Ell¢NOMICS

BRIDGING DIGITAL GENDER GAPS:

Empowering Indian Women with Smartphones

An overview of challenges to women's access to mobiles and internet in India; limitations to their usage of digital applications; and recommendations for women's digital empowerment

RESEARCH BRIEF #5

Kunjal Agrawal
Shravani Prakash

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INTRODUCTION

Mobile phones and digital technologies have undeniably transformed our lives, making them more convenient, efficient, and interconnected than ever before. Mobile phones, especially smartphones, have become essential tools for communication, entertainment, information access, and productivity. Access to information has never been easier, with search engines and apps providing instant answers to our questions. Social media platforms have connected people across the globe, fostering new communities and collaborations. Additionally, mobile phones have become our assistants, managing our schedules, providing reminders, and even monitoring our health. Digital technologies have also transformed the world of work, enabling e-commerce, remote work, and online education.

The COVID-19 pandemic further amplified the significance of digital tools as enablers of connectivity, information access, healthcare support and continuation of economic activities. Mobile phones enabled governments and private institutions to mitigate some of the negative impacts of the pandemic by providing access to information, health care, education, e-commerce, financial services and income-generating opportunities. One of the biggest advantages turned out to be the use of online learning following the closure of schools and universities, throughout the COVID-19 pandemic.

However, the Covid-19 experience also brought to the fore and exposed the stark digital gender-gap and also the dire need to address the digital gender gap. Technology has the greatest potential to empower women but the huge gaps in access to technology currently prevent them from garnering its advantages. But to enable women to contribute to and reap the benefits of India's future economic prosperity, it is vital to ensure that women not only have equal access to technology but also are enabled to make the best of the opportunities it provides. Innovative solutions are urgently required to help overcome various social and economic barriers that prevent women from fully participating in the digital economy.
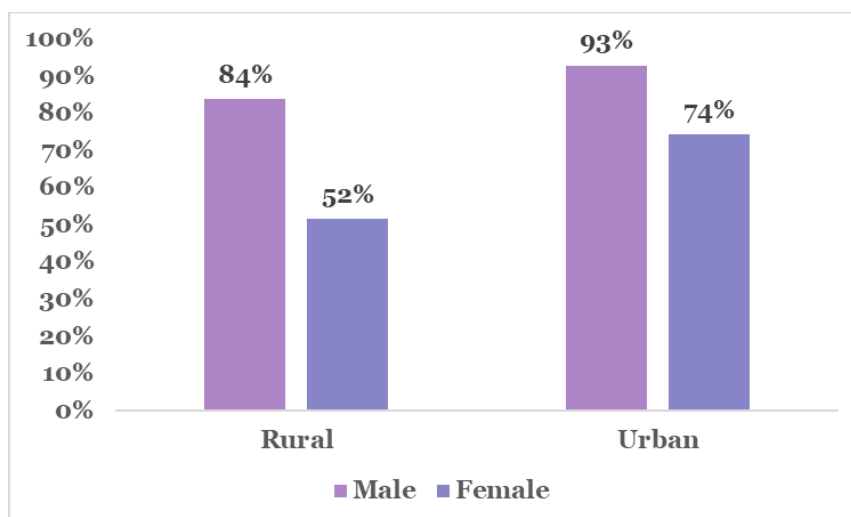
This research brief presents an overview and causes of the gender gaps in mobile phone ownership and usage of the internet, highlights ways in which digital technology can potentially benefit women and presents original research to showcase ways in which women are using their smartphones for various uses. The data and insights presented in the brief are collected from a *secondary literature review* as well as small *from primary surveys and discussions with females* at different personal and professional stages in life. The analysis of existing challenges is used to list out a set of recommended actions that can be implemented to enable greater access to technology for women as well as facilitate better utilisation of available use cases of technologies by women.

ESTIMATES OF GENDER GAPS IN ACCESS TO SMARTPHONES AND MOBILE INTERNET

There is a stark difference in the ways women and men can access technology and, in their abilities, to use it, which has created significant digital gender gaps. Several surveys and reports have highlighted the extent of these gender gaps. For example, Oxfam's 'India Inequality Report 2022: Digital Divide' noted that India accounts for half of the world's gendered digital divide, as only a mere one-third of its internet users are women. Indian women are 15% less likely to own a mobile phone, and 33 per cent less likely to use mobile internet services than men.

Only 59% of women, as compared to 87% of men, used a mobile telephone with an active sim card at least once during the last three months as per the Multiple Indicator Survey (MIS) conducted in 2020-21 by India National Sample Survey Office (NSSO). While this gives a gender gap of 28% in mobile phone usage, the gap is higher in rural areas (32%) than in urban areas (19%) (Figure 1).

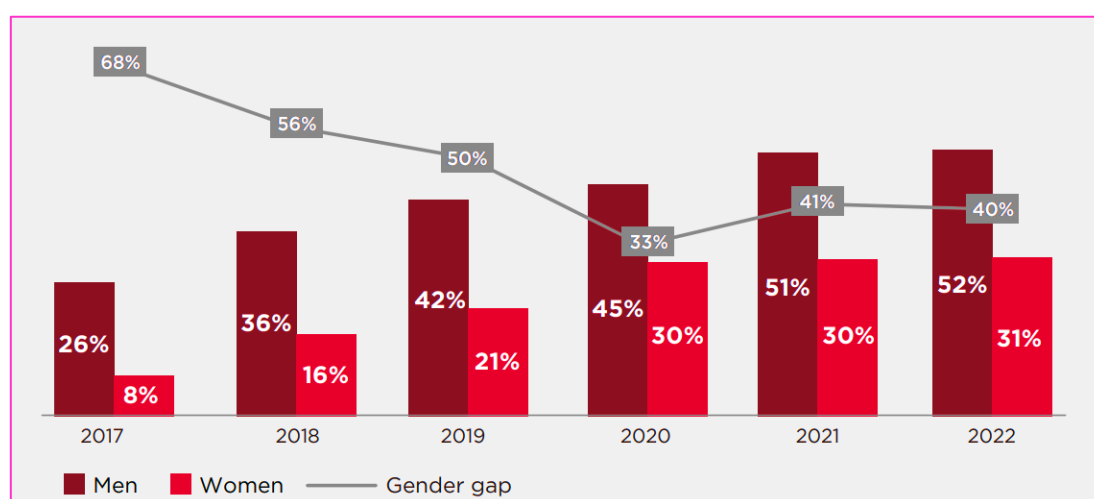**Figure 1: Percentage of people in India who used a mobile phone (2020-21)***

Source: *Multiple Indicator Survey (MIS) of the NSSO 78th round*
* *Percentage of persons of age 18 years and above who used a mobile telephone with an active sim card at least once during the last three months preceding the date of the survey*

The GSM Association (GSMA)'s Annual Gender Gap Report, 2023 noted that in 2022, there was a 40% gender gap in smartphone ownership and mobile internet usage. Further, the report noted that in 2022, mobile internet adoption stalled among women and remained around 30% for the third year running. The gender gap in mobile internet adoption remained relatively unchanged at 40% after it narrowed significantly between 2017 and 2020 (Figure 2)

Figure 2: Mobile Internet Adoption in India, 2017-2022

Source: GSMA Annual Gender Gap Report, 2023

The [GSMA Annual Gender Gap Report, 2023](#) report also showed various dimensions of the gender gaps in the mobile internet user journey (Table 1)

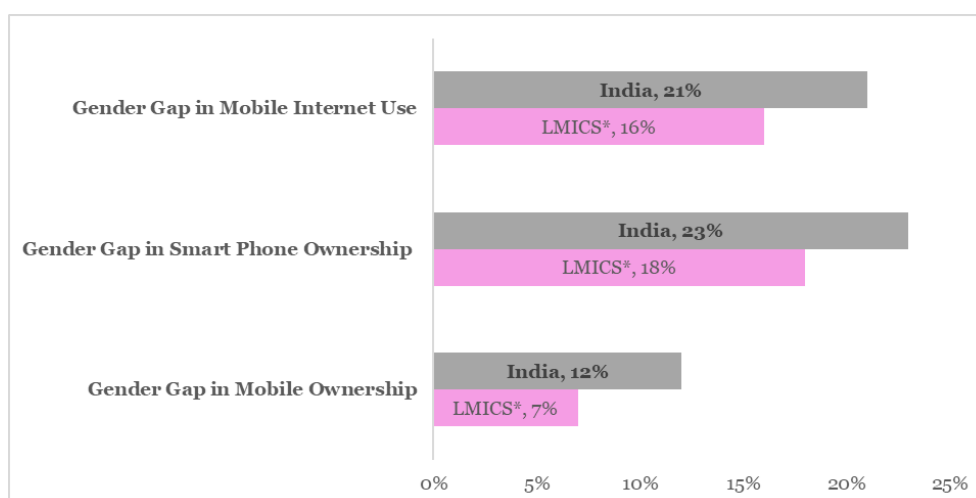**Table 1: The mobile internet user journey - Gender Gaps in India (2022)**

	Mobile Ownership	Mobile Internet Awareness	Mobile Internet adoption	Regular mobile internet use	Regular and diverse mobile internet use
Men	81%	72%	52%	42%	30%
Women	72%	58%	31%	25%	18%
Gender Gap	*9%*	*14%*	*21%*	*17%*	*12%*

Source: [GSMA Annual Gender Gap Report, 2023](#)

Another interesting fact highlighted by [GSMA Annual Gender Gap Report, 2023](#) is in India, 19% of female mobile internet users are only accessing it on someone else's device compared to 8% of men. The NSSO report in 2020-21 also found that 60% of women share their phones with another household member as compared to 50% of men.

Figure 3 gives a perspective of India's gender gaps relative to other countries, as it shows that the gender gaps for India in 2021 were higher than the average for all the Low- and Middle-Income Countries (LMICs) that were studied in the GSMA, 2022 report.

Figure 3: Mobile Gender Gaps - India vs LMICs* (2021)

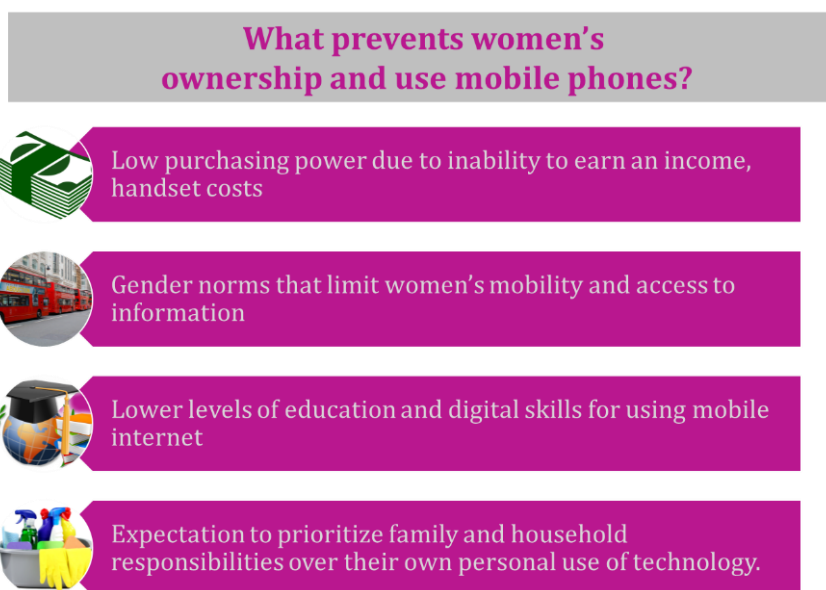** Low-and Middle-Income Countries*
Source: [GSMA Mobile Gender Gap Report, 2022](#)

CAUSES FOR GENDER GAPS IN DIGITAL ACCESS

Several socio-cultural and economic reasons are responsible for these gender gaps in access to mobile phones and mobile ownership (Figure 3). But even if girls have access to mobile technology, they may not have the skills, knowledge or confidence to use it effectively.
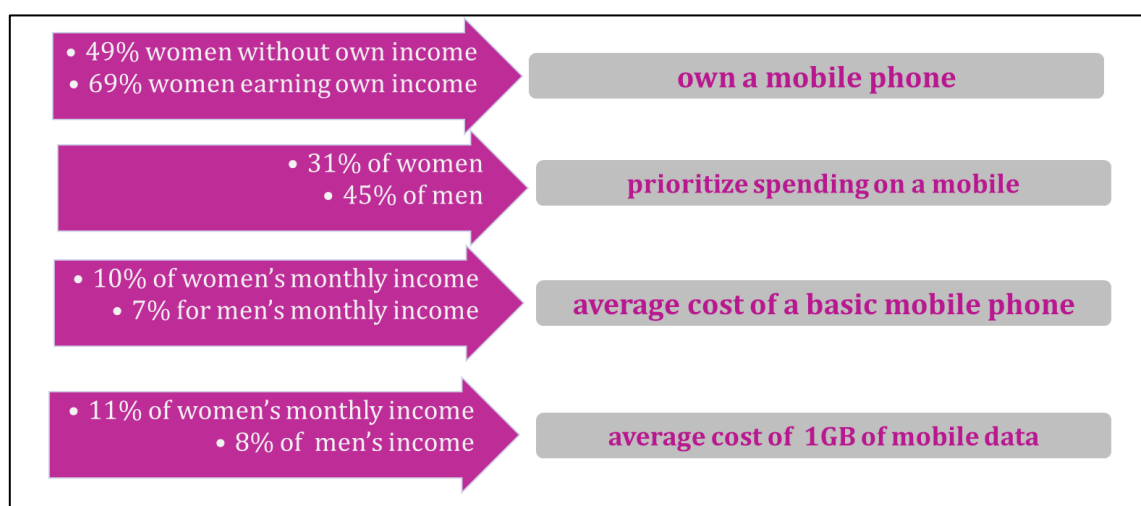
Figure 3: Factors behind Digital Gender Gaps in India

What prevents women's ownership and use mobile phones?

- Low purchasing power due to inability to earn an income, handset costs
- Gender norms that limit women's mobility and access to information
- Lower levels of education and digital skills for using mobile internet
- Expectation to prioritize family and household responsibilities over their own personal use of technology.

Source: GSMA Mobile Gender Gap Report, 2022

Further, GSMA found that several economic gender gaps feed into the digital gender gaps, including the ability to earn an income, the ability to prioritise spending on a mobile phone as well as the cost of phones and mobile data as a proportion of income (Figure 4).

Figure 4: The Economics Behind of Mobile Gender Gaps

- 49% women without own income
- 69% women earning own income
  → **own a mobile phone**

- 31% of women
- 45% of men
  → **prioritize spending on a mobile**

- 10% of women's monthly income
- 7% for men's monthly income
  → **average cost of a basic mobile phone**

- 11% of women's monthly income
- 8% of men's income
  → **average cost of 1GB of mobile data**

Source: GSMA Mobile Gender Gap Report, 2022

Specifically regarding the low usage of mobile internet by women in India, lack of mobile internet awareness was found to be the top reason (lowest among all survey countries), despite an increase in awareness level among women from 51% in 2021 to 58% in 2022. The affordability of internet-enabled handsets was the second most-reported barrier for both male and female respondents. omen's digital inclusion is also impacted by social norms that limit their access to, and use of, mobile phones (GSMA Annual Gender Gap Report, 2023).

HOW CAN TECHNOLOGY ENABLE WOMEN

Technology can be one of the biggest enablers for women, as it has the power to not only overcome challenges but accelerate the change in longstanding norms and ingrained mindsets. This fact was proven by the scaled-up usage of technology during the Covid-19 pandemic.

With electronic gadgets and the new-age digital technologies, women can today aspire to be "superwomen", "multi-taskers", working mums, "mumpreneurs", or just simply happy mothers – YourStory

Following are the channels by which digital technology and mobile phones can empower women, and especially proved to be critical resources during and post the Covid-19 pandemic -

Connectivity and Communication: Mobile phones and digital technology have bridged the communication gap, allowing women to connect with each other, their families, and the world at large. During the pandemic, when physical distancing measures were in place, mobile phones served as a lifeline, enabling women to maintain social connections, access emotional support, and engage in virtual networks. This connectivity helped combat isolation and provided a platform for sharing experiences, seeking advice, and fostering solidarity.
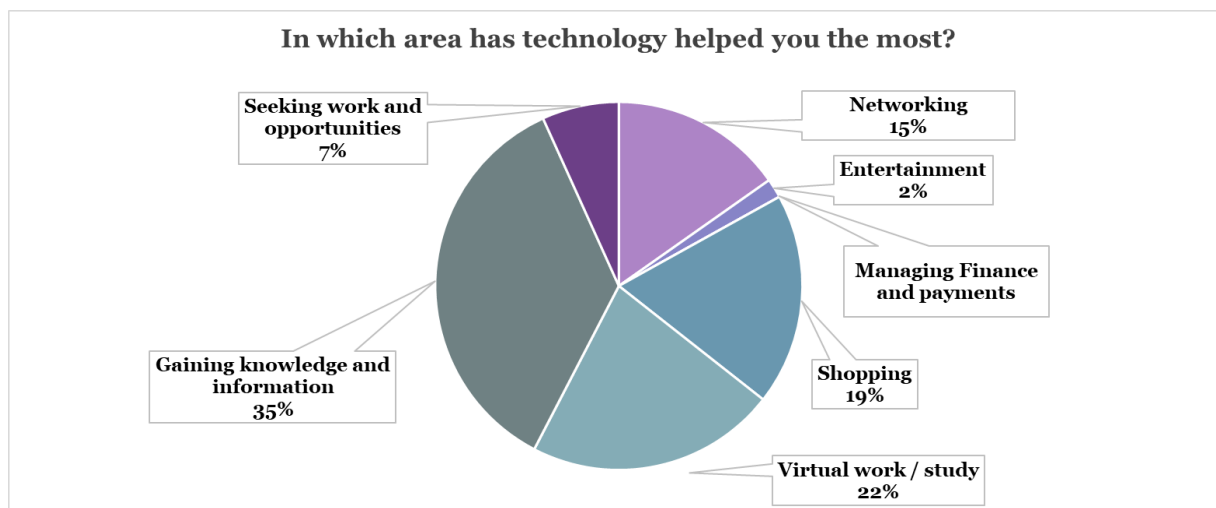
Access to Information and Education: Digital technology has empowered women by providing access to information and educational resources. Mobile phones have become repositories of knowledge, enabling women to access online courses, educational platforms, and digital libraries. This access has allowed women to upskill, pursue entrepreneurship opportunities, and explore new career paths, irrespective of their geographical location. During the pandemic, online learning became crucial for women facing limited access to traditional educational institutions.

Economic Empowerment: Digital technology has played a pivotal role in empowering women economically. Mobile phones have facilitated entrepreneurship, enabling women to start and manage businesses more efficiently. Platforms like e-commerce websites, social media, and digital payment systems have opened new avenues for women to market their products or services, reach wider audiences, and conduct transactions remotely. Amidst the pandemic, when physical stores faced closures, women were able to sustain their businesses and generate income through digital platforms. Mobile technologies also facilitate remote working and work-from-home, which provide women with the needed flexibility to manage the home while also pursuing a career. Online banking and digital investment solutions are also effective channels for enhancing financial inclusion and increasing women's wealth.

Health and Well-being: Digital technology and mobile phones have contributed significantly to women's health and well-being. Mobile health applications and telemedicine services have offered women remote access to healthcare professionals, enabling consultations, medication reminders, and health monitoring. During the pandemic, such digital health solutions played a crucial role in addressing women's health concerns while minimizing exposure to the virus. Additionally, online mental health resources and support groups have provided women with guidance and emotional support during challenging times. The pandemic also showed how technology can be used to address the issue of domestic violence as some governments used technology to provide women with a way to discreetly report incidents of domestic violence, and provide expedited support.

To further shed light on whether mobile phones are enabling women in the above ways, we surveyed women in India and asked them what was the one area they felt technology had helped them the most. The responses were varied, but some common themes emerged (Figure 5).

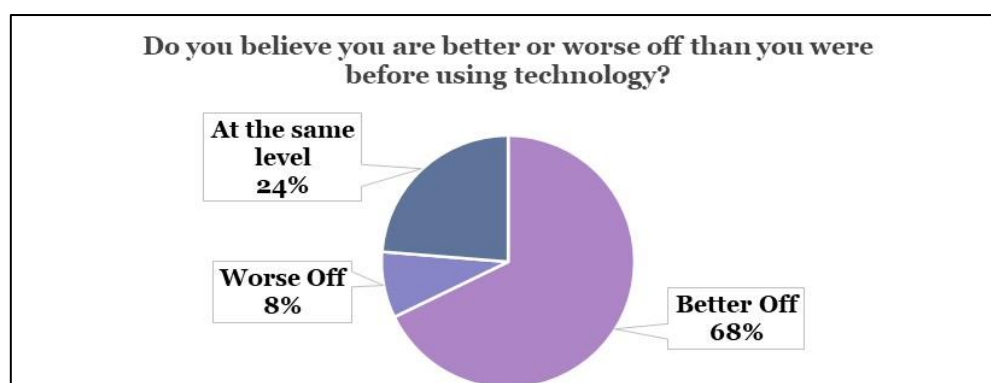**Figure 5: Overview of areas where technology has enabled women***

Results from a survey of urban women in India, March-April 2023

The survey revealed that women in India find technology to be helpful in varied ways. *"Gaining knowledge and information on the internet"* was the most commonly cited area of benefit, with 35% of respondents selecting this option. *"Virtual work and study"* were also seen as important areas where technology has helped, with 22% of women citing this as the most helpful aspect. However, it is concerning that no women mentioned *"managing finance or payments"* as a helpful aspect of technology, reflecting the low usage of investment apps among women in the survey.

We also asked the women if they felt better or worse off with the usage of technology, and if they could share any ways in which technology has helped them solve their challenges. The majority of women surveyed (68%) feel better off with the usage of technology, while 24% reported no difference, and only 8% felt worse off.
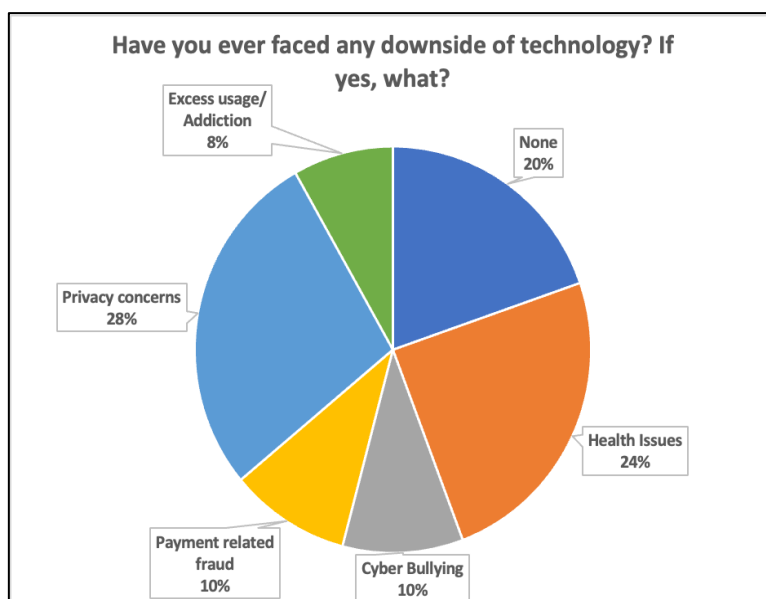
Figure 6: Has technology made women better off?*

Results from a survey of urban women in India, March-April 2023

While technology has its many benefits, it also has its downsides, as highlighted by the survey responses (Figure 7). In Ellenomics' survey, the major concern expressed by women is around *"privacy and security"*, with 28% of respondents expressing worries about their personal data being misused or hacked online. *"Health issues"* were also cited as a downside of technology, with respondents mentioning worsened mental health and eyesight problems due to excessive screen time. *"Payment fraud and cyberbullying"* were also mentioned by 20% of respondents, indicating the need for increased vigilance and protection in these areas.

Figure 7: The downside of technology*

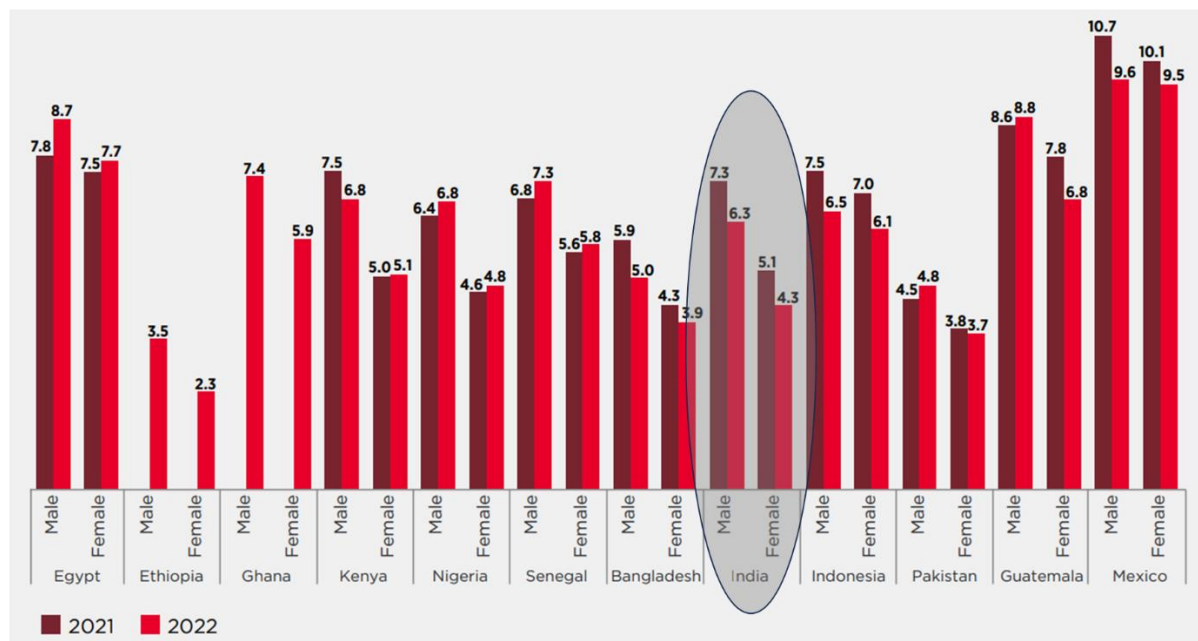**Results from a survey of urban women in India, March-April 2023*

UNDERSTANDING WOMEN'S USAGE OF SMARTPHONES

To ensure that digital technologies and mobile phones can empower and enable women, women must utilise all services and opportunities that are offered. However, the GSMA Annual Gender Gap Report, 2023 report found a gender gap in usage of 23 distinct use cases on a mobile phone, including basic mobile services (SMS messages, voice calls) as well as internet-based use cases (watching video content, video calling, payments, shopping, etc). The report highlighted that Indian women performed an average of 4.3 of mobile use cases in 2022, down from 5.1 in 2021 and lower than 6.3 mobile use cases performed by men (Figure 8).

Similar research by Yale Economic Growth Centre highlighted that, in 2016-17, there was a gender gap even for basic activities like sending and receiving calls or SMS, and a much larger gap for activities like conducting a financial transaction (70%) or using other internet-based apps (73%). It noted that if women continue to access these high-value mobile activities at disproportionately lower levels, they risk missing out on the potential benefits of mobile engagement.

Another piece of research noted that women use social media for staying in touch, blogging and sharing and researching how-to information. Men use social media for business and dating more than women do. LinkedIn was the only social platform that men use more than women.

Figure 8 – Average number of mobile use cases performed by male and female mobile owners per week, 2021-22

Source: GSMA Annual Gender Gap Report, 2023

A report analysing women's use of technology in India (*Bobble AI, 2023*) showed that just about 11% of women used payment Apps, 25% of women accessed health and wellness Apps and less than 35% used education apps (Figure 9)

Figure 9 -Percentage of Women Using Different Apps

Source: report Bobble AI, 2023

To gain insight into the technology usage of women before and after the COVID-19 pandemic, Ellenomics surveyed 100 women aged between 15-60 years in Tier-I cities in India. All women in the sample used a smartphone regularly.
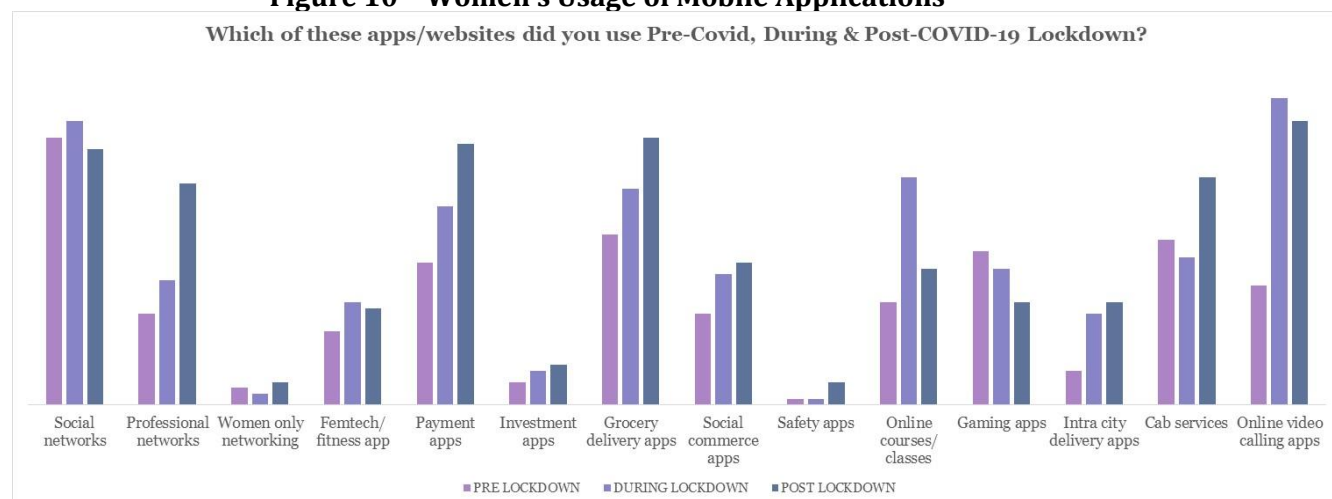
To understand their technology usage patterns, the survey listed 19 types of apps and websites commonly available on the internet. The survey then examined the usage of these apps and websites by women before, during, and after the COVID-19 pandemic. Figure 10 gives an overview of the responses to the survey question.

Figure 10 – Women's Usage of Mobile Applications*

Results from a survey of urban women in India, March-April 2023

Following were the noteworthy points regarding the use of various digital applications by women in the survey sample -

- Social networking sites were the most commonly used apps, with usage rates remaining high both before and after the pandemic.

- During the pandemic, online video-calling apps saw a significant increase in usage by women, rising from about 35% to almost 90%

- Professional networks, femtech, payments apps, grocery delivery apps, social commerce apps, and intra-city delivery apps all showed a similar usage pattern, with usage increasing significantly over the three years and continuing to be used post-lockdown. This suggests that many people have continued to use online platforms even after the lockdown restrictions were lifted, indicating a shift towards online modes of engagement.

- On the other hand, women-only networking, investment, and safety apps continued to have low usage rates in all three situations.

We also asked women to point out some applications and use cases that they have found useful. Box 1 highlights some interesting insights from our discussions.

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Box 1
Interesting Use-cases of Smartphones and Digital Apps:
Insights from qualitative surveys

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Entrepreneurs

"I was just a house-wife but now I have joined Meesho and started selling many things"

"I am a yoga teacher and I use WhatsApp "business account" to connect with clients for scheduling and conducting online classes on Google Meet"

"I have started a business of delivering home-cooked food. I get orders on my community's WhatsApp and Telegram groups. I have also created a WhatsApp Catalogue

College Students

"I have increased my productivity and become more consistent with apps like Forest"

"I use my mobile phone for online classes, which reduces travel time to coaching centres".

"I found internship opportunities and freelancing assignments by connecting on LinkedIn and other apps for students"

Mothers

"I feel at peace when I can watch live video-stream from my toddler's daycare right on my mobile phone!"

"Being a busy working mother, I am grateful to be connected on my child's school WhatsApp groups, so I can connect with other parents and know what's going on"

"I really like the closed women's groups on Facebook or women-only social networking apps, where so many women ask doubts, seek solutions, openly discuss intimate issues or just express their feelings – it improved my confidence as a mother"

"I feel so relieved when I can connect with my children on video calls when travelling for work – it helps reduce my guilt pangs!
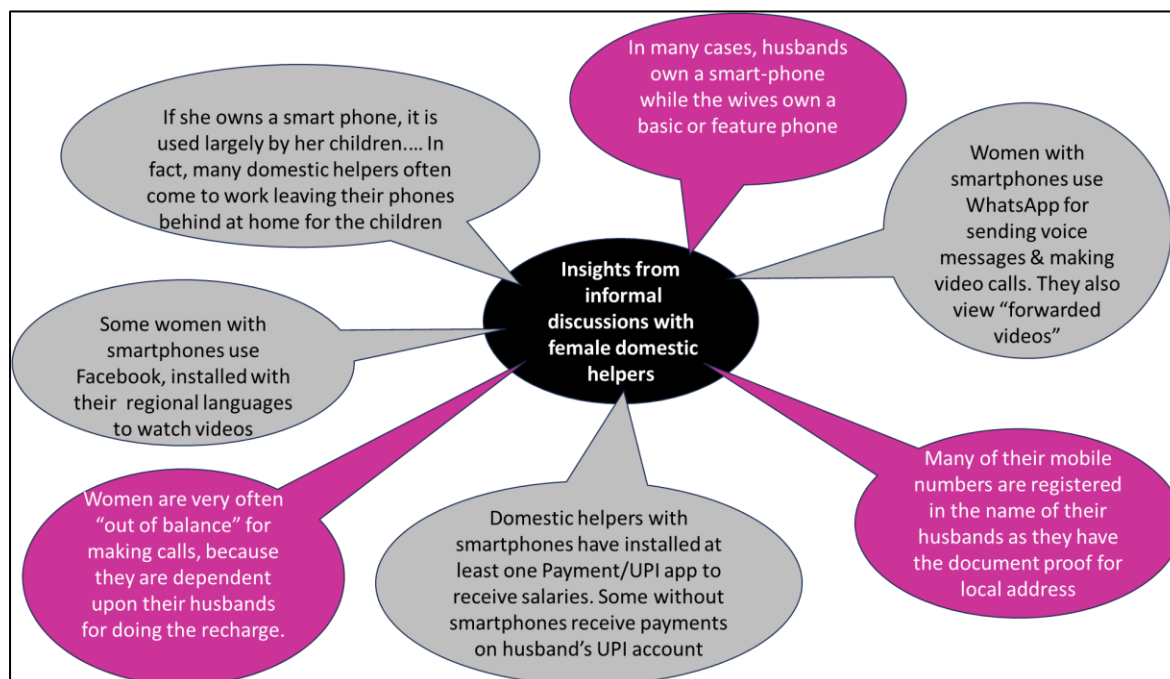
"My husband and I manage time and plan out our days effectively by sharing our Google calendars with each other! this way we know we both won't travel out of town at the same time, we schedule exam time and PTA meetings etc"

"As a new mother whose day just goes by in feeding and diaper-changing, I really like that I can browse my phone during breast-feeding sessions – catch up with messages on WhatsApp groups to stay up-to-date with family and friends, and news apps that help me stay updated with what's happening in the world!"

"I have 8-month-old twins. When I returned from maternity leave and started work-from-home, it was quite a challenge for me and my husband to manage the chaotic work life with two toddlers. And then to top it all off, my cook quit her job… So then it was a blessing that we started using Dunzo delivery to get home-cooked food twice a day from my mom's place! It's working really well! "

We also had informal discussions with some women working as domestic helpers working in Tier 1 cities, regarding their usage of mobile phones. Figure 11 summarises some insights from these discussions

Figure 11: Insights from Informal Discussions with Female Domestic Helpers

RECOMMENDATIONS FOR WOMEN'S DIGITAL EMPOWERMENT IN INDIA

By leveraging the benefits of digital technology while mitigating its risks, we can create a more equitable and inclusive society for women, where their voices are heard and their potential is fully realized. Moving forward, it is crucial to ensure equitable access to digital technology, by addressing barriers such as affordability, digital literacy, connectivity and usage, to maximize the digital empowerment of women. We recommend a three-pronged approach to achieve this (Figure 12)

Figure 12: Three-Pronged Approach to Achieving Women's Digital Empowerment

I.   Reduce The Gender Gap In Smart Phone Ownership And Internet Usage

In 2015, Reliance Jio [disrupted the mobile internet](#) market in India by providing efficient and low-cost internet access. Most recently Jio has introduced the country's first [affordable smartphone](#) with inbuilt internet plans, which, by promoting the availability of low-cost smartphones, could prove to be an important step towards increasing smartphone access to women. However, a lot more will need to be done to bridge the gender divide in access to the yet underserved female population. It would require mass-scale and collaborative initiatives between governments, private sector CSR, mobile network operators, device manufacturers, technology companies, and civil society organizations. Specifically, they could consider the following actions -

- special financial incentives or tailored data packages for women that target their specific needs and usage patterns
- provide smartphones free of cost to women in the tough to reach socio-economic groups
- employ female sales agents to target potential female consumers
- communicate the relevance of smartphones and mobile internet in women's daily lives, by showcasing relatable use cases in marketing targeted at women and/or featuring women in broadcast advertising campaigns as active users of the service
- incentivise and encourage existing female users to encourage other women their social networks and community groups to purchase smartphones and also educate them
- conduct community-based training workshops or provide online video courses in various languages to educate women on basic mobile usage, internet navigation, and online safety

II.   Promote Engagement Of Women In Greater Use Cases

For women to reap all the benefits of digital technologies, it is vital to ensure that women increase their use cases of smartphones. This could be enabled by the following steps –

1. Promote the development and growth of apps designed for women, such as those that target their unique health and wellbeing requirements, their professional trajectories or their need to network with peers and role models. This can be especially achieved by increasing the investment flows into startups and companies led by women, as women entrepreneurs often build products targeted at women and help to address women's challenges. Currently, "women building for women" find it extremely difficult to convince the potential of their products to the largely male-dominated funding ecosystem.

2. Promote "women in tech" and build gender diversity in the workforce of technology companies, as women as better able to understand the requirements of women and have a unique perspective on solving problems for women consumers. It is especially necessary to increase the number of women at the leadership levels and on the company Boards in the technology industry.

3. Create gender-responsive mobile products and services that are designed with women's needs in mind, including features that prioritize safety and security. Develop and incorporate tools to improve the usability of digital services for women with low literacy levels or who only speak their local language, for example, by integrating voice search, chatbots or text-to-speech. Understand and incorporate relevant video content in local languages to explain the features, onboarding process, troubleshooting etc.

4. The user experience (UI) of the phones as well as all apps and digital services needs to be designed keeping females as target consumer. Be it for social networking or health or news or finance, apps that customise the experience for women users stand a better chance of drawing a female audience. Focus on customising the onboarding process for women as separate target groups with different challenges, for example, by providing greater support for compliance or digital KYCs. Conduct regular surveys and assessments to gather feedback from women users and incorporate their perspectives into the design and improvement of digital technologies.

5. Focus on customising marketing and outreach to women. Marketing mobiles and digital apps to women requires a thoughtful approach that acknowledges their unique needs, preferences, and aspirations. Specifically, a "gendered" marketing campaign should–

   - Identify women as a separate but heterogeneous target audience. Tailor marketing messages and campaigns to address women's individual preferences, interests, unique requirements and challenges based on their age, lifestyle, interests, personal status and professional roles.

   - Market products by emphasizing features that directly cater to women's needs and challenges, like safety features, health and wellness applications, convenience features, and privacy controls. To attract women users, it would be useful to highlight how these features enhance their daily lives and make tasks easier.

   - Utilize empowering imagery and language that resonates with women. Show women using mobile phones and apps in a confident, independent, and successful manner. Portray women as tech-savvy, ambitious, and influential individuals.

   - Partner with influential women, social media influencers, and women who are considered role models in their respective fields. Collaborating with them can help promote your products to their followers and establish

   - Leverage social media platforms where women are highly active. Develop engaging content, including videos, tutorials, testimonials, and interactive posts, to generate interest and encourage sharing among their networks.

   - Create online communities or forums where women can connect, share experiences, and seek advice. Actively participate in these communities by providing valuable insights, addressing concerns, and showcasing how your products can address their needs.

   - Use data-driven insights to understand their behaviour, demographics, and preferences, to create relatable ads that resonate with their unique needs.

   - Provide educational resources that help them understand and maximize the benefits of mobile phones and digital apps. Develop content such as blog posts, articles, webinars, and tutorials that provide valuable insights, tips, and tricks to empower them to make the most of your products.

   - Provide exceptional customer service to women and offer dedicated support channels, prompt responses to queries, and efficient troubleshooting assistance.

   - Encourage satisfied female customers to share their positive experiences through testimonials and reviews, to positively influence the purchasing decisions of others.

III.   Build a Safe and Secure Online Environment

To promote greater usage, it is vital to address women's concerns about potential threats from using mobile and digital technologies. This can be achieved by the following actions–

1. Develop and include applications and services that can help increase safety for women, such as apps to help women alert contacts in an emergency or call-blocking services.

2. Make it easy and safe for customers to report online abuse and collaborate with relevant government agencies to ensure these reports are responded to quickly and effectively.

3. Educate women on protecting themselves via online campaigns and educational initiatives that raise awareness about online safety and privacy among women. Social media platforms, mobile app developers, and online service providers must be mandated to enhance security features and tools that protect women from online harassment and abuse. Easily accessible helplines and support networks should be established to assist women facing online threats or cyberbullying.

Box 2: Mobile-phones designed specifically for women?

Mobile phones are male-leaning in their design by being too big for women's hands. It is also evident that digital applications are more attractive for men, while there are not enough applications that women need specifically.

Is it, therefore, plausible to create mobile phones specifically for women, that override the male gender bias in tech products and are designed to suit the female preferences and requirements?

This subject has been debated earlier as well, but there is no convincing argument for it. However, women have unique needs and requirements that may not always be adequately addressed by standard mobile phone designs. Therefore, there is a growing need for special mobile phones designed specifically for women, equipped with features that enhance safety, convenience, and usability.

Special mobile phones for women could be designed to include the following features –

• device size, weight, and ergonomics designed to be comfortably handled by women

intuitive User Interface and user experience are intuitive .

• pre-loaded apps are more suitable for women's needs and designed for women, like health, safety, finance and networking apps. For instance, integrating fitness trackers and health monitoring applications can assist women in maintaining an active lifestyle and monitoring their well-being. These phones could offer personalized health reminders, and access to informative resources on women's health issues.

• enhanced safety features that prioritize the safety and security of women, for instance, incorporating a dedicated panic button or an emergency SOS feature. Additionally, it could include location tracking services to ensure the personal safety of women while also deterring potential perpetrators

• advanced privacy controls, such as call blocking, message filtering, and secure authentication methods, empowering women to protect their personal information and control their digital interactions.

• language options, voice-controlled features, and user-friendly interfaces to break down barriers and make technology more accessible for women from diverse cultural backgrounds and those with limited digital literacy.

CONCLUSION

Digital technology and mobile phones have emerged as powerful tools for empowering women and have bridged the gaps in connectivity, education, economic opportunities, and health access, enabling women to overcome challenges and achieve greater independence. The pandemic served as a reminder of the immense value of these tools, highlighting their potential to empower women and foster gender equality by creating new opportunities for women to learn, work, and connect with others, breaking down barriers and promoting gender equality.

However, to ensure that all women can benefit from mobile and digital technologies, it is crucial to specifically address their unique needs. By incorporating enhanced safety features, privacy controls, health and wellness functionalities, and prioritizing inclusivity and usability, special mobile phones for women can serve as catalysts for positive change, empowering women to navigate their lives with confidence and security. Manufacturers and designers need to embrace this opportunity and contribute to a more inclusive and equal digital world.

About the Authors

Kunjal Agrawal is a 3rd year, Economics Honours student at Delhi University's Miranda House College and an Intern at Ellenomics.

Shravani Prakash is a research consultant and Founder of Ellenomics.

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On our agenda

- ✓ More women in Parliament
- ✓ More women joining the workforce
- ✓ More women in coporate leadership
- ✓ More women entrepreneurs
- ✓ More women restarters
- ✓ Happier working mothers

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Write to

Shravani Prakash, Founder, Ellenomics

at shravani.prakash@ellenomics.in