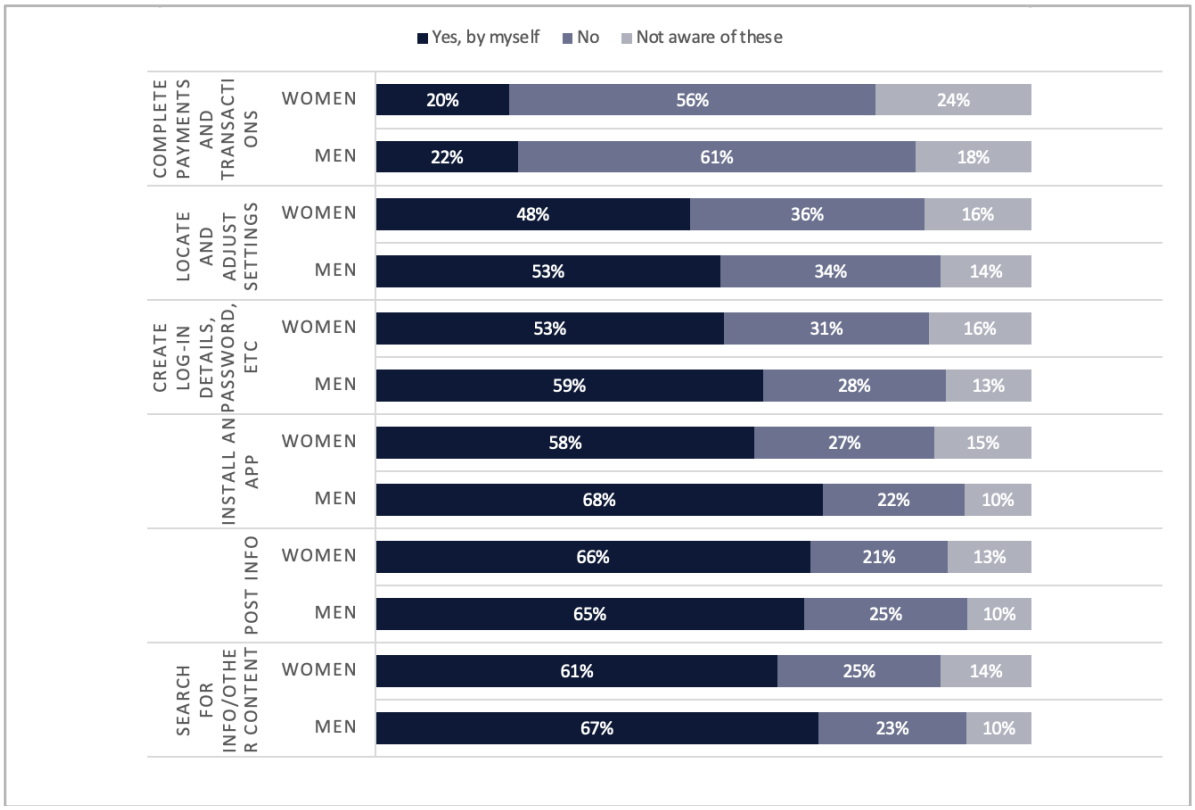
Source: LIRNEasia survey data (2021)

Note: Based on self-reported ratings of ability to complete the relevant task online either independently, with help, or not at all.

Sri Lankan internet users show less pronounced gender gaps in digital skills, however, the survey indicates that there are still significant numbers of men *and* women that are unable to set up and manage accounts for services online and engage in transactions (Figure 6). For instance, 31% of women internet users and 28% of men internet users in Sri Lanka did not know how to create log-in details and passwords for services and apps online (while

many were just not aware of such tasks in the first place). Over 75% of internet users in Sri Lanka -- male and female -- were not able to complete payments and transactions online (LIRNEasia, 2021).

Figure 6: Digital skills: Sri Lanka (% of 15+ internet users that can complete the following tasks online)



Source: LIRNEasia survey data (2021)

Note: Based on self-reported ratings of ability to complete the relevant task online or not at all.

The ability to earn and be empowered by digital technology -- even among those who are simply online -- is constrained by the level of skill and awareness to make use of such opportunities. While the COVID-19 crisis has pushed economically active populations in both countries to learn new digital skills (15% in India and 18% in Sri Lanka as per survey responses; LIRNEasia, 2021), there is still a long way to go.

Illiteracy and confidence gaps also compound other challenges such as women's awareness of safety and privacy settings online, placing them at risk of digital threats (AccessNow, 2017; Zainudeen & Galpaya, 2016). The World Bank has argued that a combination of these factors may contribute to women feeling that they lack the necessary control over technology (2016). Furthermore, in addition to the challenges directly relevant to digital access and use, other 'analog' challenges need to be addressed also. For example to run a small home-based business through a digital platform, beyond access to a device, connectivity and skills, an entrepreneur would need to overcome a series of other challenges to be successful, such as have a bank account, be financially literate, have childcare facilities, etc.

Access to empowerment

The gender gaps in digital access across much of the Global South are clear. Lack of knowledge or awareness, lack of a need or relevance and not being able to afford it are key reasons why many women remain unconnected. As a result, women remain at risk of being excluded from access to digitally enabled services and empowerment opportunities that can follow. The real challenge however is overcoming the barriers to more meaningful access, through accessing earning opportunities, empowerment opportunities and so on. Challenges with regards to knowledge and awareness of the varied opportunities for empowerment, as well as with regards to digital skills need to be addressed across the board, paying additional attention to the already-marginalized to ensure their inclusion. Specific challenges that women might face need to be paid attention to, such as their time poverty vis-à-vis the need for constant upskilling and reskilling in an environment where services and demand are constantly

evolving. Further attention is needed to ensure the analog challenges that women face to digital empowerment are also overcome.

There is a continued need to collect comparable gender-disaggregated data to monitor progress on primary indicators such as access and ownership, but also on secondary level indicators such as skills, with deep dive qualitative research for richer, more context-specific insight. Once again, additional attention to vulnerable groups of women is needed to prevent further marginalization.

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