# The Mobile Gender Gap Report 2022

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# Introduction

Over the past two years, the COVID-19 pandemic has reinforced the importance of access to mobile and mobile internet. Mobile phones have enabled people to mitigate some of the negative impacts of the pandemic by providing ongoing access to information, health care, education, e-commerce, financial services and income-generating opportunities. Yet, the pandemic has also highlighted the stark digital divide, and those without access to mobile phones and mobile internet are at risk of being left even further behind.

More than 3.2 billion people in low- and middle-income countries (LMICs) now access the internet on a mobile phone.[1] Mobile is the primary way men and women access the internet in LMICs, accounting for 85 per cent of broadband connections in 2021.[2] Mobile phones are valued by women as life-enhancing tools that make them feel more autonomous, connected and safe. Mobile also provides access to important information that helps them in their daily lives and that they would not have received otherwise. Eighty-four per cent of women in LMICs now own a mobile phone and 60 per cent use mobile internet.[3]

However, mobile ownership and use remain unequal. Across LMICs, women are still less likely than men to have access to mobile phones and use mobile internet, mobile money[4] and other mobile services. This is particularly true for women who are the most underserved, including those with low literacy, low incomes, who live in a rural area or have a disability.[5] Analysis shows that even when women have the same levels of education, income, literacy and employment as men, they are still less likely to own a mobile phone or use mobile internet, suggesting that other issues are at play, such as discrimination and social norms.[6]

In last year's report, we highlighted that the COVID-19 pandemic did not yet appear to be having a negative overall impact on women's mobile ownership and use

1. GSMA Intelligence, Q4 2021.
2. International Telecommunication Union (ITU) estimates for 2020.
3. GSMA Intelligence, 2021.
4. For example, see Chapter 3 in the GSMA State of the Industry Report on Mobile Money 2022, which shows there is still a gender gap in mobile money across the vast majority of LMICs surveyed.
5. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
6. Butler, C. and Shanahan, M. (27 August 2020). "Does just being a woman reduce the likelihood of using mobile?", GSMA Mobile for Development Blog.

compared to men.[7] This was despite the broad and well-documented negative impacts of the pandemic on women. For instance, compared to men, women are significantly more likely to have lost their jobs[8] and less likely to have recovered to pre-pandemic income levels.[9] However, there were early signs in some places that the pandemic may be having a disproportionately negative impact on handset ownership for women.

One year on, the COVID-19 pandemic continues to disproportionately affect women, and the impact on women's digital inclusion is coming into focus. After years of progress towards women's equal digital inclusion, we are now seeing a slowdown and, in some cases, a reversal. Significant and coordinated efforts are urgently needed to ensure that women do not continue to be disproportionately impacted by the ongoing pandemic and left behind in a more digitised society.[10] Closing the mobile gender gap has never been more critical.

Addressing the mobile gender gap provides significant social and commercial benefits. Connectivity is vital to achieving the United Nations Sustainable Development Goals (SDGs), including those related to health, education and financial inclusion. GSMA research in 2019 found that, over a five-year period, closing the gender gap in mobile internet use in LMICs could deliver an additional USD 700 billion in GDP growth.[11]

In 2020 alone, the Alliance for Affordable Internet (A4AI) estimated that, in 32 LMICs analysed, the gender gap in internet use resulted in countries missing out on $126 billion in GDP.[12]

The commercial opportunity for the mobile industry is also substantial. In 2019, GSMA research estimated that closing the gender gap in mobile ownership and use in LMICs could deliver $140 billion in additional revenue to the mobile industry over a five-year period.[13] The revenue opportunity remains significant. Closing the gender gap in mobile ownership and use could generate a 10 per cent to 41 per cent revenue increase for the mobile industry in the countries surveyed in Africa, and a 14 per cent to 44 per cent increase in the South Asian countries surveyed.

The GSMA Mobile Gender Gap Report documents the mobile gender gap at regional and country levels, drawing attention to this important issue and providing key evidence to inform action. In this fifth edition of the series, we consider how women's mobile access and use is changing in LMICs and how efforts to reach women with mobile should be targeted. This work is particularly crucial in the ongoing pandemic and economic recovery, as it will help to ensure that gains in gender equality are not lost and that existing inequalities are not exacerbated.

**The report provides:**

- Updated figures on gender gaps in mobile ownership, smartphone ownership and mobile internet use in LMICs and how these figures have changed over time;

- A review of the barriers to mobile phone ownership and mobile internet use;

- New data on men's and women's autonomy in purchasing mobile phones; and

- Qualitative insights from India and Kenya that highlight how the COVID-19 pandemic has affected women's use of mobile internet and access to smartphones.

7. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
8. Research by McKinsey has estimated that female job loss rates due to COVID-19 are roughly 1.8 times higher than male job loss rates globally. McKinsey. (2020). *COVID-19 and gender equality: Countering the regressive effects*.
9. Narayan, A. et al. (2022). *COVID-19 and Economic Inequality: Short-Term Impacts with Long-Term Consequences*. World Bank Policy Research Working Paper.
10. Lindsey, D. (20 April 2020). "Why COVID-19 has increased the urgency to reach women with mobile technology", *GSMA Mobile for Development Blog*.
11. GSMA Connected Women. (2019). *The Mobile Gender Gap Report 2019*.
12. A4AI. (2021). *The Costs of Exclusion*.
13. GSMA Connected Women. (2019). *The Mobile Gender Gap Report 2019*.

The findings in this report draw on the annual GSMA Consumer Survey, which this year had more than 11,000 respondents from 10 LMICs. These face-to-face, nationally representative surveys were conducted between September and November 2021.[14] Additional qualitative research was conducted in Kenya[15] and India[16] to build on the findings of last year's report and to develop a more nuanced understanding of women's access to and use of mobile internet, especially in the context of the COVID-19 pandemic. This qualitative research was conducted in November 2021 with mobile owners and expert stakeholders in both countries. Analysis of other research and data from the GSMA, and a range of other organisations that investigate and track the mobile gender gap, also inform the findings of this report.

14. COVID-19 restrictions during this time varied across markets. Restrictions included, but were not limited to, school and workplace closures; restrictions on gatherings; stay at home requirements; internal and external travel restrictions; and curfews.
15. Urban and rural men and women in Rift Valley and Nyanza (n=30) and five expert interviews.
16. Urban and rural men and women in Uttar Pradesh and Tamil Nadu (n=55) and five expert interviews.

# Key findings

1. **Women's uptake of mobile internet in low- and middle-income countries continues to increase, but the rate of adoption has slowed.** Across low- and middle-income countries, 60 per cent of women now use mobile internet. Only 59 million additional women in low-and middle-income countries started using mobile internet in 2021 compared to 110 million in 2020. This is significant since mobile remains the primary way most people access the internet, especially women.

2. **The mobile internet gender gap had been reducing, but progress has stalled. Across low- and middle-income countries, women are now 16 per cent less likely than men to use mobile internet, which translates into 264 million fewer women than men.** By comparison, the mobile internet gender gap in low- and middle-income countries was 25 per cent in 2017 and 15 per cent in 2020. The gender gap is widest in South Asia and Sub-Saharan Africa and has remained relatively unchanged in all regions since 2017 except South Asia. In South Asia, the mobile internet gender gap had narrowed significantly, from 67 per cent in 2017 to 36 per cent in 2020, but has now widened to 41 per cent. This is due to continued increase in mobile internet adoption among men but no notable increase among women, particularly in India where men's mobile internet use increased from 45 per cent to 51 per cent while women's has remained flat at 30 per cent.

3. **The gender gap in smartphone ownership has widened slightly.** Over the past five years, the gender gap in smartphone ownership had been reducing year on year across low- and middle-income countries, from 20 per cent in 2017 to 16 per cent in 2020. Women are now 18 per cent less likely than men to own a smartphone, which translates into 315 million fewer women than men owning a smartphone. This year's increase has been driven by an increase in the smartphone gender gap in South Asia, as well as a continued increase in the smartphone gender gap in Sub-Saharan Africa. However, once women own a smartphone, their awareness and use of mobile internet is almost on par with men.

4. **Across low- and middle-income countries, the underlying gender gap in mobile ownership remains largely unchanged. Women are still seven per cent less likely than men to own a mobile phone.** The 372 million women still without a mobile phone are proving difficult to reach. The top barriers to mobile ownership are affordability, literacy and digital skills and safety and security.

5. **Both men and women continue to use their phones for a wider range of activities in most of the survey countries, but there is a persistent gender gap.** Women tend to use their mobile phones for a narrower range of activities than men on a weekly basis. Owning a smartphone substantially increases diversity of use for both men and women.

6. **In some countries, a significant proportion of smartphone owners do not use mobile internet, particularly women.** In Bangladesh, for instance, 26 per cent of women who own a smartphone do not use mobile internet compared to 20 per cent of men.

7. **Women are still less likely to be aware of mobile internet than men,** and while awareness has been increasing, growth has slowed, even in countries where awareness remains relatively low.

8. **Among those who are aware of mobile internet, the top-reported barriers to mobile internet use are still literacy and digital skills, affordability (primarily of handsets) and safety and security.** Among low income groups, there is evidence that the economic impact of the COVID-19 pandemic has made handsets and mobile internet even less affordable and affected access to smartphones and mobile internet use. Social norms also continue to play an important role. Across the survey countries, women were less likely than men to have chosen their model of mobile phone even when they paid for it themselves.

## IN LOW- AND MIDDLE-INCOME COUNTRIES:

Progress in reducing the **MOBILE INTERNET GENDER GAP** has **STALLED**

In **2017**, women were **25%** less likely than men to use mobile internet

This dropped to **15%** in 2020

But rose to **16%** in 2021

Progress in reducing the **GENDER GAP** in **SMARTPHONE OWNERSHIP** has **STALLED**

**Women are now 18%** less likely than men to own a smartphone

**315M** fewer women than men own a smartphone

**Women are still 7%** less likely than men to own a mobile phone

**131M** fewer women than men own a mobile phone

**MOBILE PHONE OWNERSHIP:**

### The top three barriers

preventing women from owning a mobile phone are:

1. Affordability
2. Literacy and digital skills
3. Safety and security





## IN LOW- AND MIDDLE-INCOME COUNTRIES:

**Awareness** of **mobile internet** grew rapidly from **2017 to 2019**

**but has since slowed**

**60%** of women now use mobile internet

But there are still **264M FEWER WOMEN** than men using mobile internet

**MOBILE INTERNET USE:**

### The top three barriers

preventing female mobile users who are aware of mobile internet from adopting it:

1. Literacy and digital skills
2. Affordability
3. Safety and security

In some countries, a significant proportion of **smartphone owners do not use mobile internet,**

**particularly women**

**Men and women**

**are using their mobile phones for a wider range of activities** in most of the survey countries, but there is a

**persistent gender gap**

**Women** are **LESS LIKELY** than men to

**choose their handset model,**

even when they paid for it


PROAN
CALIDAD

# DEFINITIONS

## GENDER GAP

The gender gap in mobile phone ownership and mobile internet use is calculated using the following formula:

$$\text{Gender gap in ownership / use (\%)} = \frac{\text{Male owners / users (\% of male population)} - \text{Female owners / users (\% of female population)}}{\text{Male owners / users (\% of male population)}}$$

## MOBILE OWNER

"Mobile phone owner" and "mobile owner" are used interchangeably in this report to mean a person who has sole or main use of a SIM card or mobile phone that does not require a SIM and uses it at least once a month. The vast majority of SIM owners also have sole or main use of a handset (a median of 94 per cent across the sample countries, ranging from 89 per cent to 99 per cent).

## FEATURE PHONE OWNER

A mobile owner that has sole or primary use of a feature phone. A feature phone is an internet-enabled mobile phone with a small screen and basic keypad with several letters per button. A feature phone may have some pre-installed apps, but does not have the ability to download apps from an online app store, such as Google Play or the App Store. Smart feature phones are a sub-group of feature phones and are not recorded as a separate category in the survey.

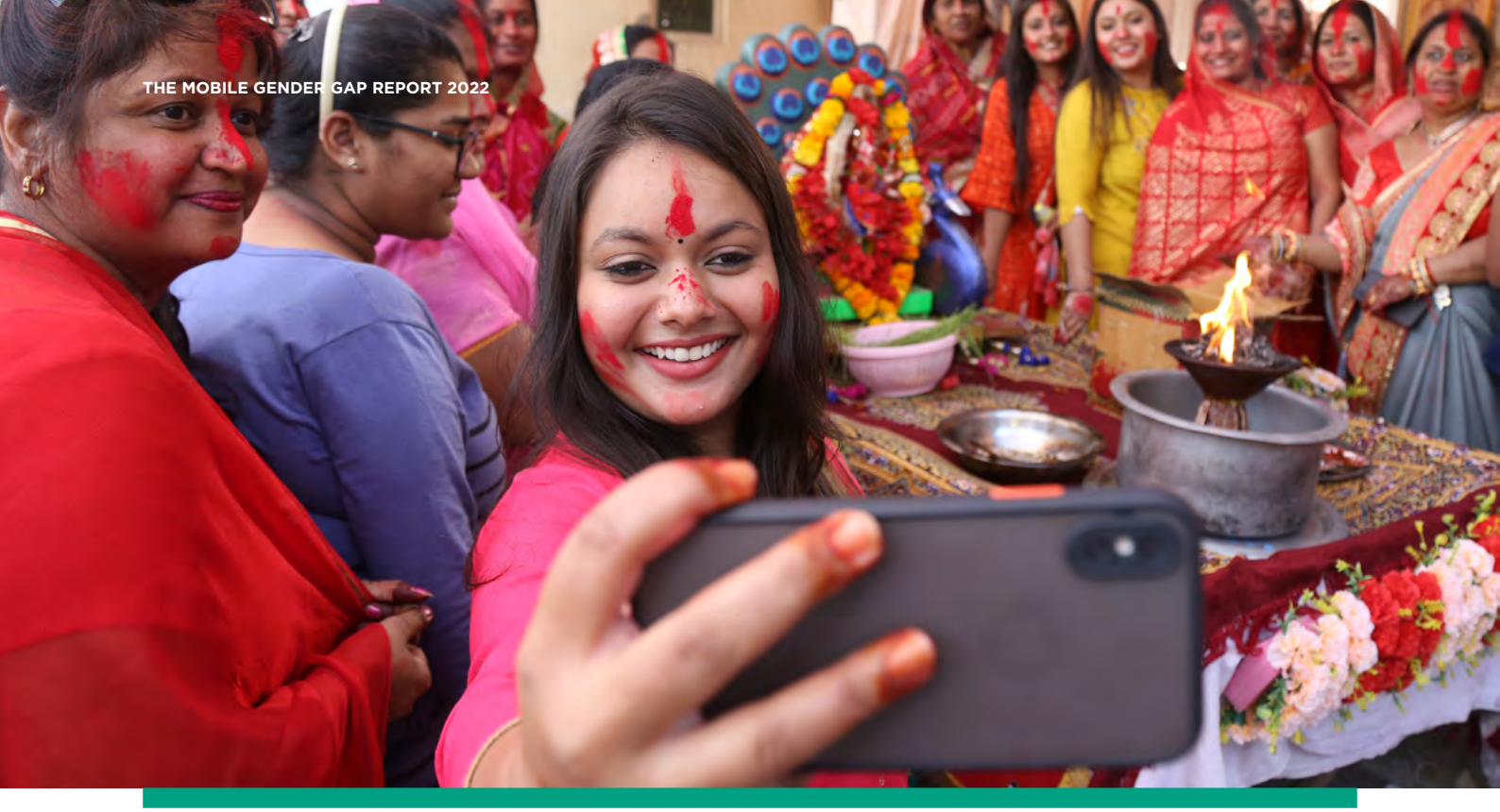
## SMARTPHONE OWNER

A mobile owner that has sole or primary use of a smartphone. A smartphone is a mobile phone with a touchscreen display, an advanced operating system (Android or iOS) and the ability to download apps from an online app store, such as Google Play or the App Store.

## MOBILE INTERNET USER

A person who has used the internet on a mobile phone at least once in the last three months.[17] Mobile internet users do not have to personally own a mobile phone, and therefore can be non-mobile phone owners who use mobile internet by accessing it on someone else's mobile phone.

17. Respondents were asked the question: "Have you ever used the internet on a mobile phone? Please think about all the different ways of using the internet on a mobile phone. Just to confirm, people are using the internet on their mobile phones when they do any of the following: visit internet websites (e.g. Google or Amazon), visit social networking websites (e.g. Facebook, Twitter, YouTube, Weibo), send emails or instant messages (e.g. WhatsApp, Snapchat, WeChat, LINE) or download apps." Mobile internet users are those who answered, "Yes, I have used the internet on a mobile phone in the last three months."



# The mobile gender gap in 2022

The COVID-19 pandemic continues to impact countries around the world, and when it comes to mobile internet use, a more negative picture emerged this year. Across LMICs, the mobile internet gender gap has narrowed every year from 2017 to 2020, from 25 per cent to 15 per cent. However, the latest data from 2021 suggests that this momentum has been lost. Women are now 16 per cent less likely than men to use mobile internet (see Figure 1).

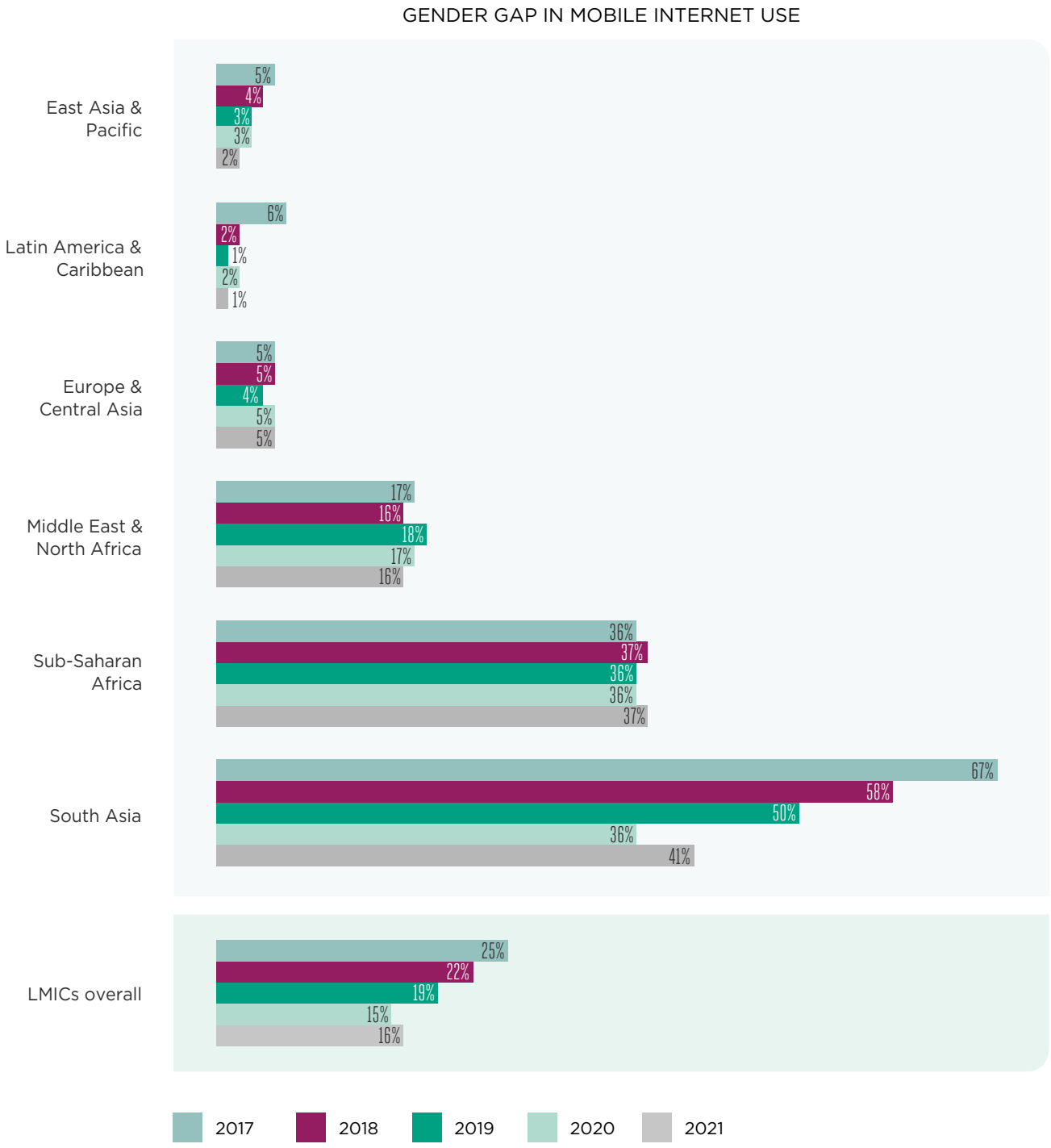
While women's mobile internet use has grown or remained the same in most of the survey countries, men's mobile internet use has continued to increase in most markets and, in some cases, at faster rates than women. This has resulted in a widening of the mobile internet gender gap in those countries.

Across LMICs, 59 million more women started using mobile internet in 2021, a significant drop from the year before when nearly twice as many started using it. In 2020, during the early stages of the pandemic, restrictions and lockdowns in some settings drove the need for greater internet access and provided further justification for women to start using mobile internet. This helped ensure steady overall growth in women's mobile internet use. However, the latest data suggests this growth has slowed somewhat, especially in India (see *Spotlight: India*).

The gender gap in mobile internet use varies across regions, with the widest gaps in South Asia and Sub-Saharan Africa (see Figure 1). There has been no notable change in regional gender gaps over the years, except in South Asia where consistent progress had been driving an overall reduction in the gender gap across LMICs. In 2020, for the first time, the gender gap in mobile internet use in South Asia was on par with Sub-Saharan Africa. However, from 2020 to 2021, mobile internet adoption among men in South Asia continued to increase while adoption among women plateaued. This has resulted in the mobile internet gender gap in South Asia widening from 36 per cent to 41 per cent. This reversal after consecutive years of progress highlights the importance of concerted efforts across regions and in the industry to ensure women's digital inclusion. Without renewed investment and focus, women are at risk of being left further behind.

Figure 1

# Regional gender gaps in mobile internet use, 2017–2021




Source: GSMA Intelligence, 2022
Mobile internet use is defined as having used the internet on a mobile phone at least once in the last three months.
Mobile internet users do not have to personally own a mobile phone. The gender gap in mobile internet use refers to how less likely a woman is to use mobile internet than a man.
Regional averages were calculated from country-level data.
Based on survey results and modelled data for adults aged 18+.
Some of the percentages show minor differences from previous reports. This is due to changes in the group of countries defined as "low and middle income" and the fact that our modelling uses the most up-to-date data from our survey and third-party sources.

The gender gap in mobile ownership remains largely unchanged across LMICs. As in previous years, women are still seven per cent less likely than men to own a mobile phone.[18] Mobile phone ownership among both men and women in LMICs has stayed relatively constant, highlighting that those who still do not have a mobile phone are proving difficult to reach. While the gender gap in mobile ownership remains largely unchanged, the gender gap in smartphone ownership had been decreasing across LMICs driven by growth in South Asia. However, the gap widened slightly from 16 per cent in 2020 to 18 per cent in 2021. This is significant because once women own a smartphone, their awareness and use of mobile internet are more likely to be on par with men.

## Country-level gender gaps in mobile ownership and mobile internet use

In all 10 of the survey countries, women are still less likely than men to own a mobile phone and use mobile internet. The gender gap in mobile internet use also tends to be higher than the gender gap in mobile ownership (see Figure 2).

Despite these similarities, men's and women's mobile ownership, mobile internet use and the resultant gender gaps vary considerably by country. Over the years, the Mobile Gender Gap Report series has found that countries with the lowest levels of mobile penetration tend to have the widest gender gaps in mobile ownership and mobile internet use. There are, however, some exceptions where countries have high levels of mobile ownership but relatively wide gender gaps in mobile internet use. In particular, Kenya and Nigeria have high levels of mobile ownership among both men and women, but the mobile internet gender gaps are wide, at 38 per cent and 36 per cent, respectively. In Kenya, the popularity of M-Pesa, Safaricom's mobile money offering, appears to have boosted mobile ownership among both men and women,[19] but there is still relatively low uptake of mobile internet, especially among women.

Across the survey countries, the gender gap in mobile ownership has changed very little over the years. Meanwhile, the gender gap in mobile internet use has narrowed in Kenya and Pakistan (although still substantial), but widened in India, Bangladesh, Nigeria and Guatemala. In India and Bangladesh, men's mobile internet use has increased while women's has remained flat. In Nigeria, men's use has remained flat, while women's use has decreased. In Guatemala, both men and women have increased their mobile internet use, but men have experienced a higher growth rate. These changes have all contributed to an overall widening of the mobile internet gender gap across LMICs in 2021.

India, in particular, has seen significant changes. In last year's report, we highlighted the remarkable growth in Indian women's mobile internet use, which had increased from 21 per cent to 30 per cent of women between 2020 and 2021, compared to an increase of 42 per cent to 45 per cent for Indian men. Changing market dynamics over the past few years have made the internet more affordable and, combined with COVID-19 restrictions and lockdowns that drove more women online, have helped to narrow the mobile internet gender gap. By contrast, this year women's mobile internet use stalled at 30 per cent while men's continued to grow to 50 per cent. This is a significant change for a country that had been decisively reducing the mobile gender gap, and it has not only affected India's mobile internet gender gap, but also widened the overall gender gap in South Asia and across LMICs. Despite an initial sharp increase in mobile internet adoption in the early stages of COVID-19, women's mobile internet use appears to have plateaued as the pandemic has progressed and livelihoods have suffered, and to a much greater extent than men (see *Spotlight: India*).

These changes highlight the importance of continuously monitoring country-level gender gaps to inform action.

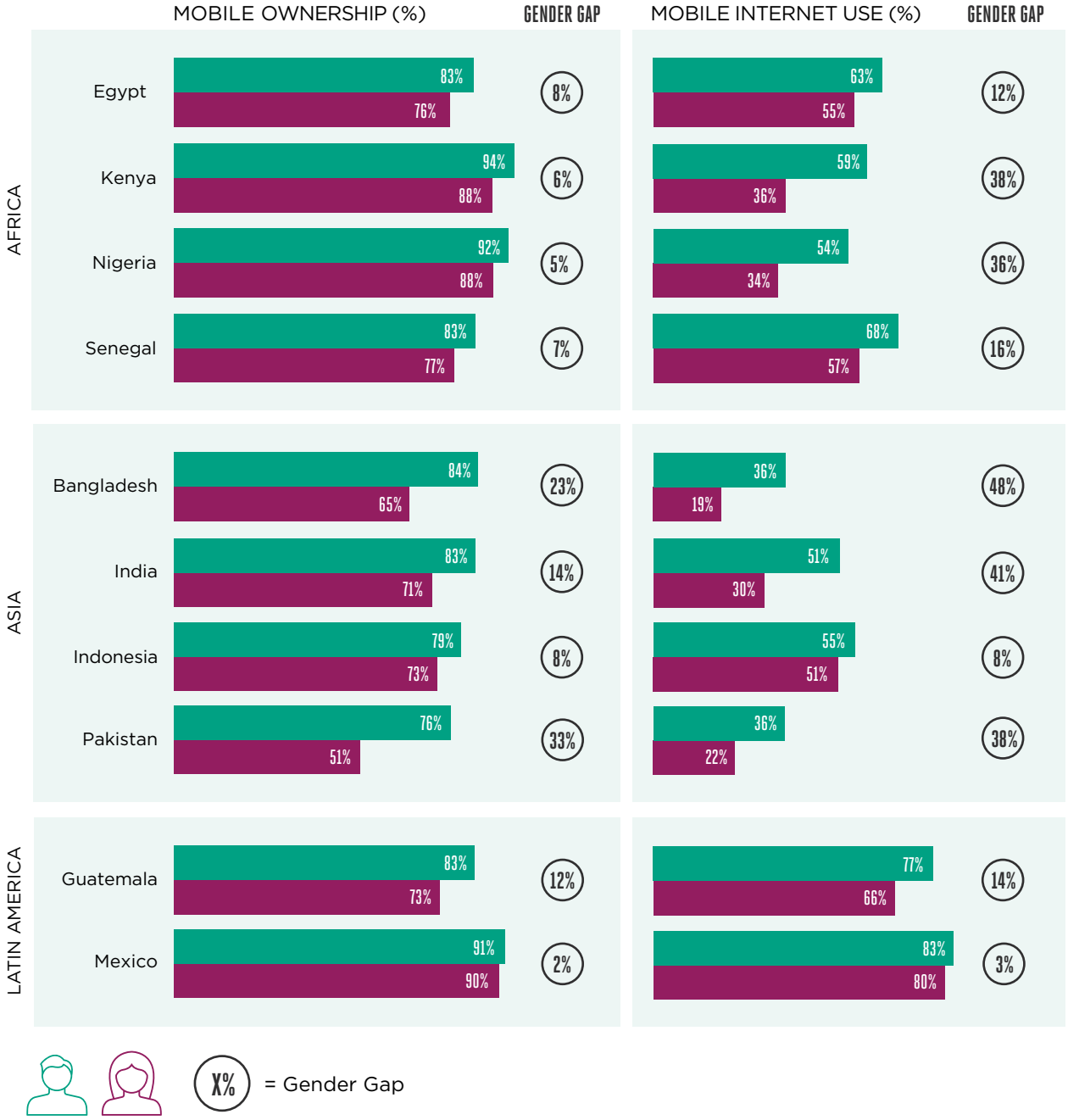
18. The mobile ownership gender gap across LMICs has been between seven and 10 per cent every year since 2017.
19. See the case study, "The impact of mobile on women and economies" in the 2015 GSMA Connected Women report, Bridging the gender gap: Mobile access and usage in low- and middle-income countries. M-Pesa does not require a mobile internet connection as it can operate through USSD or STK.

## Country-level gender gaps in mobile ownership and mobile internet use

Figure 2

### Men's and women's mobile ownership and mobile internet use, by country

*Percentage of total adult population*




Source: GSMA Consumer Survey, 2021
Base: Total population aged 18+
A mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM) and uses it at least once a month.
Mobile internet users do not have to personally own a mobile phone. The gender gap in mobile ownership and mobile internet use refers to how much less likely a woman is to own a mobile (or to use mobile internet) than a man.
n= from 496 to 966 for women and n= from 469 to 1,131 for men

# The journey to mobile internet use

With the proliferation of mobile phones and growth in internet-enabled handsets, including smart feature phones and smartphones, mobile is the primary way most people in LMICs access the internet, especially women. In all 10 survey countries, internet users were more likely to access the internet exclusively via a mobile phone than any other means. Furthermore, in seven of the 10 countries, a higher proportion of women internet users than men accessed it exclusively via a mobile phone.

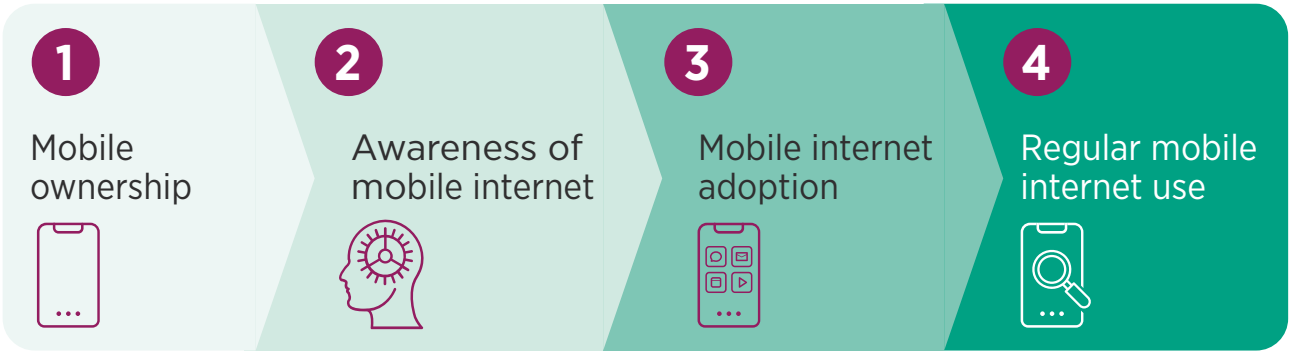
While no two people share the same experience acquiring and using mobile technology, there are common milestones and barriers. This report now looks at each stage of the mobile internet user journey.

Typically, the gender gap widens along each stage of the user journey, from mobile ownership to awareness of mobile internet, mobile internet adoption and regular mobile internet use (see Figure 3). The gap is smallest for mobile ownership and increases for mobile internet adoption and regular use.

Handset type plays an important role in how a person experiences this user journey and how likely they are to become a regular mobile internet user. Smartphones are a key driver of mobile internet use, but the gender gap in smartphone ownership is wider than for basic phone ownership. Across LMICs, women are 18 per cent less likely than men to own a smartphone which translates into 315 million fewer women than men owning a smartphone. This gender gap closely mirrors that of mobile internet use. This report considers mobile ownership by handset type and looks at trends in phone acquisition.

Figure 3

## The mobile internet user journey




# The gender gap in mobile ownership

The first stage in the mobile internet user journey is mobile ownership. As of the end of 2021, 84 per cent of women in LMICs owned a mobile phone compared to 89 per cent of men, which translates to a gender gap of seven per cent. Despite a perception that mobile ownership is near universal, more than 372 million women in LMICs still do not own a phone, compared to 239 million men. Growth in mobile ownership continues to be relatively limited for both men and women and the gender gap has remained largely unchanged since 2017.

The gender gap in mobile ownership varies significantly between regions. It is widest in South Asia and Sub-Saharan Africa, but considerably smaller in the other regions.[20] Pakistan has the widest gender gap in mobile ownership of all countries surveyed, with only half of women owning a mobile phone compared to three-quarters of men (see Figure 2).

Women are not a homogeneous group, however. Those who are least likely to own a mobile phone have low literacy levels, are unemployed, have low incomes, are older than 55, live in a rural area or have a disability.[21]

## Understanding the barriers to mobile ownership

With growth in mobile ownership stalling across LMICs, it is critical to understand what is limiting progress. To identify the barriers to mobile ownership, non-mobile owners were asked whether certain barriers were preventing them from owning a mobile and which barrier they considered most important. Table 1 lists the top-reported barriers to mobile ownership across our survey countries (see Appendix 1 for more details).

Across survey countries, the top barriers to mobile ownership remain similar for men and women, with little change since 2019. These barriers are affordability (specifically of handsets), literacy and digital skills and safety and security. However, there are variations in the top-reported barriers at the country level (see Appendix 1).

20. We have not seen any indications of substantial changes at a regional level this year. See: GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
21. Ibid.

The affordability of handsets is a substantial barrier to mobile ownership for women across regions and is reported as the top barrier overall in Africa and Latin America. In Kenya, 54 per cent of women who do not own a mobile phone reported that affordability was the top reason why.

Across survey countries in Africa and Asia, basic literacy plays a significant role in preventing people from owning a mobile phone, and in Asia, digital literacy also plays an important role. In contrast, safety and security has been a consistent and significant barrier in Latin America,[22] including in Guatemala where our latest data shows that 16 per cent of men and 13 per cent of women who do not own a mobile phone reported concerns about physical safety as the top barrier to owning a phone.

In some countries, lack of family approval plays an important role in preventing women from progressing along the mobile internet user journey. Notably, lack of family approval still ranks in the top three barriers to mobile ownership for women in Nigeria, Bangladesh and Pakistan. In Pakistan, it was the most frequently cited individual barrier, reported by 35 per cent of women who do not own a phone compared to just three per cent of men.

Table 1

## Top barriers to mobile ownership for men and women in surveyed countries

*Based on the single most important barrier to mobile phone ownership identified by non-mobile owners, averaged across surveyed markets*

| Ranking | All countries | |
|---|---|---|
| | Women | Men |
| 1 | Affordability | Affordability |
| 2 | Literacy and digital skills | Literacy and digital skills |
| 3 | Safety and security | Safety and security |

Source: GSMA Consumer Survey, 2021
Base: Non-mobile owners aged 18+
The barriers above are composite barriers. These composite barriers are aggregates (not averages) of the responses for between two and five sub-barriers (see Appendix 1). Access-related barriers are not grouped as a composite since they cover a disparate range of topics. Rankings indicate the relative aggregated proportion of non-mobile owners who responded, "This is the most important reason stopping me" to the question, "Which one of those factors would you say is the single most important reason stopping you from having a mobile phone or SIM card, connected to a mobile operator's network?"
'All countries' barriers were calculated by averaging country-level data for the 10 survey countries where sample sizes allowed.
n=45 to 224 for women and n=55 to 134 for men

22. GSMA Connected Women. (2015). *Bridging the gender gap: Mobile access and usage in low- and middle-income countries* and GSMA Connected Women. (2020). *The Mobile Gender Gap Report 2020*.

# The benefits of mobile ownership

Figure 4

## The benefits of mobile ownership, reported by men and women in 10 survey countries

*Percentage of mobile owners who agreed mobile helps them with the following life needs*[23]


Source: GSMA Consumer Survey, 2021
Base: Mobile owners aged 18+
A mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM), and uses it at least once a month.
Percentages reflect those that 'strongly agree' or 'tend to agree' that mobile helps them with each task and excludes those that felt they were 'not applicable' to each activity. Note that this only applies to 'Work or business' and 'Studies or education', as 'not applicable' was not selected as a response by anyone for the other three benefits analysed.
n=162 to 600 for women and n=165 to 909 for men

In all survey countries, the vast majority of men and women mobile owners reported that mobile ownership delivers substantial benefits (see Figure 4).[24] However, it is clear that these benefits are not felt equally by all.[25] Between 66 per cent and 97 per cent of both men and women mobile owners in each of the 10 survey countries reported that having a mobile phone helps with their day-to-day activities, makes them feel safer and gives them access to useful information they would not otherwise be able to access easily. The exception is that only 46 per cent of female mobile phone owners in Pakistan reported that a mobile provides access to useful information they would not otherwise access easily.

23. Excludes those who felt they were 'not applicable' to each activity. Note that this only applies to 'Work or business' and 'Studies or education', as 'not applicable' was not selected as a response by anyone for the other three benefits analysed.
24. Roessler et al. (2021). *The Economic Impact of Mobile Phone Ownership: Results from a Randomized Controlled Trial in Tanzania: Working Paper*; Pew. (2019). *Mobile Connectivity in Emerging Economies*.
25. GSMA Connected Women. (2022). *Mobile Internet, Well-being and Gender: Understanding the Links*.

In general, men reported feeling the benefits of mobile more strongly than women. This does not necessarily mean that mobile is, or has the potential to be, less useful for women. These findings could instead be due to men's more diverse usage (see Figure 16) and could reflect the additional barriers faced by women. For example, women who own a mobile are much less likely to use mobile internet and engage in use cases that require mobile internet than their male counterparts. They are also less likely to own a smartphone and to have money to spend on data, both of which are likely to impact women's perceptions of the benefits and potential of mobile. In addition, women are more likely to lack digital skills and to face social norms that limit their access to and use of mobile and mobile internet. Given this, it is perhaps quite surprising that the results for women are so similar to men. Achieving truly equitable digital inclusion will require ensuring that once a woman owns a mobile phone, she is just as likely to derive the benefits as men.

**Helps me in my day-to-day activities**

The median proportions of men and women who own a mobile and report that it helps them with daily activities are relatively high across all 10 survey countries (92 per cent for men, 85 per cent for women). However, the difference in the proportions of men and women reporting these benefits varies at the country level. In Bangladesh, Kenya, Indonesia and Guatemala, there is almost no gender gap in the proportion of male and female mobile owners who report that mobile helps them with their day-to-day activities. However, in Egypt, Nigeria, India, Senegal, Pakistan and Mexico, there was at least a five percentage point difference between male and female mobile owners who reported this benefit.

**Makes me feel safer**

Mobile has the potential to make owners feel safer by providing an immediate way to contact others in an emergency, as well as safety-related apps, mobile money and other services.[26] While the median proportion of male and female mobile owners reporting this benefit was equal at 81 per cent, in nine of the 10 survey countries, male mobile owners were more likely to have reported this benefit than their female counterparts. This could be due, in part, to the harassment women face online or lack of awareness of mobile-related safety features or apps. The exception is Egypt, where 84 per cent of female mobile owners reported that a mobile makes them feel safer, compared to 78 per cent of male mobile owners. In Guatemala and Mexico, fewer men and women report that mobile makes them feel safer than in the other survey countries. This is tied to the barriers to mobile ownership in Latin America, where safety and security are cited much more often as the top barrier than any other region.

**Gives me access to useful information**

Mobile is the primary way in which millions of men and women in LMICs access useful information for a variety of life needs, from health care and current affairs to the development of new skills. More than 70 per cent of men and women who own a mobile phone in nine of the 10 survey countries reported that it helps them access information they would not have otherwise. However, this benefit is not felt as strongly by mobile owners in Pakistan where 66 per cent of men and 46 per cent of women reported this benefit.

26. GSMA Connected Women. (2018). *A Framework to Understand Women's Mobile-Related Safety Concerns in Low- and Middle-Income Countries* and GSMA Connected Women. (2019). *Mitigating Women's Safety Concerns with Mobile: A Case Study of Vodafone Idea's Sakhi Service*.

### Helps me with my studies

Mobile can be an incredibly useful tool in supporting life needs, such as education. This has been especially true during the COVID-19 pandemic when digital learning has become more commonplace.[27] In both Guatemala and Bangladesh, 79 per cent of men and women who own a mobile and consider education to be relevant to their needs, reported that mobile helped them with their studies. However, there were instances in which less than half of women mobile owners reported benefits. In Kenya, 48 per cent of women mobile owners who considered education to be relevant to their needs reported that it helped them with their studies, compared to 63 per cent of men who own a mobile. Among those who specifically identified studying as their main occupation or activity, a median of 93 per cent of men who owned a mobile reported that owning one helped them with their studies compared to a median of 91 per cent of women.

### Helps me with my work or business

In all survey countries, most mobile owners who considered work to be relevant to their needs felt that mobile ownership had strong benefits. However, in some countries, the benefits were not as tangible for women. In Pakistan, just 49 per cent of women mobile owners who considered work to be relevant to their needs reported that their mobile helped them with their work, compared to 81 per cent of their male counterparts. Among those who specifically identified as being employed or self-employed, the median proportion of male mobile owners who reported that mobile helped them with their work was 91 per cent versus 90 per cent of women mobile owners.

27. Bansal, S., Roy, S. and Batra, G. (3 March 2021). "How COVID-19 Advanced Digital Learning for Lower-Income Populations". BCG.

Spotlight

# Kenya: COVID-19 continues to impact women's access to mobile

As the pandemic rolls on, the economic impact on Kenya has taken a toll. Respondents in our qualitative research highlighted that the ability to afford a smartphone and data has diminished due to lower incomes, with women disproportionately impacted.

Kenya is a country with high levels of mobile ownership: 94 per cent of adult men and 88 per cent of adult women own a phone. However, women are less likely than men to own a smartphone (see Figure 5). This is also contributing to a wide mobile internet user gender gap in Kenya where women are 38 per cent less likely than men to use mobile internet (see Figure 2).

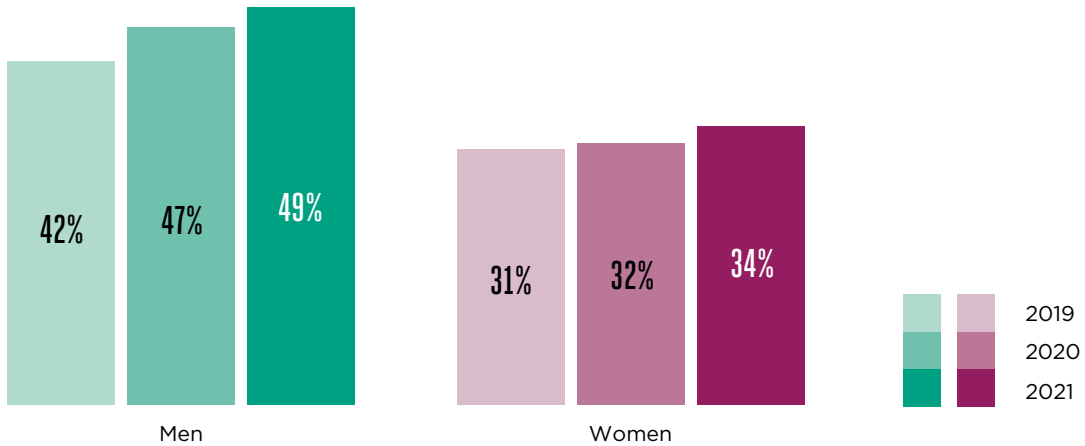
In our qualitative research, most mobile internet users in Kenya described how, to make ends meet, they had cut their internet use substantially over the course of the pandemic. Although a minority had upgraded to a smartphone, others had downgraded, selling smartphones for cash or being unable to replace lost or broken ones. Women were expected to prioritise other needs first. Figure 5 shows how smartphone ownership among men has continued to increase gradually while for women it has remained flat.

> ***"I didn't like the idea of selling the phone but I had no option, so I decided. I sold it because I wanted to support my family. My mother didn't have stock in her shop so I wanted to help... so at least we could survive for about three weeks after selling that phone."*** Female, aged 18–24, urban, Rift Valley

Figure 5

## Smartphone ownership among men and women in Kenya, 2019–2021

*Percentage of total adult population*




Source: GSMA Consumer Surveys 2019, 2020 and 2021
Base: Total adult population
n=523 to 545 for women and n=496 to 526 for men

## Kenya: COVID-19 continues to impact women's access to mobile continued

**Smartphone ownership and internet use has increased for working women in Kenya.**
Mobile has provided working women with an alternative route to support their work and continue their business in lockdown. In Kenya, working women experienced notable growth in smartphone ownership and mobile internet use in the last year. The proportion of working women who own a smartphone increased from 30 per cent to 37 per cent (see Figure 6) and the proportion who use mobile internet increased from 29 per cent to 36 per cent. In contrast, non-working women in Kenya have seen no material change in their smartphone ownership or mobile internet use in recent years. Meanwhile, both working men and non-working men have experienced steady growth in smartphone ownership and mobile internet use over the same period.

> ***"Now I've used the internet to expand my business. I use YouTube when I want to see new designs and the process of making a new dress, and when I want to advertise my work, I use WhatsApp and post it as my status."*** Female, aged 35–44, urban, Rift Valley

> ***"My friends who sell clothes online, they used to do door-to-door but now they just sell from the house, they will just take a photo from the market, and maybe open a page, maybe on Instagram, and advertise that, 'This is what I am selling'... You don't even have to get the money – they send it to you, you pack your parcel, and send it as a parcel, so the business is quite easy. Business is easier."*** Female, aged 18–24, urban, Nyanza

In Kenya, 84 per cent of women who own a mobile phone and considered work to be relevant to their needs reported that mobile was helping with their work compared to 90 per cent of their male counterparts. This suggests that the business benefits of mobile ownership are clear to both men and women once they own a mobile phone, albeit somewhat more for men.

In our qualitative research, mobile internet users described pride in their new digital skills and perceived that mobile internet helped give them a commercial advantage in their work.

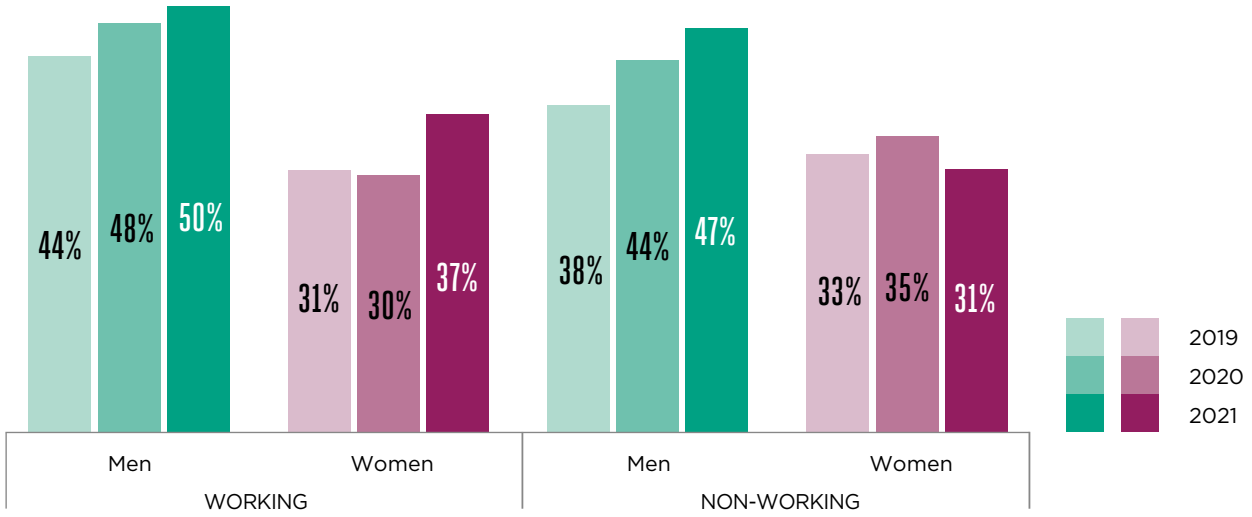
> ***"COVID has helped because it is in this season that women started showcasing their talents, businesses and the promotion of hustles."*** Female, aged 35–44, urban, Nyanza

## Kenya: COVID-19 continues to impact women's access to mobile continued

Figure 6

### Smartphone ownership among men and women in Kenya by employment status, 2019–2021

*Percentage of total adult population*




Source: GSMA Consumer Surveys 2019, 2020 and 2021
Base: Total adult population
n=291 to 303 for working women, n=321 to 370 for working men, n=232 to 254 for non-working women and n=148 to 174 for non-working men

This growth in smartphone ownership among working women demonstrates the value of mobile for this group. It also highlights the importance of conveying to all women in Kenya the relevance of smartphone ownership and mobile internet use for different life needs. Many women are still unaware of the services mobile can provide. For instance, roughly a quarter of women in Kenya are still unaware of mobile internet (see Figure 14).

> ***"Women have household chores, responsibilities, and they have very limited windows during the day which they have free and have access to a mobile phone where they can engage… It's hard for [women] to start doing something, to actually take that step. But once they do it, they actually see more value and they're more excited to continue engaging."*** Arifu, expert interview

**Affordability of handsets is a barrier in Kenya, especially for women**. Although the cost of handsets continues to fall,[28] affordability is still an overwhelming constraint for many in Kenya. In 2019, 40 per cent of women who did not own a mobile phone reported that the cost of a handset was the greatest barrier, and this rose to 54 per cent in 2021. Similarly, the cost of an internet-enabled handset is a major barrier to using mobile internet in Kenya. In 2019, 30 per cent of women mobile users who were aware of mobile internet but did not use it identified cost as the top barrier. This rose to 39 per cent in 2021. In our qualitative research, many respondents felt that saving money for a new handset, whether at full price or through a deposit or instalment, was extremely challenging and some were concerned about depending on credit.

28. GSMA Connected Women. (2022). *Safaricom's Maisha Ni Digital Campaign: A Holistic Approach to Address the Barriers Preventing Kenyan Women from Using Mobile Internet* and GSMA Connected Society. (2021). *The State of Mobile Internet Connectivity Report 2021*.

# The gender gap in smartphone ownership

The type of mobile device a person owns has a major impact on how (and whether) they use the internet. Although it is possible to access the internet on a feature phone, internet use on a smartphone is typically much richer, more regular and varied.

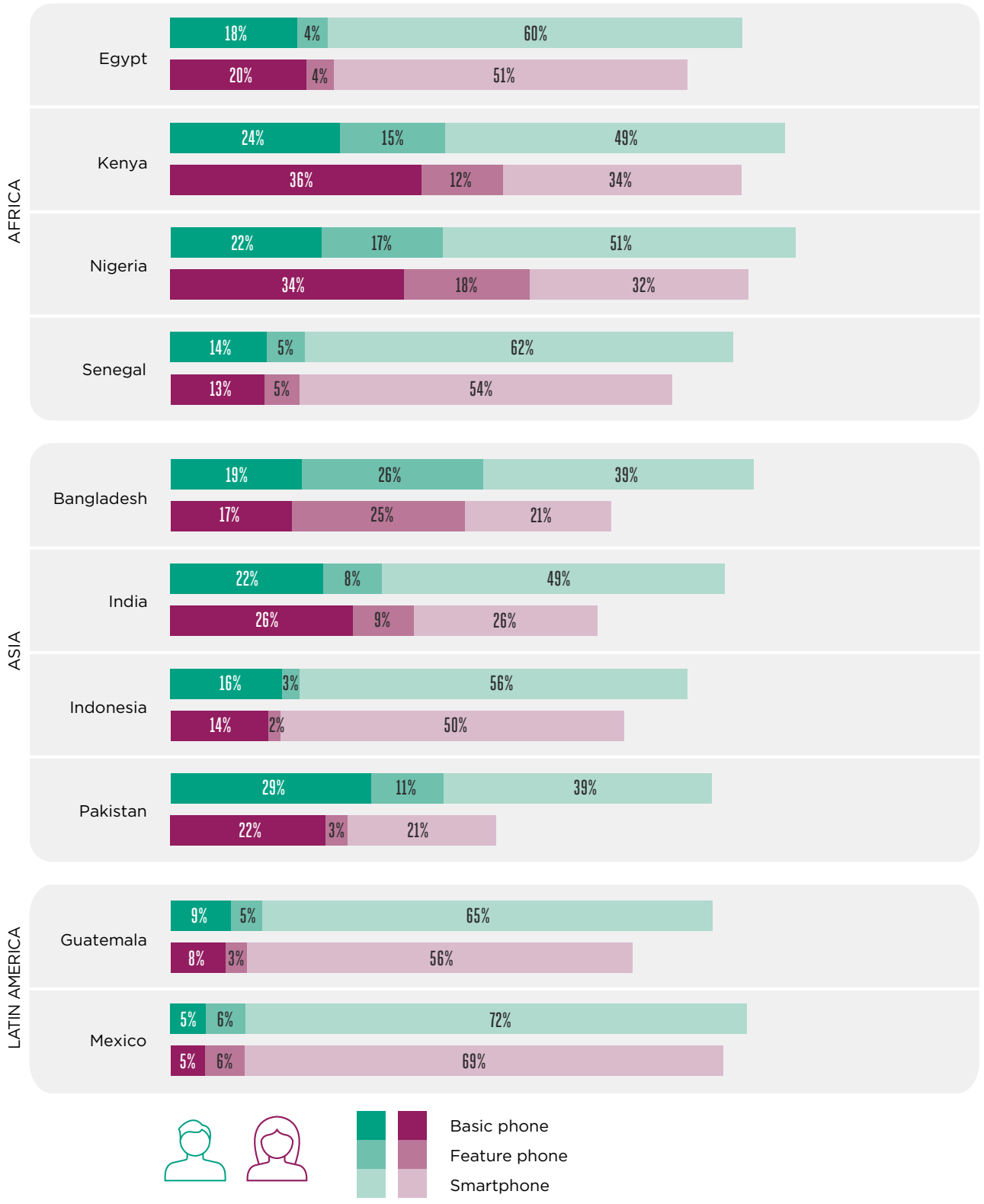
The gender gap in smartphone ownership had been reducing across LMICs, but our latest data suggests progress has stalled. In 2017, women were 20 per cent less likely than men to own a smartphone, which dropped to 16 per cent in 2020 driven by growth in South Asia. Our latest data shows that the gender gap has increased again, to 18 per cent in 2021, and is still much wider than the overall gender gap in mobile ownership (seven per cent). This has been fuelled primarily by a recent widening in the smartphone gender gap in South Asia, but also by a continued increase in the smartphone gender gap in Sub-Saharan Africa. Women in Sub-Saharan Africa are now 30 per cent less likely than men to own a smartphone. This has grown steadily from 22 per cent in 2017, due to men's smartphone ownership far outpacing that of women.

Across all 10 survey countries, women were less likely than men to own a smartphone (see Figure 7).

Figure 7

# Share of population by type of handset owned

*Percentage of total adult population*




Source: GSMA Consumer Survey 2021
Base: Total population aged 18+
The total percentage of handset owners does not exactly match the percentage of mobile owners in Figure 2. Figure 2 captures people who have sole or main use of a SIM card whereas Figure 7 represents people who have sole or main use of a handset.
Respondents are categorised according to the most advanced device they own and can only be included in one category. Smartphone owners that also own a basic or feature phone are counted only as smartphone owners.
n=496 to 966 for women and n=469 to 1,131 for men

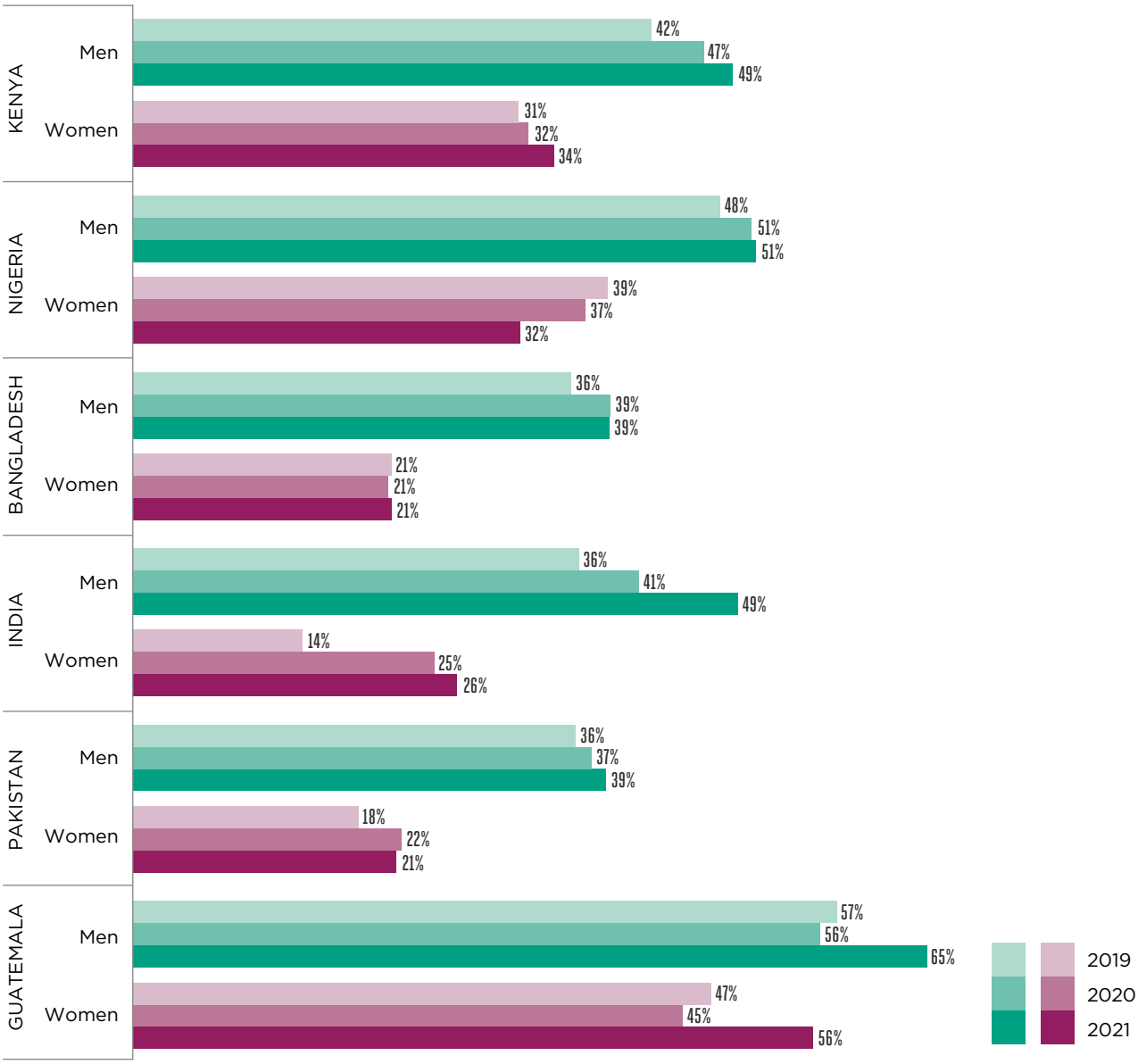
Across all survey markets, the smartphone ownership gap is wider than the gender gap in overall mobile ownership. The most significant gender gaps in smartphone ownership are in South Asia. For example, in Bangladesh, 39 per cent of men own a smartphone compared to just 21 per cent of women.

While trends in women's smartphone ownership have varied considerably over time across the survey countries (see Figure 8), in every country, the smartphone gender gap is either widening or remaining relatively flat. The exception is Guatemala where women's smartphone ownership has grown more substantially than men's. Driving smartphone uptake is critical to both greater digital inclusion and future ARPU growth for mobile operators.

Figure 8

## Smartphone ownership in selected countries, 2019–2021

*Percentage of total adult population*




Source: GSMA Consumer Surveys 2019, 2020 and 2021
Base: Total population aged 18+
n=496 to 966 for women and n=469 to 1,131 for men

Interestingly, in some countries,[29] a significant proportion of smartphone owners do not use mobile internet, particularly women. This suggests that smartphones are valued for other reasons, for example, as a camera or a status symbol. In India, for instance, 20 per cent of women who own a smartphone are still not using mobile internet compared to 10 per cent of men, and in Bangladesh this rises to 26 per cent and 20 per cent, respectively.

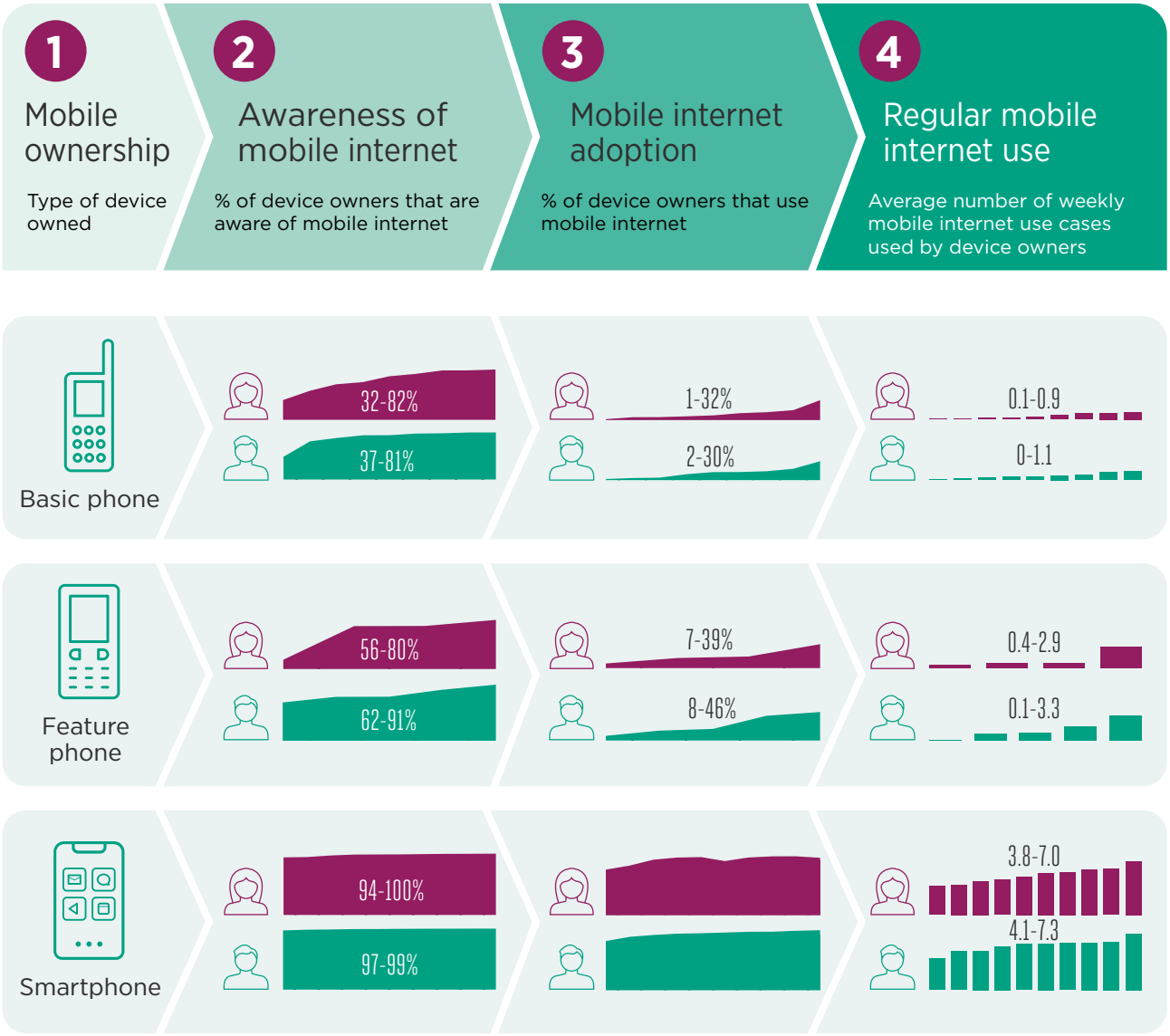
The importance of smartphone ownership is evident in the context of the mobile internet user journey. Whereas the first stage of the journey, mobile ownership, can include a more basic device, smartphone owners are much more likely to progress to regular mobile internet use and meet a wider variety of needs. While borrowing of handsets provides some men and women with an alternative way to access the internet, the autonomy that comes with owning one's own smartphone cannot be underestimated.

Smartphone owners are much more likely to be aware of mobile internet and to use it than those who own a basic or feature phone (see Figure 9). Crucially, once women acquire a smartphone, their mobile internet awareness and use, mobile money adoption and wider mobile use all more closely resemble rates for men.

29. In particular, India, Bangladesh, Pakistan and Kenya.

Figure 9

## Mobile internet user journey, by handset type




Source: GSMA Consumer Survey, 2021
Base: Basic phone, feature phone and smartphone owners aged 18+
Respondents are categorised according to the most advanced device they own and can only be included in one category. Smartphone owners that also own a basic or feature phone are counted only as smartphone owners.
Respondents may have engaged in some use cases on a phone other than their own. Internet-based use cases were asked only of those who reported having used the internet on a mobile or other device in the past.
Results for basic phone owners in Mexico and feature phone owners in Egypt, Senegal, Indonesia, Guatemala and Mexico were excluded due to unweighted sample sizes below 30.
n=41 to 257 for female basic phone owners; n=42 to 243 for male basic phone owners; n=31 to 126 for female feature phone owners; n=51 to 134 for male feature phone owners; n=110 to 362 for female smartphone owners; and n=204 to 572 for male smartphone owners.

Spotlight

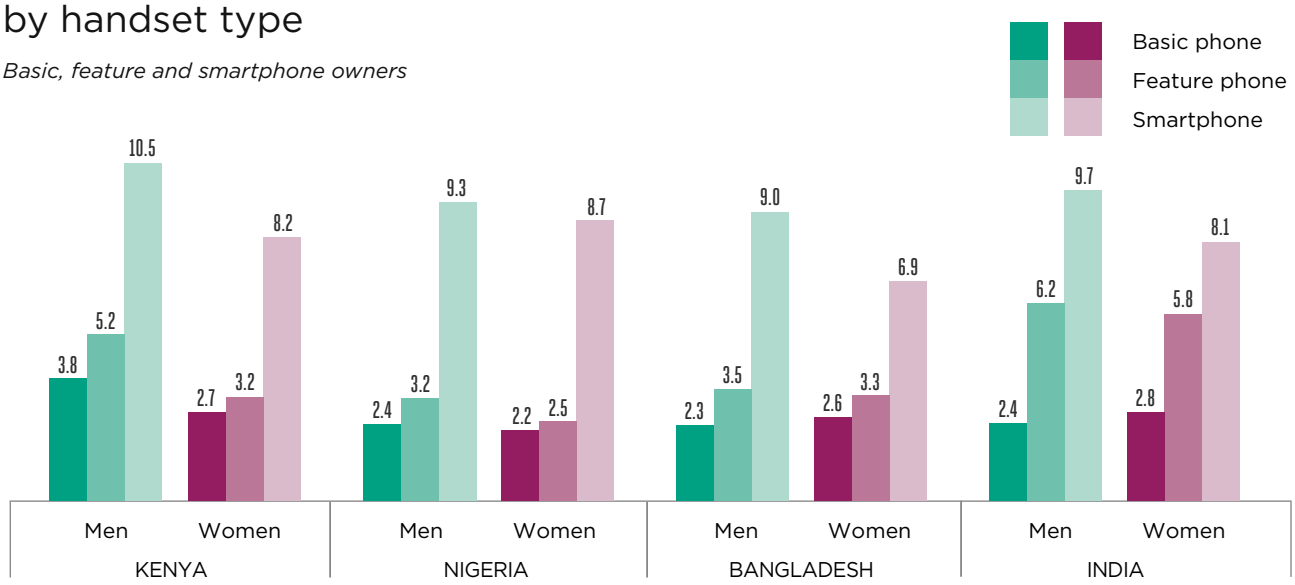
# The impact of feature and smart feature phones

Among mobile owners, women tend to perform fewer use cases than men on a weekly basis (see Figure 10).[30] However, owning a smartphone substantially increases the diversity of use cases for both men and women. Interestingly, in India, men and women who own feature phones are engaging in a notably wider range of use cases than those in other countries: 6.2 and 5.8, respectively. This could be due, in part, to the proliferation of feature phones and smart feature phones in India with advanced ease-of-use features.[31]

Figure 10

## Average number of use cases performed at least once a week, by handset type

*Basic, feature and smartphone owners*




Source: GSMA Consumer Survey, 2021
Base: Basic phone, feature phone and smartphone owners aged 18+
Respondents are categorised according to the most advanced device they own and can only be included in one category. Smartphone owners that also own a basic or feature phone are counted only as smartphone owners.
Respondents may have engaged in some use cases on a phone other than their own. Internet-based use cases were asked only of those who reported having used the internet on a mobile or other device in the past.
n=86 to 257 for female basic phone owners; n=95 to 243 for male basic phone owners; n=66 to 126 for female feature phone owners; n=75 to 134 for male feature phone owners; n=110 to 256 for female smartphone owners; and n=204 to 572 for male smartphone owners.

While these devices are not usually intended to appeal exclusively to women, they can address affordability concerns and other significant barriers that have a disproportionate impact on women's mobile ownership and access to the internet. Smart feature phones can be a stepping stone to normalising women's use of smartphones and more life-enhancing services. By providing a familiar, simple interface that feels akin to a basic mobile, women are more likely to feel confident using them. In a context where many first-time internet users – and male "gatekeepers" – are concerned about women's exposure to "inappropriate" online content, the more limited and familiar features can provide some reassurance.[32] Smart feature phones can also incorporate voice command features to accommodate low literacy levels[33] – a key barrier for women.

30. Note, Figure 10 is calculated for a total of 23 use cases asked of respondents. This contrasts with Figure 9, for which the average number of use cases was calculated specifically for 14 mobile internet-based use cases. Only countries with sufficient sample sizes for analysis across all three handset types for both genders were included.
31. Smart feature phones provide a more affordable alternative to smartphones. While they do not have the full capabilities of a smartphone and retain the form factor of a feature phone, they typically support popular apps, such as YouTube and Facebook.
32. GSMA Connected Women. (2020). "Top 10 recommendations for reaching women with mobile across low- and middle-income countries", in *Reaching 50 Million Women with Mobile : A Practical Guide*.
33. Jeffrie, N. (2021). "Making mobile more accessible for people with reading and writing difficulties". *GSMA Mobile for Development Blog*.

Spotlight

# Women have less autonomy in paying for and selecting handsets

Mobile owners can acquire a handset by purchasing one (new or pre-owned) or receiving one as a gift or for work purposes. In all 10 survey countries, women mobile owners who had acquired a new device in the past year were less likely than their male counterparts to have paid for the device (see Figure 11) and to have chosen the model (see Figure 12).[34]

Figure 11

## Mobile owners who paid for their device themselves

*Percentage of mobile owners who acquired a new device in the past year*


Source: GSMA Consumer Survey, 2021
Base: Mobile owners aged 18+ who acquired a new device in the past year
Handsets could have been brand new or previously owned (including a gift from a friend/family member).
n=132 to 370 for women and n=201 to 614 for men

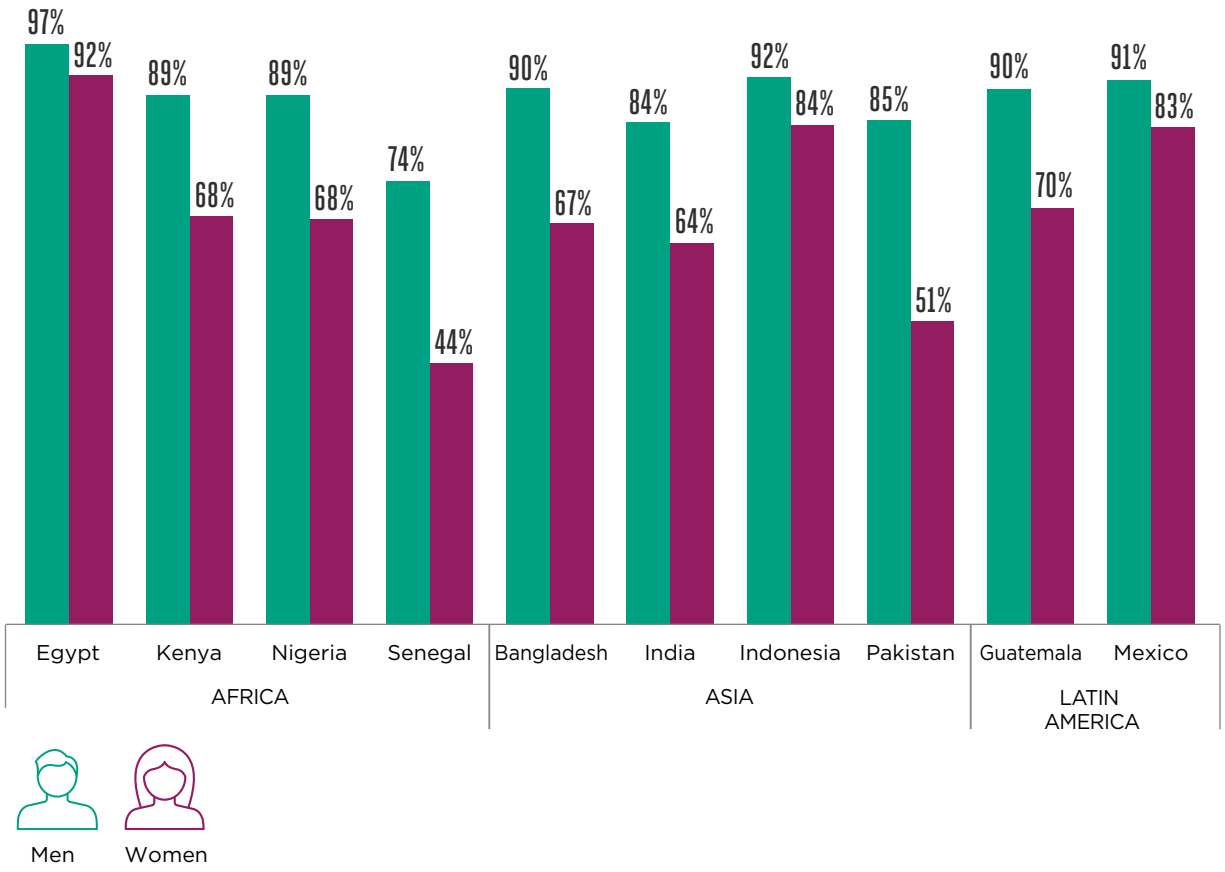
34. Here, 'new' indicates that a handset is new to the owner. The handset could have been brand new or pre-owned (including a gift from a friend/family member).

## **Women have less autonomy in paying for and selecting handsets** continued

Figure 12

### Mobile owners who chose their model themselves

*Percentage of mobile owners who acquired a new device in the past year*




Source: GSMA Consumer Survey, 2021
Base: Mobile owners aged 18+ who acquired a new device in the past year
Handsets could have been brand new or previously owned (including a gift from a friend/family member).
n=132 to 370 for women and n=201 to 614 for men

Even when women pay for their handset themselves, they are still less likely than men to have autonomy in selecting the model (see Figure 13). This is especially apparent in South Asia where, despite having paid for it themselves, only 82 per cent of women in India, 79 per cent of women in Bangladesh and 74 per cent of women in Pakistan selected the model. These findings highlight the complex effect of social norms on women's autonomy when it comes to mobile technology and the importance of addressing these barriers to achieve greater gender equality.

## Women have less autonomy in paying for and selecting handsets continued

Figure 13

### Mobile owners who chose the model of their mobile themselves – among those who paid for the device

*Percentage of mobile owners who acquired a new device in the past year and paid for it themselves*


Source: GSMA Consumer Survey, 2021
Base: Mobile owners aged 18+ who acquired a new device in the past year and paid for it themselves.
Handsets could have been brand new or previously owned (including a gift from a friend/family member).
n=66 to 246 for women and n=193 to 552 for men

# The growing awareness of mobile internet

Awareness of mobile internet is a critical step in the mobile internet user journey.[35] In some markets with the widest gender gaps in mobile internet use, a large proportion of both men and women are unaware of it, preventing them from progressing along the mobile internet user journey. Lower awareness of mobile internet among women is an important contributor to the gender gap in mobile internet use in LMICs.

Following strong growth in both men's and women's mobile internet awareness from 2017 to 2019, awareness levels are still relatively high in most of the survey countries, but growth has slowed (see Figure 14), even in countries where awareness remains relatively low, such as India and Bangladesh.

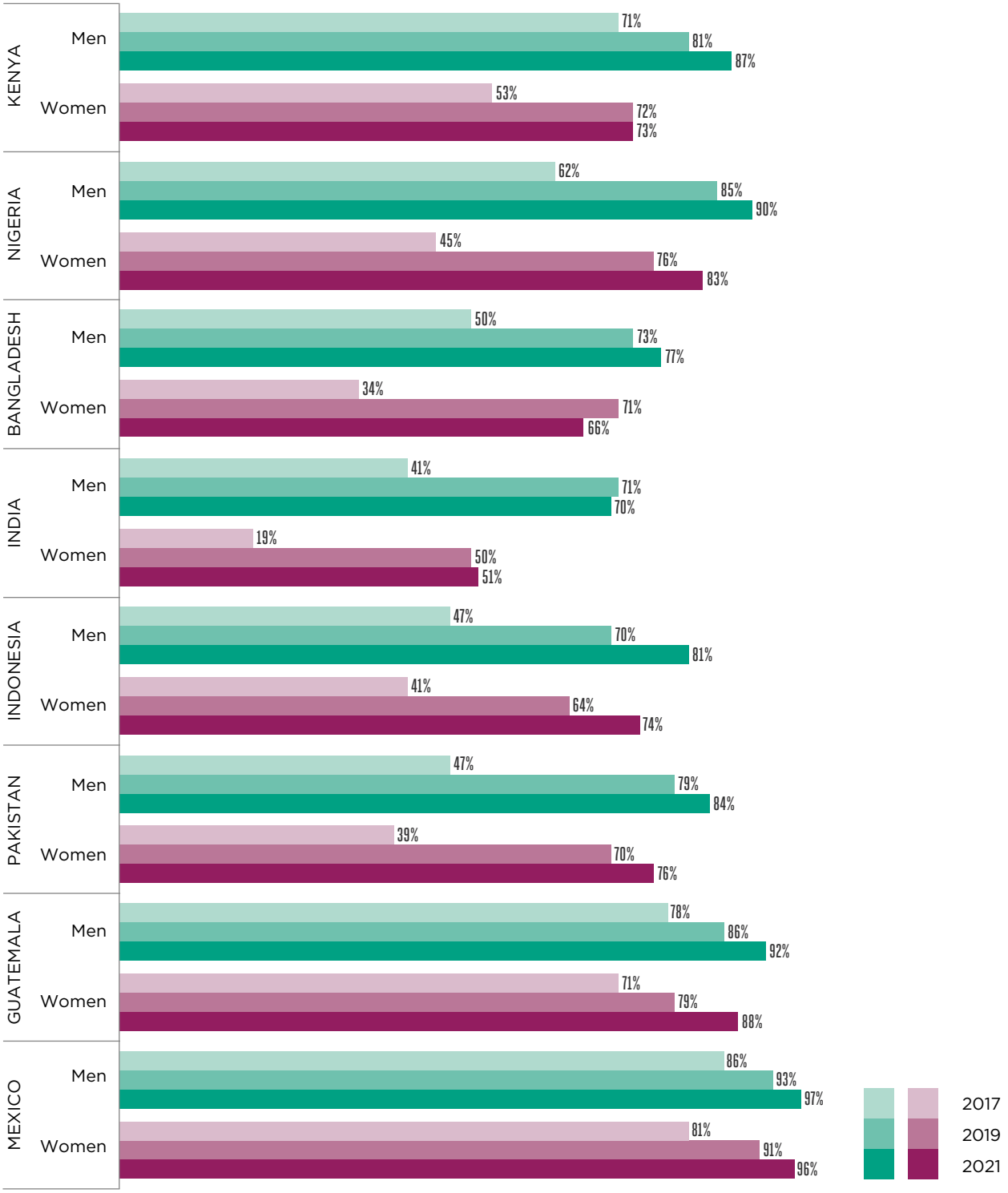
In all 10 survey countries, women are still less likely than men to be aware of mobile internet. Awareness remains a significant initial barrier to mobile internet adoption, particularly in India where half of women are still unaware of mobile internet. In half of the countries surveyed, more than a quarter of all women are still not aware of mobile internet and, by extension, the benefits it could bring to their lives.

35. Defined as either those who have used the internet on a mobile phone before or those who are both aware of the internet and that it can be used on a mobile phone.

Figure 14

# Awareness of mobile internet, 2017, 2019 and 2021

*Percentage of total adult population*




Source: GSMA Consumer Surveys 2017, 2019 and 2021
Base: Total population aged 18+
A person is considered aware of mobile internet if they have either used mobile internet before or have not used mobile internet, but are aware they can access the internet on a mobile phone.
n=493 to 1,191 for women and n=469 to 1,279 for men

# The gender gap in mobile internet use

From 2017 to 2020, there was rapid growth in the number of people using mobile internet. Women experienced disproportionately higher growth than men, narrowing the overall mobile internet gender gap across LMICs year on year, from 25 per cent in 2017 to 15 per cent in 2020. Across LMICs, from 2020 to 2021, an additional 59 million women started using mobile internet. However, this increase is much smaller than in previous years and is lower than growth for men over the same period.[36] As a result, in 2021, the gender gap in mobile internet use across LMICs widened slightly to 16 per cent (see Figure 15), meaning that women are now 16 per cent less likely than men to use mobile internet. This is equivalent to 264 million fewer women than men using mobile internet. This gender gap is particularly acute for certain groups of women, including those who have low literacy levels, are unemployed, have low incomes, are older than 55, live in a rural area or have a disability.[37]

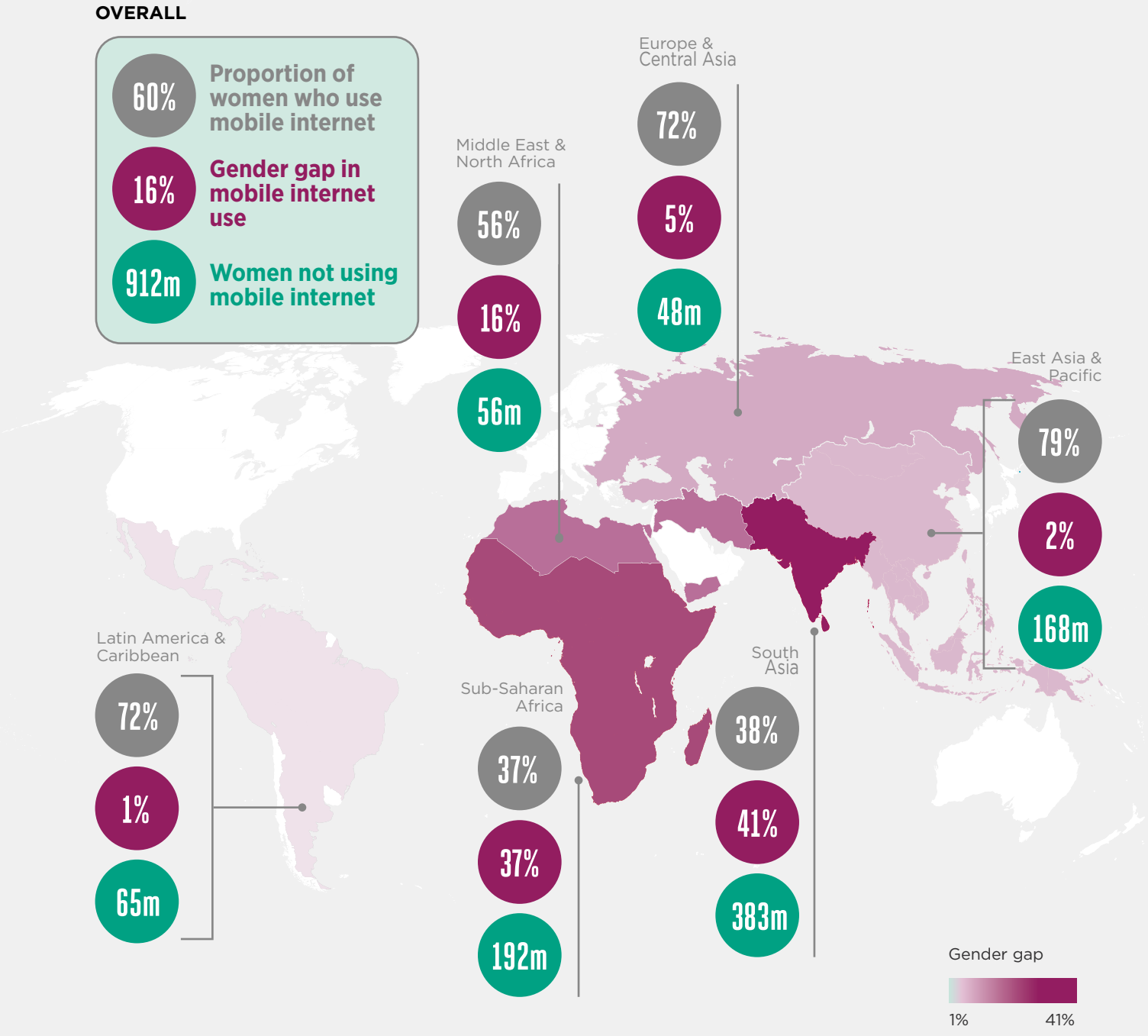
While the first year of the COVID-19 pandemic saw a continued reduction of the mobile internet gender gap across LMICs (driven by growth in South Asia), this was not the case in 2021. This year, the mobile internet gender gap remained largely flat across all regions, but in South Asia it has increased. Although South Asia has historically been the region with the widest mobile internet gender gap, in 2017 it began to close and by 2020 it had narrowed so much that it was on par with Sub-Saharan Africa for the first time. This year, however, progress has been reversed, with the gender gap in South Asia widening from 36 per cent to 41 per cent. This has largely been driven by India, where men's mobile internet use increased from 45 per cent to 51 per cent while women's remained flat at 30 per cent (see *Spotlight: India*). The mobile internet gender gap in Sub-Saharan Africa has remained flat each year since we first modelled it in 2017 (see Figure 1).

36. For comparison, from 2019 to 2020, there was an estimated increase of 110 million women and this was 108 million the year before.
37. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.

Figure 15

# Gender gap in mobile internet use in LMICs, by region

*Total adult population*




Source: GSMA Intelligence, 2022
The gender gap refers to how much less likely a woman is to use mobile internet than a man.
Mobile internet use is defined as a person having used the internet on a mobile phone at least once in the last three months.
Mobile internet users do not have to personally own a mobile phone, so the above figures also include those who used mobile internet on someone else's phone.
Based on survey results and modelled data for adults aged 18+.

# Understanding the barriers to mobile internet use

The persistent gender gap in mobile internet use makes it important to understand the barriers facing non-mobile users. In the survey countries, mobile users who were already aware of mobile internet but did not use it were asked whether certain barriers were preventing them from doing so (see Appendix 1 for more detail) and which barrier they considered most important (see Table 2).

Overall, a lack of literacy and digital skills is the top barrier preventing male and female mobile users who are aware of mobile internet from adopting it (see Table 2). This barrier ranks in the top three for male and female respondents across all 10 survey countries. As in previous years, the affordability of internet-enabled handsets also plays a significant role in preventing respondents from using mobile internet. Affordability is the second highest barrier overall across the countries surveyed.

There are variations in the top-reported barriers by country. For example, while literacy and digital skills are the main barrier reported by both male and female respondents in most of the survey countries, affordability also often ranks first for countries in Sub-Saharan Africa.

In general, the barriers preventing female and male mobile users who are aware of mobile internet from adopting it are quite similar. It is important to remember that women's lower rate of mobile internet access means there are millions more women who face these barriers, so addressing them will disproportionately benefit women.

**Literacy and digital skills** are ranked as the top barrier to mobile internet adoption by both male and female mobile users across survey countries who are already aware of mobile internet. This barrier is a composite of five sub-barriers that include functional literacy as well as mobile-related digital skills. Of these sub-barriers, difficulties with reading and writing are the biggest concern for both male and female respondents, followed by not knowing how to access the internet on a mobile or not having enough time to learn. Difficulties with reading and writing are a particularly significant concern for female respondents in Egypt, Nigeria, India, Pakistan and Guatemala. In Nigeria, for instance, 41 per cent of female mobile users who are aware of mobile internet but have not yet adopted it cite difficulties with reading and writing as an important barrier, compared to 32 per cent of men. In addition, in most of the survey countries, not knowing how to access internet on a mobile is a greater barrier for women than men. In Indonesia, for instance, 30 per cent of female mobile users who are aware of mobile internet but have not yet adopted it report this as an important barrier, compared to 23 per cent of their male counterparts. Tailored digital skills training courses are critical to supporting the use of mobile.[38]

**Affordability** is a critical barrier to mobile internet access for male and female users alike, particularly handset affordability.[39] Of the 19 individual factors considered in the survey, handset affordability is the single most-cited barrier. Affordability is ranked especially high in Sub-Saharan Africa where the price of a handset is the top barrier for both female and male respondents in Kenya, male respondents in Nigeria and female respondents in Senegal. In Kenya, 40 per cent of male mobile users and 39 per cent of female mobile users who are aware of mobile internet but have not used it cited the cost of a handset as the single most important barrier to mobile internet adoption. In Nigeria, this was the top barrier for 31 per cent of male respondents and 28 per cent of female respondents. Our qualitative research in Kenya and India revealed that the economic impact of COVID-19 has further marginalised those who are less affluent and educated. The pandemic continues to limit job prospects, income and ability to save, which inhibit access to smartphones and internet even more (see *Spotlight: Kenya* and *Spotlight: India*).

**Safety and security** remains a top barrier for many, ranking third overall. This barrier covers information security concerns, concerns around receiving unwanted contact from strangers and being exposed to harmful content. In Latin America, safety and security has consistently been a top barrier to mobile internet adoption for both male and female mobile users, and features again this year as the top barrier for male and female respondents in Mexico (see Table 2). It is also the second most important barrier for women in Guatemala, for men and women in Bangladesh and for men in Indonesia. In Mexico, for instance, female mobile users who are aware of mobile internet but do not use it cited harmful content and unwanted contact from strangers as the top two reasons why, and as more important than the other 17 individual barriers. It is important that stakeholders work collaboratively to ensure women and their families feel safe and secure when using the internet.

**Relevance** of mobile internet continues to be a barrier preventing both male and female mobile users from adopting mobile internet, particularly in Indonesia where 19 per cent of female respondents identified lack of perceived relevance as the top barrier.

**Access-related barriers** cover a wide range of issues, so they are not grouped as a composite. In several countries, lack of family approval is a major barrier preventing female mobile users who are aware of mobile internet from adopting it. Notably, lack of family approval is the second most reported top barrier to women's mobile internet use in Pakistan, where 21 per cent of women mobile users who are aware of mobile internet but do not use it, compared to only two per cent of their male counterparts. This had historically been the top-reported barrier for women in Pakistan, suggesting that mobile internet use among women may be becoming more socially acceptable or that other barriers have become relatively more important. Nevertheless, the high ranking highlights the importance of involving gatekeepers in efforts to increase women's mobile internet access.

38. For example, tailored for women or people with low literacy. See the GSMA Mobile Internet Skills Training Toolkit (MISTT).
39. GSMA Connected Society. (2022). *Making Internet-Enabled Phones More Affordable in Low- and Middle-Income Countries*.

Table 2

# Top barriers to mobile internet use in surveyed countries among mobile users who are aware of mobile internet but do not use it

*Based on the single most important barrier to using mobile internet identified by mobile users who are aware of mobile internet but have not used it in the last three months*

| Ranking | All countries | |
|---|---|---|
| | Women | Men |
| 1 | Literacy and digital skills | Literacy and digital skills |
| 2 | Affordability | Affordability |
| 3 | Safety and security | Safety and security |

| Ranking | Egypt | | Kenya | | Nigeria | | Senegal | |
|---|---|---|---|---|---|---|---|---|
| | Women | Men | Women | Men | Women | Men | Women | Men |
| 1 | Literacy and digital skills | Literacy and digital skills | Affordability | Affordability | Literacy and digital skills | Affordability | Affordability | Literacy and digital skills |
| 2 | Affordability | Affordability | Literacy and digital skills | Literacy and digital skills | Affordability | Literacy and digital skills | Literacy and digital skills | Affordability |
| 3 | Safety and security | Safety and security | Relevance | Relevance | Relevance | Safety and security | No access to internet-enabled phone | No access to internet-enabled phone |

| Ranking | Bangladesh | | India | | Indonesia | | Pakistan | |
|---|---|---|---|---|---|---|---|---|
| | Women | Men | Women | Men | Women | Men | Women | Men |
| 1 | Literacy and digital skills | Literacy and digital skills | Literacy and digital skills | Literacy and digital skills | Affordability | Affordability | Literacy and digital skills | Literacy and digital skills |
| 2 | Safety and security | Safety and security | Affordability | Affordability | Literacy and digital skills | Safety and security | Family disapproval | Relevance |
| 3 | Affordability | Affordability | Relevance | Safety and security | Relevance | Literacy and digital skills | Relevance | Affordability |

| Ranking | Guatemala | | Mexico | |
|---|---|---|---|---|
| | Women | Men | Women | Men |
| 1 | Literacy and digital skills | Affordability | Safety and security | Safety and security |
| 2 | Safety and security | Literacy and digital skills | Affordability | Literacy and digital skills |
| 3 | Affordability | Safety and security | Literacy and digital skills | Relevance |

Source: GSMA Consumer Survey, 2021
Base: Adults aged 18+ who have used a mobile phone in the last three months but have not used mobile internet in the last three months on any device, despite being aware of mobile internet (excludes mobile users who are not aware of mobile internet).
The barriers above are composite barriers. These composite barriers are aggregates (not averages) of the responses for between two and five sub-barriers (see Appendix 1). Access-related barriers are not grouped as a composite since they cover a disparate range of topics.
Rankings indicate the relative aggregated proportion of respondents who answered, "This is the most important reason stopping me" to the question, "Which one of those factors would you say is the single most important reason stopping you from using the internet on a mobile phone?"
n=47 to 173 for women and n=31 to 133 for men

# Understanding women's mobile use

Promoting equal uptake of mobile internet is not sufficient to meaningfully close the gender gap. Equal use is just as critical to ensure that women can reap the full benefits of all the services and opportunities that mobile internet has to offer. Here, another gender gap emerges, with female mobile owners using a less diverse range of use cases (see Figure 16).

Mobile owners were asked about 23 distinct use cases on a mobile phone, including basic mobile services, such as sending SMS messages and making voice calls, through to more complex, internet-based use cases, such as watching video content online (see Appendix 2). In all 10 survey countries, women mobile owners continue to use fewer of these use cases than men.

Overall, across the survey countries, the number of use cases female and male mobile owners reported continues to grow (see Figure 16).

Bangladesh has had the most notable increases in weekly use of value-added mobile services between 2020 and 2021, when women mobile owners increased their use of education services by 21 percentage points, paid entertainment services by 16 percentage points, health services by 14 percentage points and both government services and job applications by 12 percentage points.[40] These increases in a wide variety of use cases signal a promising shift in how mobile is providing value to female owners in Bangladesh.

Education has been an increasingly popular use case for mobile during the COVID-19 pandemic, particularly in Latin America. In Mexico, for instance, 60 per cent of female mobile owners and 54 per cent of male owners use their mobile to support their education, or that of a relative, on a weekly basis (see Appendix 2).

Despite an overall growth in the diversity of services used on a mobile phone across the survey countries, there are some important exceptions. In 2020, use cases in India became much more diversified, including for women. One source of this pronounced growth was the increased use of video calls to keep in touch with friends and family at the start of the COVID-19 pandemic. However, this year there has been no

40. See Appendix 2 for the current proportion of female mobile owners using these services.

increase in the number of use cases among women mobile owners on a weekly basis (see Figure 16). This suggests that the rapid growth experienced at the start of the COVID-19 pandemic has now stalled and consolidated (see *Spotlight: India*).

In Nigeria, both men and women mobile owners have seen some declines in certain use cases. Most notably, there was a seven percentage point decrease in women mobile owners who reported using social media on a weekly basis, and an eight percentage point decrease in those who reported playing free games on a weekly basis. In fact, the average number of mobile use cases on a weekly basis among women mobile owners dropped from 5.1 to 4.6 between 2020 and 2021 while use cases for men remained flat at 6.4 (see Figure 16). This concerning decline among women mobile owners is the only material drop in mobile usage and highlights the importance of continuing to track this type of gender-disaggregated data.

Figure 16

## Average number of mobile use cases per week among male and female mobile owners, 2020–2021


Source: GSMA Consumer Surveys 2020 and 2021
Base: Mobile owners aged 18+
A mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM) and uses it at least once a month.
Respondents may have engaged in some use cases on a phone other than their own. Internet-based use cases were asked only of those who reported having used the internet on a mobile or other device in the past. The numbers in this graph reflect only those use cases performed on a mobile device.
n=268 to 685 for women and n=390 to 944 for men

Spotlight

# India: progress on closing the mobile gender gap has stalled

While smartphone ownership and mobile internet use in India have grown steadily for men since 2019, the story is different for women (see Figures 17 and 18). Although there was a significant jump from 2019 to 2020 when market conditions and COVID-related lockdowns helped provide justification for women to obtain smartphones and use mobile internet,[41] in the past year there has been no growth in the proportion of women using mobile internet and almost no growth in smartphone ownership. In comparison, the proportion of Indian men using mobile internet in this same period grew from 45 per cent to 51 per cent, and smartphone ownership grew from 41 per cent to 49 per cent. Our qualitative research found that most female respondents who had acquired a smartphone in the last two years had acquired it in the early days of the COVID-19 pandemic when lockdowns were imposed.

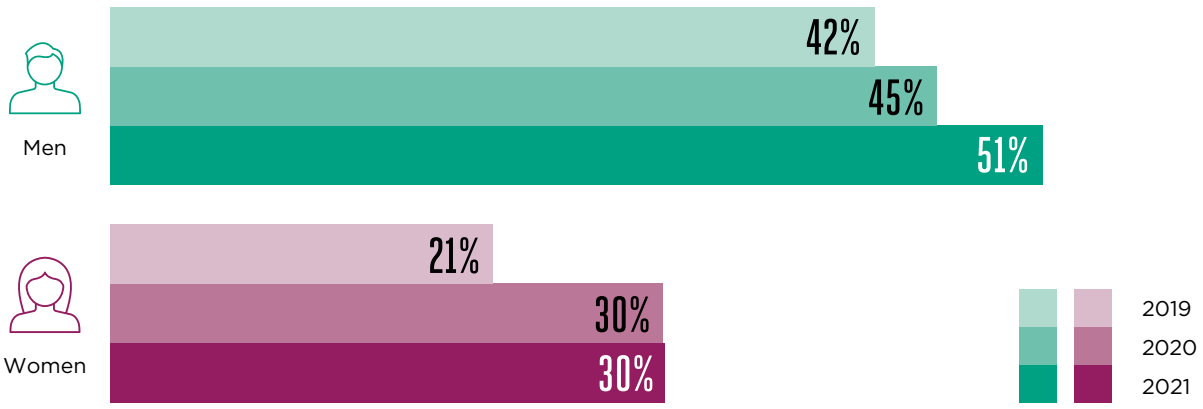
This recent lack of growth in smartphone ownership among women is significant, since women who own a smartphone in India have significantly higher awareness and adoption of mobile internet, and use it for a wider range of use cases than either basic or feature phone users. This is true even in India where feature phone owners use their phones for a much wider range of use cases than in other countries (see *Spotlight: The impact of feature and smart feature phones*).

> ***"Schools were closed during lockdown so we had to face some difficulties in studying. I purchased a phone 1 year ago and I am studying with the help of that."*** Female, aged 18–24, rural, Uttar Pradesh

Figure 17

## Mobile internet use in India, 2019–2021

*Percentage of total adult population*




Source: GSMA Consumer Surveys 2019, 2020 and 2021
Base: Total population aged 18+
Mobile internet users do not have to personally own a mobile phone.
n=966 to 1,099 for women and n=1,131 to 1,279 for men

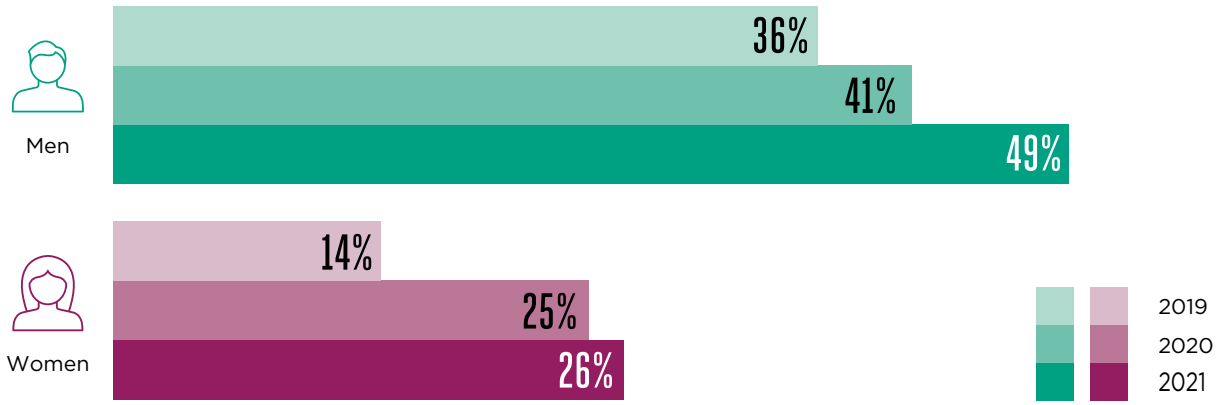
41. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.

## India: progress on closing the mobile gender gap has stalled continued

Figure 18

### Smartphone ownership in India, 2019–2021

*Percentage of total adult population*




Source: GSMA Consumer Surveys 2019, 2020 and 2021
Base: Total population aged 18+
n=966 to 1,099 for women and n=1,131 to 1,279 for men

The trend in the number of use cases performed by women mobile owners in India follows a similar story to that of women's smartphone ownership, increasing substantially from 3.2 use cases per week in 2019 to 4.9 in 2020 and then plateauing (see Figure 19).

In last year's report, we highlighted the increase in use cases for women, which were driven in part by lockdown measures in the early days of the pandemic, such as video calls, education and income-generating opportunities.

> ***"I learnt many things from the internet. I watched and did sewing. I already made food at home, it became better. I started operating a mobile, which is a big achievement."***
> Female, aged 35–44, urban, Uttar Pradesh

However, this year, rather than adopting even more use cases, female users seem to have consolidated their skills, remaining within the confines of the same socially acceptable use cases. In comparison, their male counterparts have continued to experience growth, albeit subdued (an average of 7.0 types of use cases on a weekly basis compared to 6.7 in 2020).

## India: progress on closing the mobile gender gap has stalled continued

Figure 19

### Average number of mobile use cases performed per week by male and female mobile owners in India, 2019–2021


Source: GSMA Consumer Surveys 2019, 2020 and 2021
Base: Mobile owners aged 18+
Respondents may have engaged in some use cases on a phone other than their own. Internet-based use cases were asked only of those who reported having used the internet on a mobile or other device in the past.
n=655 to 693 for women and n=921 to 1,006 for men

Last year, video calls were identified as a growing use case in India during the pandemic. While in 2019, 16 per cent of women mobile owners were making video calls on a weekly basis, this more than doubled to 34 per cent in 2020.[42] In 2021, this remained steady at 34 per cent while the percentage of men using video calls continued to grow. Similarly, the proportion of women mobile owners using social networking on a weekly basis had increased substantially between 2019 and 2020, from 16 per cent to 28 per cent, but remained flat in 2021 while men's usage continued to grow. The impact of this initial growth was reflected in our qualitative research, with respondents stating that their mobile internet use spanned more life needs than before the COVID-19 pandemic. Promisingly, much of the growth at the start of the pandemic has consolidated and not regressed, but continued focus is needed to prevent gender gaps from widening as they have in 2021.

> ***"We can talk to people who live far from us, we can learn many things, like making mehendi designs. Previously we had to go to learn things, now we can do that by sitting at home. It saves time and money."*** Female, aged 25–34, urban, Uttar Pradesh

> ***We have now entered the world of mobile phones. Earlier we were using them only for talking. Nowadays we use them for everything."*** Female, aged 35–44, urban, Tamil Nadu

Our qualitative research in India highlighted two broad socio-demographic groups who experienced these dynamics very differently. Most women who had adopted smartphones and mobile internet over the past two years are more affluent and better educated. Some women in this group found that their income levels and digital skills were improving as a result of using mobile internet. Meanwhile, those who are less affluent and have lower levels of education tended to find they were still being digitally excluded. For this group, the COVID-19 pandemic continues to limit job prospects, access to government services, income and ability to save for sophisticated handsets.

42. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.

# Recommendations

Access to a mobile phone and mobile internet provides women with a range of opportunities to improve their lives, including with information and services related to income generation, education, health, finance, safety and personal well-being. These opportunities are even more critical as the COVID-19 pandemic continues to impact health, livelihoods and economies around the world, and disproportionately affecting women.[43] However, gender gaps in both access to and use of mobile technology persist and, in some contexts, have been exacerbated.

This year's data is a clear call to action for greater attention and investment to ensure that progress in reducing the mobile gender gap is not further stalled or reversed. Without concerted action, the achievements seen to date are at risk of deteriorating and women will be left further behind in an increasingly connected world. Addressing the mobile gender gap is not just a significant opportunity for women, but also their families, society, businesses, and economies. Women's lower levels of mobile ownership and use not only reflect existing gender inequalities, but also threaten to compound them.

The mobile gender gap is not going to close on its own and requires informed and targeted action from all stakeholders working together. The following recommendations are for four types of organisations: mobile network operators (MNOs), internet companies, policymakers and regulators and the development community (see Figure 20). The actions of these stakeholders will be most effective if they are coordinated and grounded in an understanding of the country-level barriers to mobile ownership and internet use affecting a disproportionate number of women in LMICs.

These recommendations are not intended to be comprehensive or exhaustive. Rather, they highlight some important areas for stakeholders to consider when taking steps to address the mobile gender gap. There is no one-size-fits-all solution; a multifaceted approach will be needed to accelerate mobile adoption and use among women. Actions are also needed to address the structural barriers and inequalities underpinning the mobile gender gap, including disparities between men and women in terms of income and education, as well as restrictive and harmful social norms. There are also more detailed recommendations on what MNOs and other stakeholders can do to reach more female customers in LMICs with mobile in the *GSMA Connected Women report, Reaching 50 Million Women with Mobile: A Practical Guide.* [44]

## Recommendations for all stakeholders to close the mobile gender gap

Ensure there is a focus on gender equality and reaching women at an organisational and policy level through senior leaders championing the issue and setting specific gender equity targets.

Understand the mobile gender gap by improving the quality and availability of gender-disaggregated data, and understanding women's needs and the barriers they face to mobile ownership and use.

Explicitly address women's needs, circumstances and challenges in the design and implementation of mobile-related products, services, interventions and policies. This includes addressing the barriers women face related to access, affordability, safety and security, knowledge and skills, and the availability of relevant content, products and services.

Collaborate and partner with different stakeholders to address the mobile gender gap. Targeted intervention is needed from industry, policymakers, the development community and other stakeholders to ensure that women are no longer left behind.

43. Lindsey, D. (20 April 2020). "Why COVID-19 has increased the urgency to reach women with mobile technology". *GSMA Mobile for Development Blog.*
44. GSMA Connected Women. (2020). "Top 10 recommendations for reaching women with mobile across low- and middle-income countries", in *Reaching 50 Million Women with Mobile : A Practical Guide.*

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Figure 20

## Recommendations for closing the mobile gender gap in low- and middle-income countries, by stakeholder type and barrier addressed

| Barrier addressed by the action | Mobile operators | Internet companies | Policymakers and regulators[46] | Development community |
|---|---|---|---|---|
| **Affordability** | **Support industry efforts to lower the cost of internet-enabled mobile phones, especially smartphones.** E.g. Partner to offer entry-level smartphones, or smart feature phones, to customers at a reduced cost. | **Partner with MNOs to address handset affordability.** E.g. Offer subsidies for low-cost smartphones to encourage mobile internet adoption. | **In markets where they exist, review the impact of Universal Service Funds (USFs) on the affordability of mobile and mobile internet services for women.** When administered ineffectively, USFs can be counterproductive in that, by effectively taxing customers, they actually serve to raise the affordability barrier.[47] The funds should be targeted, time-bound and managed transparently. They should be allocated in a competitive and technically neutral way, in consultation with the industry, with a view to target projects with the highest possible impact. Where appropriate, this could include projects focusing on the adoption of mobile and mobile internet among women. | **Partner with and support the mobile ecosystem on projects that promote affordable handsets.** E.g. Handset financing schemes provided through local NGO networks and grassroots networks led by women, such as women's savings groups. |
| **Literacy and digital skills** | **Design solutions to reduce the burden of the "one-off" cost of smartphones for consumers, making them more affordable.** E.g. Provide microloans or instalment repayment plans with third parties. | **Consider how to adapt products and services to make them more affordable without compromising quality.** E.g. Make "data-light" versions of apps or lightweight operating systems to help reduce the cost for more price-sensitive users. | **Review sector-specific taxes and fees that may exacerbate the cost barrier to mobile ownership and use,** reduce investment and have a disproportionate impact on women. These include taxes on airtime, devices and social media usage. | **Fund and/or facilitate mobile-based digital literacy training for women.** E.g. Use trusted local community and peer networks to deliver digital skills training to women, potentially in partnership with an MNO. |
| **Relevance** | **Develop clear and transparent pricing for credit and data, and introduce more creative pricing to appeal to price-sensitive customers.** E.g. Encourage low-cost or free trial of mobile internet services through promotional deals or extend the length of data packages. | **Implement digital skills training, paying attention to women's needs, interests and circumstances.** E.g. Through partnerships or via products and services. | **Implement and support initiatives to help reduce the price of devices and services for consumers.** E.g. Support financial institutions and local savings groups to provide risk capital for handset loans for women at lower interest rates, subsidise handsets for marginalised populations in partnership with the private sector and enable innovative data pricing strategies to help providers reach more women. | **Work to address the negative influence of social norms.** This includes those that restrict women's access to mobile technology by challenging misconceptions and demonstrating the positive and relevant use cases of mobile. |
| **Safety and security** | **Improve customers' digital skills, including providing assistance to new users who may need additional support and paying attention to women's needs, interests and circumstances.** E.g. Train and incentivise mobile agents to provide digital skills training and support to customers, such as using the GSMA Mobile Internet Skills Training Toolkit.[45] | **Understand and incorporate the content, features, channels and services that women in your market find useful and relevant.** E.g. Make relevant video content in local languages more available and accessible. | **Invest in public education and digital literacy initiatives that increase the digital literacy and confidence of women and girls** of all ages, levels of education, income and familiarity with mobile and the internet. E.g. Mainstream mobile and digital skills in school curricula. | **Raise awareness of the threats preventing women from accessing and using the internet and how they can be addressed.** E.g. Awareness campaigns, digital literacy programmes and formal education programmes/curriculum. |
| **Access** | **Consider incentivising women's social networks to help teach them how to use mobile handsets and services.** E.g. Leverage existing customers, friends and family, savings groups, community groups, etc. | **Help women to navigate the internet confidently and safely and to feel secure and in control when using internet apps and services.** E.g. Provide training in how to avoid and respond to negative behaviours and threats, and develop tools that allow users to easily and transparently control their privacy and security settings and manage data use. | **Understand women's needs, goals and aspirations for using mobile when designing digital skills programming.** E.g. Undertake an assessment of women's needs and life goals segmented by age, educational attainment, income, urban and rural settings or other relevant factors. | **Develop and support initiatives to increase women's access to and use of mobile and mobile internet.** Also consider how mainstream projects and interventions can be adapted to advance digital inclusion for women. |
| | **Communicate the relevance of mobile ownership and mobile internet use in women's daily lives.** E.g. Showcase relatable use cases in marketing targeted at women and/or ensure that women are featured in more broadcast advertising campaigns as active users of the service. | **Develop apps, services and other measures to help women feel safer online.** E.g. 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. | **Encourage the development of an ecosystem of apps and services that meet the needs, preferences and capabilities of women and girls.** | **Raise awareness of the barriers to women's mobile ownership and use, and advocate for stakeholders to take action to address the mobile gender gap.** |
| | **Develop applications and services that can help increase safety for women.** E.g. Develop "safety" services like apps to help women alert contacts in an emergency or call-blocking services. | **Ensure mobile apps and operating systems are accessible for women who are less confident and literate.** E.g. Consider local languages, clear user menus with fewer steps, simplified content, simple terminology and a shorter sign-up process. Use icons/symbols/pictures/videos and comic-style stories in addition to (or instead of) text. | **Make public services available online** to demonstrate the value and relevance of the internet to women and their families, as well as support more efficient delivery of government services. | |
| | **Consider the role of gatekeepers in facilitating women's mobile ownership and use.** E.g. Demonstrate through marketing the value of women having access to mobiles and mobile internet. | **Develop and incorporate tools to improve the usability of digital services for women with low literacy levels or who only speak their local language.** E.g. Integrate voice search, chat bots or text-to-speech. | **Raise awareness of relevant content and services** available via mobile phones that can benefit women. | |
| | **Ensure agent networks are accessible for women.** E.g. Ensure locations and operating hours are accessible for women, and consider recruiting female agents in settings where the roles of men and women are very different and women feel more comfortable interacting with other women. | | **Raise awareness of the threats preventing women and girls from accessing and using the internet and how these threats can be addressed or reduced.** E.g. Awareness campaigns, digital literacy programmes and formal education programmes/curriculum (targeting both men and women). | |
| | **Ensure marketing and services are accessible for women and those with lower levels of literacy, digital skills and awareness and understanding of the internet.** E.g. Offer content and advertising through channels that are accessible to women in local languages. Use simple messaging, avoid technical jargon and consider the use of pictures, icons and videos. | | **Review existing legal and policy frameworks to ensure they recognise digital harassment and make it easy and safe to report online abuse.** | |
| | | | **Build institutional capacity and mechanisms to monitor, investigate and prosecute reports of online abuse.** | |
| | | | **Create an enabling policy and regulatory environment to help women purchase mobile services.** E.g. Review your Know Your Customer (KYC) requirements, ID registration policy and mobile agent recruitment regulation to ensure they do not exclude women. | |
| | | | **Raise awareness of the benefits of mobile for women to help address social norms that restrict women's access and use of mobile.** E.g. Challenge misconceptions and help gatekeepers to understand the benefits of mobile for women. | |
| | | | **Ensure digital government services are accessible for those with lower literacy and digital skills.** E.g. Provide an interactive voice response (IVR) help line, use simple terminology, local languages, icons/symbols/pictures/videos and comic-style stories in addition to (or instead of) text. | |

45. GSMA Mobile Internet Skills Training Toolkit (MISTT): https://www.gsma.com/mobilefordevelopment/connected-society/mistt/

46. More detailed recommendations on how policymakers can increase mobile adoption more broadly among the undeserved can be found here: https://www.gsma.com/mobilefordevelopment/resources/accelerating-mobile-internet-adoption-policy-considerations.

47. For more details, please see: https://www.gsma.com/publicpolicy/mobilepolicyhandbook/business-environment#universal-service-funds.

# **Appendix 1:** Barriers to mobile ownership and mobile internet use

In each of the 10 survey countries:

1. Respondents who did not own a mobile phone were asked to identify the barriers preventing them from owning one.

2. Respondents who used a mobile phone and were aware of mobile internet but were not using it, were asked to identify the barriers preventing them from using mobile internet.

Respondents selected barriers from a pre-defined list during a face-to-face quantitative survey. For both mobile ownership (see Figure 21 and Figure 22) and mobile internet use (see Figure 23 and Figure 24), respondents were first asked to identify all relevant barriers, then to identify those that were most important and, finally, to identify the single most important barrier.

Strongly related or thematically overlapping barriers were grouped into composites that were used to calculate country-level and overall rankings of barriers.[48]

The results may not fully reflect the importance of subtle, underlying structural impediments, particularly those grounded in social norms that disproportionately affect women and might not be reported directly by respondents, such as the perceived inappropriateness of spending money on mobile services for themselves.


48. These composite barriers are aggregates (not averages) of responses for between two and five sub-barriers. Access-related barriers are not grouped as a composite as they cover a disparate range of topics. 'All countries' barriers (Table 1 and top of Table 2) were calculated by averaging country-level data for the 10 countries surveyed.

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Figure 21

## Top barrier to owning a mobile phone

*Percentage of non-mobile owners who identified the following as the single most important barrier to owning a mobile.*

| | | AFFORDABILITY | | | | LITERACY AND DIGITAL SKILLS | | | | RELEVANCE | | SAFETY AND SECURITY | | | | | | ACCESS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HANDSET COST | | CREDIT COST | | DO NOT KNOW HOW TO USE A MOBILE | | READING/WRITING DIFFICULTIES | | MOBILE IS NOT RELEVANT FOR ME | | PERSONAL SAFETY | | STRANGERS CONTACTING ME | | INFORMATION SECURITY | | BATTERY CHARGING | | NETWORK COVERAGE | | FAMILY DOES NOT APPROVE | | ACCESS TO AGENT SUPPORT | | ID | |
| | | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W |
| AFRICA | Egypt | 23% | 13% | 9% | 4% | 9% | 6% | 18% | 21% | 10% | 6% | 3% | 2% | 3% | 10% | 7% | 12% | 1% | 1% | 2% | 4% | 9% | 14% | 8% | 7% | 0% | 0% |
| | Kenya | – | 54% | – | 4% | – | 4% | – | 13% | – | 7% | – | 0% | – | 1% | – | 1% | – | 3% | – | 3% | – | 2% | – | 2% | – | 6% |
| | Nigeria | – | 35% | – | 6% | – | 7% | – | 26% | – | 0% | – | 0% | – | 2% | – | 5% | – | 0% | – | 5% | – | 10% | – | 2% | – | 2% |
| | Senegal | 46% | 45% | 8% | 5% | 9% | 8% | 13% | 14% | 3% | 3% | 2% | 3% | 1% | 1% | 0% | 1% | 2% | 4% | 4% | 6% | 3% | 4% | 3% | 3% | 7% | 2% |
| ASIA | Bangladesh | 16% | 19% | 2% | 2% | 13% | 13% | 18% | 17% | 20% | 12% | 2% | 8% | 7% | 2% | 5% | 3% | 2% | 4% | 9% | 2% | 2% | 13% | 2% | 0% | 3% | 5% |
| | India | 18% | 15% | 7% | 5% | 8% | 12% | 12% | 23% | 5% | 4% | 9% | 3% | 12% | 4% | 5% | 3% | 3% | 6% | 12% | 8% | 1% | 4% | 4% | 2% | 4% | 5% |
| | Indonesia | 25% | 27% | 6% | 10% | 25% | 16% | 9% | 14% | 15% | 9% | 1% | 2% | 5% | 2% | 3% | 3% | 0% | 0% | 7% | 7% | 0% | 3% | 1% | 0% | 3% | 5% |
| | Pakistan | 14% | 11% | 3% | 3% | 10% | 7% | 27% | 23% | 8% | 9% | 2% | 2% | 6% | 7% | 6% | 1% | 5% | 0% | 10% | 1% | 3% | 35% | 3% | 0% | 4% | 1% |
| LATIN AMERICA | Guatemala | 28% | 40% | 8% | 2% | 6% | 5% | 10% | 11% | 4% | 5% | 16% | 13% | 13% | 8% | 10% | 9% | 1% | 2% | 0% | 1% | 1% | 1% | 0% | 1% | 2% | 1% |
| | Mexico | – | 20% | – | 7% | – | 8% | – | 6% | – | 14% | – | 7% | – | 9% | – | 12% | – | 3% | – | 8% | – | 3% | – | 4% | – | 0% |

Source: GSMA Consumer Survey, 2021
Base: Non-mobile owners aged 18+
Percentages indicate the proportion of respondents who answered, "This is the most important reason stopping me" to the question, "Which one of those factors would you say is the single most important reason stopping you from having a mobile phone or SIM card, connected to a mobile operator's network?"
Cells in grey reflect where sample sizes were below 30 and therefore insufficient.
n=45 to 224 for women and n=55 to 134 for men

M Men W Women

Lowest barrier cited in that country — Highest barrier cited in that country

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Figure 22

## Important barriers to mobile ownership

*Percentage of non-mobile owners who identified the following as one of the important barriers to owning a mobile.*

| | | AFFORDABILITY | | | | LITERACY AND DIGITAL SKILLS | | | | RELEVANCE | | SAFETY AND SECURITY | | | | | | ACCESS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HANDSET COST | | CREDIT COST | | DO NOT KNOW HOW TO USE A MOBILE | | READING/WRITING DIFFICULTIES | | MOBILE IS NOT RELEVANT FOR ME | | PERSONAL SAFETY | | STRANGERS CONTACTING ME | | INFORMATION SECURITY | | BATTERY CHARGING | | NETWORK COVERAGE | | FAMILY DOES NOT APPROVE | | ACCESS TO AGENT SUPPORT | | ID | |
| | | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W |
| AFRICA | Egypt | 41% | 34% | 34% | 22% | 21% | 28% | 49% | 38% | 27% | 28% | 12% | 17% | 13% | 25% | 15% | 27% | 13% | 19% | 11% | 16% | 14% | 19% | 15% | 16% | 7% | 2% |
| | Kenya | 68% | 56% | 9% | 9% | 7% | 8% | 19% | 21% | 12% | 11% | 9% | 4% | 8% | 3% | 8% | 3% | 9% | 12% | 0% | 8% | 6% | 5% | 0% | 6% | 3% | 11% |
| | Nigeria | – | 43% | – | 17% | – | 17% | – | 40% | – | 11% | – | 2% | – | 4% | – | 8% | – | 7% | – | 7% | – | 12% | – | 2% | – | 8% |
| | Senegal | 47% | 50% | 12% | 14% | 15% | 17% | 22% | 30% | 4% | 6% | 7% | 5% | 9% | 5% | 4% | 6% | 9% | 8% | 11% | 9% | 5% | 7% | 7% | 8% | 8% | 10% |
| ASIA | Bangladesh | 19% | 21% | 7% | 4% | 17% | 15% | 22% | 18% | 20% | 14% | 5% | 8% | 8% | 6% | 7% | 2% | 3% | 6% | 13% | 6% | 3% | 14% | 5% | 3% | 5% | 6% |
| | India | 32% | 37% | 9% | 16% | 10% | 27% | 15% | 35% | 12% | 12% | 17% | 9% | 19% | 12% | 12% | 14% | 9% | 17% | 18% | 20% | 2% | 8% | 8% | 9% | 5% | 9% |
| | Indonesia | 40% | 37% | 12% | 17% | 33% | 31% | 9% | 21% | 18% | 21% | 3% | 5% | 9% | 7% | 13% | 7% | 2% | 3% | 10% | 14% | 3% | 8% | 2% | 3% | 4% | 7% |
| | Pakistan | 23% | 19% | 17% | 8% | 20% | 18% | 31% | 31% | 18% | 20% | 21% | 5% | 13% | 14% | 16% | 8% | 12% | 3% | 22% | 6% | 11% | 35% | 10% | 1% | 15% | 3% |
| LATIN AMERICA | Guatemala | 43% | 63% | 25% | 20% | 12% | 29% | 19% | 27% | 8% | 11% | 32% | 40% | 28% | 28% | 26% | 27% | 14% | 9% | 13% | 9% | 4% | 4% | 5% | 11% | 8% | 10% |
| | Mexico | 26% | 32% | 20% | 21% | 18% | 12% | 10% | 15% | 13% | 13% | 16% | 13% | 28% | 20% | 26% | 25% | 3% | 7% | 19% | 8% | 3% | 5% | 17% | 11% | 7% | 5% |

Source: GSMA Consumer Survey, 2021
Base: Non-mobile owners aged 18+
Percentages indicate the relative proportion of non-mobile owners who responded, "This is one of the most important reasons stopping me" to the question, "Which one of those factors would you say are the most important reasons stopping you from having a mobile phone or SIM card, connected to a mobile operator's network?"
Cells in grey reflect where sample sizes were below 30 and therefore insufficient.
n=44 to 224 for women and n=30 to 162 for men

M W
Men Women

Lowest barrier cited in that country — Highest barrier cited in that country

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Figure 23

## Top barrier to mobile internet use

*Percentage of mobile users who are aware of mobile internet but do not use it, and who identified the following as the top barrier to using mobile internet.*

| | | AFFORDABILITY | | | | LITERACY AND DIGITAL SKILLS | | | | | | | | | | RELEVANCE | | | | SAFETY AND SECURITY | | | | | | ACCESS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HANDSET COST | | DATA COST | | DO NOT KNOW HOW TO ACCESS INTERNET ON A MOBILE | | DO NOT KNOW HOW TO USE A MOBILE | | READING/ WRITING DIFFICULTIES | | DO NOT HAVE TIME TO LEARN HOW TO ACCESS INTERNET ON A MOBILE | | NOT SUFFICIENT SUPPORT IN LEARNING TO USE INTERNET | | INTERNET IS NOT RELEVANT FOR ME | | INSUFFICIENT CONTENT IN LOCAL LANGUAGE | | HARMFUL CONTENT (SELF/FAMILY) | | STRANGERS CONTACTING ME | | INFORMATION SECURITY | | INTERNET DRAINS MY BATTERY | | NETWORK COVERAGE | | FAMILY DOES NOT APPROVE | | ACCESS TO AGENT SUPPORT | | SLOW CONNECTION/ CANNOT DO WHAT I WANT | | NO ACCESS TO INTERNET ENABLED PHONE | | HARD TO FIND WHERE TO BUY INTERNET ENABLED PHONE | |
| | | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W |
| AFRICA | Egypt | 19% | 17% | 8% | 4% | 8% | 1% | 6% | 8% | 14% | 20% | 2% | 4% | 3% | 4% | 8% | 8% | 1% | 1% | 5% | 7% | 4% | 6% | 3% | 3% | 0% | 6% | 1% | 2% | 11% | 6% | 0% | 1% | 2% | 0% | 3% | 2% | 1% | 0% |
| | Kenya | 40% | 39% | 4% | 5% | 1% | 6% | 0% | 2% | 11% | 9% | 6% | 6% | 5% | 1% | 11% | 8% | 1% | 4% | 5% | 2% | 2% | 4% | 1% | 1% | 2% | 2% | 2% | 0% | 0% | 2% | 0% | 0% | 5% | 2% | 3% | 4% | 2% | 2% |
| | Nigeria | 31% | 28% | 8% | 4% | 2% | 6% | 2% | 3% | 23% | 30% | 5% | 5% | 0% | 2% | 7% | 8% | 0% | 2% | 1% | 2% | 5% | 1% | 3% | 1% | 2% | 0% | 7% | 2% | 1% | 5% | 0% | 1% | 1% | 0% | 1% | 1% | 1% | 1% |
| | Senegal | 17% | 32% | 3% | 6% | 11% | 12% | 8% | 6% | 19% | 9% | 5% | 1% | 0% | 2% | 9% | 3% | 0% | 1% | 4% | 0% | 2% | 1% | 2% | 2% | 0% | 5% | 2% | 2% | 0% | 2% | 0% | 3% | 0% | 4% | 17% | 6% | 0% | 1% |
| ASIA | Bangladesh | 14% | 12% | 7% | 6% | 5% | 4% | 11% | 6% | 10% | 7% | 3% | 5% | 0% | 2% | 7% | 7% | 0% | 4% | 9% | 8% | 10% | 10% | 6% | 4% | 3% | 3% | 2% | 4% | 5% | 11% | 1% | 0% | 3% | 2% | 3% | 3% | 1% | 2% |
| | India | 15% | 6% | 7% | 14% | 5% | 7% | 0% | 4% | 6% | 16% | 9% | 3% | 1% | 4% | 8% | 11% | 4% | 1% | 3% | 2% | 8% | 2% | 7% | 4% | 8% | 6% | 4% | 7% | 3% | 3% | 1% | 1% | 5% | 6% | 2% | 1% | 2% | 2% |
| | Indonesia | 30% | 25% | 7% | 5% | 13% | 17% | 0% | 2% | 0% | 0% | 2% | 4% | 1% | 0% | 8% | 17% | 0% | 2% | 3% | 5% | 5% | 3% | 9% | 7% | 4% | 0% | 9% | 2% | 3% | 5% | 0% | 0% | 1% | 2% | 0% | 3% | 0% | 0% |
| | Pakistan | 7% | 9% | 3% | 1% | 5% | 1% | 4% | 4% | 32% | 24% | 11% | 3% | 3% | 2% | 10% | 12% | 2% | 1% | 4% | 3% | 1% | 5% | 2% | 3% | 1% | 2% | 4% | 1% | 2% | 21% | 3% | 1% | 0% | 2% | 2% | 2% | 2% | 2% |
| LATIN AMERICA | Guatemala | 26% | 16% | 6% | 4% | 7% | 2% | 9% | 6% | 6% | 15% | 0% | 5% | 7% | 6% | 3% | 6% | 0% | 0% | 6% | 15% | 9% | 4% | 13% | 9% | 0% | 4% | 3% | 0% | 3% | 0% | 0% | 2% | 3% | 4% | 0% | 0% | 0% | 0% |
| | Mexico | 3% | 11% | 0% | 12% | 0% | 4% | 4% | 4% | 6% | 2% | 7% | 6% | 6% | 0% | 9% | 6% | 0% | 0% | 13% | 17% | 8% | 18% | 13% | 7% | 9% | 2% | 9% | 4% | 3% | 0% | 0% | 2% | 0% | 2% | 7% | 0% | 3% | 0% |

Source: GSMA Consumer Survey, 2021
Base: Adults aged 18+ who have used a mobile phone in the last three months but have not used mobile internet in the last three months, despite being aware of mobile internet (excludes mobile users who are not aware of mobile internet).
Percentages indicate the proportion of respondents who answered, "This is the most important reason stopping me" to the question, "Which one of those factors would you say is the single most important reason stopping you from using the internet on a mobile phone?"
n=47 to 173 for women and n=31 to 133 for men

M Men
W Women

Lowest barrier cited in that country — Highest barrier cited in that country

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Figure 24

## Important barriers to mobile internet use

*Percentage of mobile users who are aware of mobile internet but do not use it, and who identified the following as one of the important barriers to using mobile internet.*

| | | AFFORDABILITY | | | | LITERACY AND DIGITAL SKILLS | | | | | | | | | | RELEVANCE | | | | SAFETY AND SECURITY | | | | | | ACCESS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | HANDSET COST | | DATA COST | | DO NOT KNOW HOW TO ACCESS INTERNET ON A MOBILE | | DO NOT KNOW HOW TO USE A MOBILE | | READING/ WRITING DIFFICULTIES | | DO NOT HAVE TIME TO LEARN HOW TO ACCESS INTERNET ON A MOBILE | | NOT SUFFICIENT SUPPORT IN LEARNING TO USE INTERNET | | INTERNET IS NOT RELEVANT FOR ME | | INSUFFICIENT CONTENT IN LOCAL LANGUAGE | | HARMFUL CONTENT (SELF/FAMILY) | | STRANGERS CONTACTING ME | | INFORMATION SECURITY | | INTERNET DRAINS MY BATTERY | | NETWORK COVERAGE | | FAMILY DOES NOT APPROVE | | ACCESS TO AGENT SUPPORT | | SLOW CONNECTION/ CANNOT DO WHAT I WANT | | NO ACCESS TO INTERNET ENABLED PHONE | | HARD TO FIND WHERE TO BUY INTERNET ENABLED PHONE | |
| | | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W | M | W |
| AFRICA | Egypt | 35% | 33% | 29% | 28% | 22% | 13% | 23% | 27% | 30% | 27% | 13% | 10% | 15% | 18% | 21% | 20% | 9% | 6% | 17% | 17% | 17% | 22% | 8% | 13% | 6% | 13% | 6% | 8% | 12% | 14% | 2% | 6% | 13% | 4% | 15% | 20% | 3% | 5% |
| | Kenya | 46% | 47% | 13% | 11% | 9% | 19% | 2% | 5% | 15% | 19% | 10% | 12% | 12% | 11% | 16% | 16% | 6% | 12% | 6% | 8% | 5% | 9% | 3% | 9% | 3% | 5% | 4% | 4% | 1% | 3% | 2% | 3% | 7% | 3% | 7% | 11% | 4% | 3% |
| | Nigeria | 42% | 40% | 25% | 20% | 14% | 22% | 10% | 15% | 32% | 41% | 12% | 11% | 5% | 10% | 13% | 17% | 2% | 6% | 3% | 5% | 8% | 8% | 6% | 5% | 5% | 2% | 9% | 3% | 2% | 7% | 2% | 2% | 4% | 2% | 9% | 9% | 2% | 2% |
| | Senegal | 28% | 43% | 21% | 17% | 23% | 28% | 21% | 22% | 33% | 23% | 18% | 20% | 7% | 12% | 15% | 9% | 6% | 6% | 7% | 4% | 6% | 11% | 8% | 8% | 6% | 12% | 4% | 6% | 3% | 6% | 0% | 6% | 3% | 10% | 27% | 14% | 5% | 9% |
| ASIA | Bangladesh | 16% | 13% | 10% | 8% | 5% | 7% | 11% | 9% | 14% | 8% | 5% | 8% | 2% | 4% | 10% | 7% | 3% | 7% | 10% | 10% | 13% | 14% | 8% | 4% | 5% | 5% | 4% | 6% | 8% | 13% | 3% | 1% | 3% | 3% | 5% | 4% | 1% | 3% |
| | India | 21% | 18% | 24% | 28% | 10% | 14% | 6% | 17% | 12% | 20% | 22% | 13% | 8% | 9% | 16% | 17% | 11% | 16% | 13% | 11% | 13% | 7% | 15% | 16% | 16% | 15% | 13% | 10% | 11% | 13% | 9% | 7% | 15% | 11% | 13% | 9% | 8% | 3% |
| | Indonesia | 35% | 31% | 20% | 24% | 23% | 30% | 0% | 8% | 5% | 4% | 7% | 16% | 5% | 1% | 14% | 32% | 1% | 2% | 8% | 7% | 12% | 11% | 13% | 13% | 7% | 2% | 13% | 9% | 3% | 6% | 2% | 2% | 4% | 3% | 3% | 5% | 2% | 0% |
| | Pakistan | 18% | 17% | 14% | 12% | 14% | 6% | 12% | 18% | 38% | 40% | 25% | 12% | 7% | 9% | 17% | 19% | 14% | 4% | 9% | 6% | 3% | 8% | 6% | 12% | 4% | 3% | 10% | 3% | 4% | 24% | 3% | 5% | 1% | 4% | 5% | 6% | 2% | 3% |
| LATIN AMERICA | Guatemala | 32% | 32% | 24% | 24% | 17% | 21% | 26% | 22% | 16% | 30% | 13% | 19% | 23% | 16% | 10% | 16% | 6% | 8% | 28% | 37% | 28% | 18% | 25% | 27% | 6% | 18% | 10% | 12% | 6% | 6% | 6% | 6% | 16% | 8% | 7% | 10% | 4% | 6% |
| | Mexico | 12% | 39% | 13% | 33% | 5% | 21% | 7% | 9% | 8% | 13% | 11% | 9% | 10% | 12% | 10% | 10% | 2% | 1% | 18% | 30% | 11% | 31% | 21% | 29% | 12% | 10% | 20% | 16% | 5% | 3% | 12% | 6% | 8% | 11% | 21% | 21% | 2% | 3% |

Source: GSMA Consumer Survey, 2021
Base: Adults aged 18+ who have used a mobile phone in the last three months but have not used mobile internet in the last three months, despite being aware of mobile internet (excludes mobile users who are not aware of mobile internet).
Percentages indicate the proportion of respondents who answered, "This is one of the most important reasons stopping me" to the question, "Which one of those factors would you say are the most important reasons stopping you from using the internet on a mobile phone?"
n=49 to 175 for women and n=32 to 137 for men

M Men W Women

Lowest barrier cited in that country — Highest barrier cited in that country

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# **Appendix 2:** Mobile use cases

Figure 25

## Weekly mobile use among mobile owners

*Percentage of mobile owners who have performed each use case at least once a week.*

| | | | CALL ON NETWORK | CALL ONLINE | VIDEO CALLS | SMS/MMS | IM | SOCIAL NETWORKING | FREE GAMES | FREE VIDEO | FREE MUSIC | PAID ENTERTAIN-MENT | MOBILE MONEY: SEND/ RECEIVE MONEY | GET INFORMATION | ORDER GOODS/ SERVICES | BANKING APP | MANAGE BILLS | HEALTH SERVICES | GOVERNMENT SERVICES | JOB APPLICATION | EDUCATION SUPPORT | AGRICULTURAL INFORMATION | READ NEWS | USE MAP | RIDE HAIL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AFRICA | Egypt | M | 90% | 59% | 53% | 74% | 63% | 67% | 47% | 56% | 36% | 30% | 4% | 19% | 12% | 12% | 10% | 19% | 16% | 14% | 18% | 2% | 54% | 18% | 11% |
| | | W | 92% | 56% | 48% | 77% | 60% | 63% | 40% | 51% | 32% | 26% | 4% | 21% | 14% | 15% | 13% | 15% | 14% | 12% | 20% | 1% | 45% | 16% | 11% |
| | Kenya | M | 90% | 38% | 28% | 91% | 54% | 55% | 36% | 43% | 30% | 14% | 58% | 25% | 10% | 12% | 28% | 15% | 9% | 11% | 26% | 15% | 40% | 14% | 6% |
| | | W | 87% | 21% | 17% | 83% | 33% | 34% | 25% | 26% | 18% | 6% | 44% | 13% | 4% | 3% | 16% | 10% | 4% | 6% | 17% | 7% | 18% | 5% | 3% |
| | Nigeria | M | 93% | 40% | 34% | 86% | 49% | 49% | 37% | 29% | 21% | 12% | 6% | 23% | 8% | 22% | 16% | 12% | 11% | 9% | 20% | 10% | 39% | 10% | 6% |
| | | W | 89% | 29% | 23% | 84% | 33% | 33% | 24% | 17% | 10% | 6% | 2% | 13% | 6% | 15% | 7% | 8% | 6% | 5% | 16% | 5% | 23% | 6% | 3% |
| | Senegal | M | 90% | 61% | 50% | 65% | 68% | 53% | 32% | 52% | 35% | 17% | 30% | 13% | 7% | 2% | 7% | 8% | 7% | 5% | 17% | 6% | 46% | 10% | 2% |
| | | W | 87% | 57% | 43% | 52% | 62% | 39% | 29% | 44% | 29% | 13% | 19% | 10% | 5% | 1% | 6% | 6% | 4% | 4% | 10% | 1% | 32% | 2% | 1% |
| ASIA | Bangladesh | M | 79% | 37% | 37% | 56% | 35% | 35% | 32% | 25% | 19% | 32% | 17% | 13% | 9% | 9% | 13% | 23% | 16% | 19% | 29% | 11% | 17% | 15% | 9% |
| | | W | 75% | 21% | 23% | 46% | 21% | 20% | 24% | 16% | 11% | 27% | 9% | 7% | 7% | 7% | 10% | 18% | 16% | 14% | 26% | 8% | 9% | 9% | 9% |
| | India | M | 81% | 49% | 50% | 65% | 53% | 49% | 34% | 49% | 36% | 26% | 8% | 19% | 13% | 15% | 14% | 20% | 16% | 17% | 33% | 10% | 35% | 22% | 11% |
| | | W | 73% | 32% | 34% | 50% | 32% | 28% | 25% | 32% | 25% | 20% | 2% | 13% | 8% | 10% | 9% | 19% | 12% | 13% | 29% | 9% | 20% | 13% | 8% |
| | Indonesia | M | 74% | 68% | 63% | 59% | 69% | 60% | 39% | 59% | 27% | 18% | 2% | 21% | 8% | 7% | 4% | 13% | 14% | 10% | 40% | 10% | 51% | 24% | 9% |
| | | W | 74% | 68% | 62% | 62% | 68% | 58% | 25% | 52% | 24% | 14% | 2% | 25% | 10% | 6% | 4% | 11% | 11% | 6% | 46% | 7% | 39% | 11% | 9% |
| | Pakistan | M | 88% | 33% | 35% | 62% | 34% | 32% | 22% | 26% | 12% | 13% | 4% | 8% | 3% | 4% | 7% | 8% | 7% | 8% | 14% | 2% | 14% | 7% | 4% |
| | | W | 84% | 31% | 34% | 62% | 31% | 21% | 19% | 22% | 11% | 13% | – | 3% | 2% | 0% | 4% | 7% | 4% | 4% | 15% | 2% | 7% | 2% | 1% |
| LATIN AMERICA | Guatemala | M | 91% | 71% | 58% | 67% | 78% | 72% | 37% | 62% | 41% | 26% | – | 25% | 10% | 15% | 8% | 23% | 13% | 12% | 49% | 7% | 61% | 25% | 7% |
| | | W | 90% | 71% | 59% | 62% | 75% | 72% | 30% | 50% | 28% | 18% | – | 21% | 9% | 8% | 4% | 18% | 9% | 13% | 57% | 4% | 60% | 17% | 6% |
| | Mexico | M | 86% | 69% | 57% | 77% | 80% | 75% | 49% | 65% | 61% | 43% | – | 38% | 25% | 31% | 27% | 32% | 27% | 27% | 54% | – | 60% | 45% | 34% |
| | | W | 79% | 68% | 62% | 74% | 79% | 71% | 42% | 61% | 54% | 38% | – | 33% | 25% | 26% | 23% | 36% | 24% | 23% | 60% | – | 53% | 39% | 35% |

Source: GSMA Consumer Survey 2021
Base: Mobile owners aged 18+
Percentages indicate the proportion of respondents who answered that they perform each use case at least once a day or at least once a week.
Mobile internet use cases were only asked of mobile owners who have used the internet before. However, the percentages still represent the proportion of mobile owners overall who use that mobile internet use case.
Cells in grey reflect where sample sizes were below 30 and therefore insufficient.
n=32 to 685 for women and n=49 to 944 for men

M Men W Women

Least reported weekly use case in that country — Most reported weekly use case in that country

# Appendix 3: Methodology

This report is based on an analysis of the results of face-to-face surveys conducted by the GSMA in 10 LMICs in 2021. This is supplemented by 2017, 2018, 2019 and 2020 GSMA survey results from 18 additional countries,[49] as well as third-party survey results that cover another 10 countries.[50]

## Survey methodology

In all countries surveyed in 2021, a nationally representative sample of approximately 1,000 male and female adults aged 18 and over were surveyed, with the exception of India where the sample was approximately 2,000. The sampling frame was predominantly based on data from national statistics offices, including census data where possible, and a range of other sources. To ensure a geographically representative distribution of interview subjects, particularly in urban and rural areas, around 100 sampling points were used per country. However, very remote areas or areas with security concerns were excluded.

Interviews were conducted with individuals in their local language. Due to the COVID-19 pandemic, no interviews were conducted inside a home, rather, interviews took place on the doorstep or other appropriate location. All necessary precautions were taken to ensure the safety of interviewers and respondents to comply with COVID-19 guidelines issued (e.g. sanitising of materials and use of PPE). All surveys were interviewer-administered using handheld devices. Both female and male interviewers conducted the surveys. Data was weighted to known population profiles to correct any imbalances in the distributions achieved during fieldwork.

## Extrapolating the mobile gender gap to non-surveyed countries

To estimate the gender gaps in mobile ownership, smartphone ownership and mobile internet use across all LMICs, an extrapolation model was developed. The 28 countries included in the GSMA Consumer Surveys represent 79 per cent of the total adult population of all LMICs.[51] Data from the 2017–2021 Consumer Surveys countries served as the primary inputs for the model.[52] Third-party and publicly available survey data were used when it was considered robust, which provided gender gap measures for mobile ownership and internet use for an additional 10 countries and smartphone ownership for an additional two countries.[53] All country-level figures cited in this study were derived directly from the results of GSMA face-to-face surveys.

Regression analysis identified the independent variables that were key to predicting each mobile gender gap. An equation was generated for each gender gap to estimate the gender gap in LMICs not included in the survey. Each equation was tested using several different measures of model fit and accuracy (including adjusted R-squared, RMSE, MAE, AIC/BIC, as well as out-of-

49. Six countries were surveyed by the GSMA in 2017, 2018, 2019, 2020 and 2021: Kenya, Nigeria, Bangladesh, India, Pakistan and Guatemala. Two countries were surveyed by the GSMA in 2017, 2018, 2019 and 2021: Mexico and Indonesia. One country was surveyed by the GSMA in 2019 and 2021: Senegal. One country was surveyed in 2017 and 2021: Egypt. Two countries were surveyed by the GSMA in 2017, 2018, 2019 and 2020: Algeria and Mozambique. Three countries were surveyed by the GSMA in 2017, 2018 and 2019: Brazil, Myanmar and South Africa. Five countries were surveyed by the GSMA in 2017 and 2018: Argentina, Dominican Republic, China, Côte d'Ivoire and Tanzania. One country was surveyed by the GSMA in 2019: Uganda. Seven countries were surveyed by the GSMA in 2017: Chile, Colombia, Ghana, Nicaragua, Philippines, Thailand and Vietnam. However, since Chile is now defined as a high-income country, it is not included in this analysis. Fieldwork was conducted from September to January in 2017, 2018, 2019, 2020 and 2021.
50. These external sources include the Pew Research Center, After Access, the ITU, the Russia Longitudinal Monitoring Survey (HSE) and China Internet Network Information Center.
51. United Nations Department of Economic and Social Affairs, Population Division. (2021). *World Population Prospects 2019*.
52. Where 2017, 2018, 2019 or 2020 data was the primary input for a country, year-on-year change between 2017, 2018, 2019, 2020 and 2021 was modelled based on changes in the values of the predictor variables between the four years.
53. Data was sourced from After Access (Cambodia, Paraguay, Peru, Rwanda), Pew Global Attitudes and Trends (Jordan, Lebanon and Philippines), ITU (Iran), RLMS-HES (Russia) and CNNIC (China). To calculate gender gap estimates in these countries, we applied the growth rate implied from our extrapolation model to the years where actual data was available.

sample testing). The selected models demonstrated the highest level of fit when comparing predicted results with the actual results derived from the survey.

Table 3 presents the predictor variables used to estimate the gender gaps in mobile ownership, mobile internet use and smartphone ownership. The preferred models for mobile ownership, mobile internet use and smartphone ownership are consistent with The Mobile Gender Gap Report 2021. However, raw survey inputs have been updated to account for new data released in 2021[54] and, as a result, some modelled data points have been revised. For example, the modelled smartphone gender gap in Sub-Saharan Africa for 2020 was estimated at 26 per cent but, with updated survey trends, has been revised to 28 per cent.

Table 3

## Final predictor variables used in extrapolation models

| Predictor variables for mobile gender gap model | Predictor variables for mobile internet gender gap model | Predictor variables for smartphone gender gap model |
|---|---|---|
| Composite "income education" indicator capturing GNI per capita and mean years of schooling for women (Source: UNDP) | GDP per capita (Source: IMF) | GDP per capita (Source: IMF) |
| Mobile phone ownership among adult women (Source: Gallup World Poll) | Facebook Gender Gap (Source: Facebook Audience Insights) | Facebook Gender Gap (Source: Facebook Audience Insights) |
| South Asia "dummy" variable[55] | South Asia "dummy" variable | South Asia "dummy" variable |
| | Mean years of schooling for women (Source: UNDP) | Mean years of schooling for women (Source: UNDP) |

54. Raw inputs for each year are updated with the most up-to-date data releases. Sometimes the corresponding year for the recorded data is lagged compared to the release date, for example, the 2020 and 2021 UNDP updates include data for 2019, and the Gallup mobile ownership data for 2021 is not available for all countries. This means that, in particular, the data available to update the 2021 mobile ownership gaps in non-surveyed countries may not capture the latest effects of the COVID-19 pandemic.
55. This dummy variable takes a value of 1 if a country is in South Asia. It is included to capture the disproportionately large gender gap in South Asian countries.

# Qualitative interviews

To support the findings of the quantitative GSMA Consumer Survey 2021 conducted in partnership with Ipsos, qualitative field research and analysis were conducted in India (Uttar Pradesh and Tamil Nadu) and Kenya (Rift Valley and Nyanza) in October and November 2021 by Basis. The research aimed to provide additional context for the impact of COVID-19 on mobile internet use among women and men in both countries and to follow up on qualitative findings from *The Mobile Gender Gap Report 2021*. Fieldwork consisted of 55 end user interviews with men and women in India and 30 end user interviews with men and women in Kenya, with a range of smartphone, feature phone and basic phone owners in both countries. All 30 end user interviews in Kenya were conducted face to face, and 30 of the 55 interviews in India were also face to face. Due to adverse weather conditions, the remaining 25 interviews in India were conducted with smartphone owners in Uttar Pradesh by video call.

Table 4

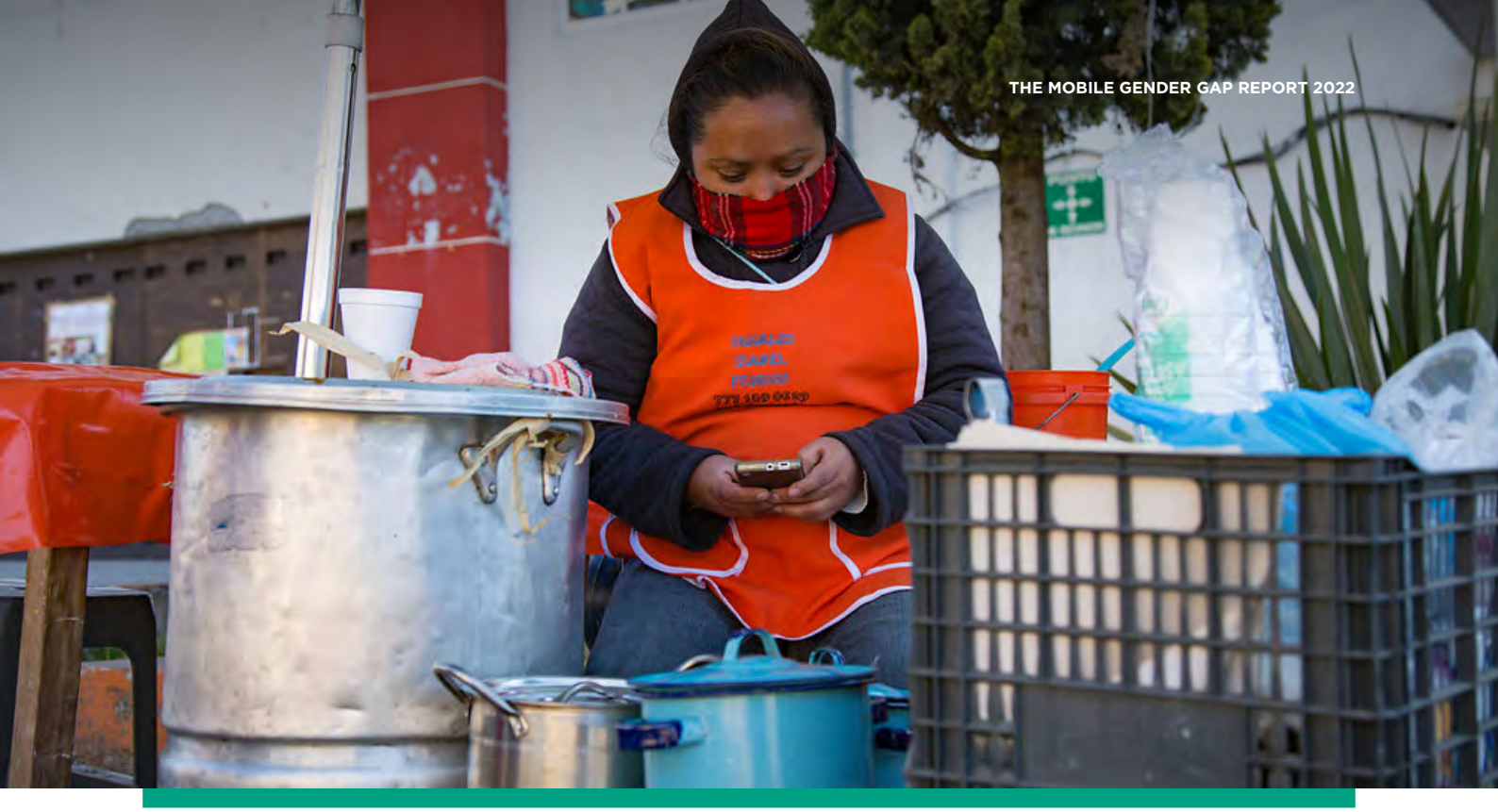
## End user demographics

| | | India | Kenya |
|---|---|---|---|
| **Female** | **Urban** | 14 | 8 |
| | **Rural** | 15 | 8 |
| **Male** | **Urban** | 12 | 6 |
| | **Rural** | 14 | 8 |
| **Total number of respondents** | | **55** | **30** |

Table 5

## Key informant interviews with experts

| India | Kenya |
|---|---|
| BBC Media Action India | Arifu |
| Digital Empowerment Foundation (DEF) | Busara |
| Microsave | M-KOPA |
| Purple Audacity | Nasio Trust |
| Self Employed Women's Association (SEWA) | Quality Control Afrika (QCA) |



# Endnotes


1. GSMA Intelligence, Q4 2021.
2. International Telecommunication Union (ITU) estimates for 2020.
3. GSMA Intelligence, 2021.
4. For example, see Chapter 3 in the GSMA State of the Industry Report on Mobile Money 2022, which shows there is still a gender gap in mobile money across the vast majority of LMICs surveyed.
5. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
6. Butler, C. and Shanahan, M. (27 August 2020). "Does just being a woman reduce the likelihood of using mobile?", GSMA Mobile for Development Blog.
7. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
8. Research by McKinsey has estimated that female job loss rates due to COVID-19 are roughly 1.8 times higher than male job loss rates globally. McKinsey. (2020). *COVID-19 and gender equality: Countering the regressive effects*.
9. Narayan, A. et al. (2022). *COVID-19 and Economic Inequality: Short-Term Impacts with Long-Term Consequences*. World Bank Policy Research Working Paper.
10. Lindsey, D. (20 April 2020). "Why COVID-19 has increased the urgency to reach women with mobile technology", *GSMA Mobile for Development Blog*.
11. GSMA Connected Women. (2019). *The Mobile Gender Gap Report 2019*.
12. A4AI. (2021). *The Costs of Exclusion*.
13. GSMA Connected Women. (2019). *The Mobile Gender Gap Report 2019*.
14. COVID-19 restrictions during this time varied across markets. Restrictions included, but were not limited to, school and workplace closures; restrictions on gatherings; stay at home requirements; internal and external travel restrictions; and curfews.
15. Urban and rural men and women in Rift Valley and Nyanza (n=30) and five expert interviews.
16. Urban and rural men and women in Uttar Pradesh and Tamil Nadu (n=55) and five expert interviews.
17. Respondents were asked the question: "Have you ever used the internet on a mobile phone? Please think about all the different ways of using the internet on a mobile phone. Just to confirm, people are using the internet on their mobile phones when they do any of the following: visit internet websites (e.g. Google or Amazon), visit social networking websites (e.g. Facebook, Twitter, YouTube, Weibo), send emails or instant messages (e.g. WhatsApp, Snapchat, WeChat, LINE) or download apps." Mobile internet users are those who answered, "Yes, I have used the internet on a mobile phone in the last three months."
18. The mobile ownership gender gap across LMICs has been between seven and 10 per cent every year since 2017.
19. See the case study, "The impact of mobile on women and economies" in the 2015 GSMA Connected Women report, Bridging the gender gap: Mobile access and usage in low- and middle-income countries. M-Pesa does not require a mobile internet connection as it can operate through USSD or STK.
20. We have not seen any indications of substantial changes at a regional level this year. See: GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
21. Ibid.

22. GSMA Connected Women. (2015). *Bridging the gender gap: Mobile access and usage in low- and middle-income countries* and GSMA Connected Women. (2020). *The Mobile Gender Gap Report 2020*.
23. Excludes those who felt they were 'not applicable' to each activity. Note that this only applies to 'Work or business' and 'Studies or education', as 'not applicable' was not selected as a response by anyone for the other three benefits analysed.
24. Roessler et al. (2021). *The Economic Impact of Mobile Phone Ownership: Results from a Randomized Controlled Trial in Tanzania: Working Paper*; Pew. (2019). *Mobile Connectivity in Emerging Economies*.
25. GSMA Connected Women. (2022). *Mobile Internet, Well-being and Gender: Understanding the Links*.
26. GSMA Connected Women. (2018). *A Framework to Understand Women's Mobile-Related Safety Concerns in Low- and Middle-Income Countries and GSMA Connected Women*. (2019). *Mitigating Women's Safety Concerns with Mobile: A Case Study of Vodafone Idea's Sakhi Service*.
27. Bansal, S., Roy, S. and Batra, G. (3 March 2021). "How COVID-19 Advanced Digital Learning for Lower-Income Populations". BCG.
28. GSMA Connected Women. (2022). *Safaricom's Maisha Ni Digital Campaign: A Holistic Approach to Address the Barriers Preventing Kenyan Women from Using Mobile Internet* and GSMA Connected Society. (2021). *The State of Mobile Internet Connectivity Report 2021*.
29. In particular, India, Bangladesh, Pakistan and Kenya.
30. Note, Figure 10 is calculated for a total of 23 use cases asked of respondents. This contrasts with Figure 9, for which the average number of use cases was calculated specifically for 14 mobile internet-based use cases. Only countries with sufficient sample sizes for analysis across all three handset types for both genders were included.
31. Smart feature phones provide a more affordable alternative to smartphones. While they do not have the full capabilities of a smartphone and retain the form factor of a feature phone, they typically support popular apps, such as YouTube and Facebook.
32. GSMA Connected Women. (2020). "Top 10 recommendations for reaching women with mobile across low- and middle-income countries", in *Reaching 50 Million Women with Mobile : A Practical Guide*.
33. Jeffrie, N. (2021). "Making mobile more accessible for people with reading and writing difficulties". *GSMA Mobile for Development Blog*.
34. Here, 'new' indicates that a handset is new to the owner. The handset could have been brand new or pre-owned (including a gift from a friend/family member).
35. Defined as either those who have used the internet on a mobile phone before or those who are both aware of the internet and that it can be used on a mobile phone.
36. For comparison, from 2019 to 2020, there was an estimated increase of 110 million women and this was 108 million the year before.
37. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
38. For example, tailored for women or people with low literacy. See the GSMA Mobile Internet Skills Training Toolkit (MISTT).
39. GSMA Connected Society. (2022). *Making Internet-Enabled Phones More Affordable in Low- and Middle-Income Countries*.
40. See Appendix 2 for the current proportion of female mobile owners using these services.
41. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
42. GSMA Connected Women. (2021). *The Mobile Gender Gap Report 2021*.
43. Lindsey, D. (20 April 2020). "Why COVID-19 has increased the urgency to reach women with mobile technology". *GSMA Mobile for Development Blog*.
44. GSMA Connected Women. (2020). "Top 10 recommendations for reaching women with mobile across low- and middle-income countries", in *Reaching 50 Million Women with Mobile : A Practical Guide*.
45. GSMA Mobile Internet Skills Training Toolkit (MISTT): https://www.gsma.com/mobilefordevelopment/connected-society/mistt/
46. More detailed recommendations on how policymakers can increase mobile adoption more broadly among the undeserved can be found here: https://www.gsma.com/mobilefordevelopment/resources/accelerating-mobile-internet-adoption-policy-considerations.
47. For more details, please see: https://www.gsma.com/publicpolicy/mobilepolicyhandbook/business-environment#universal-service-funds.
48. These composite barriers are aggregates (not averages) of responses for between two and five sub-barriers. Access-related barriers are not grouped as a composite as they cover a disparate range of topics. 'All countries' barriers (Table 1 and top of table 2) were calculated by averaging country-level data for the 10 countries surveyed.
49. Six countries were surveyed by the GSMA in 2017, 2018, 2019, 2020 and 2021: Kenya, Nigeria, Bangladesh, India, Pakistan and Guatemala. Two countries were surveyed by the GSMA in 2017, 2018, 2019 and 2021: Mexico and Indonesia. One country was surveyed by the GSMA in 2019 and 2021: Senegal. One country was surveyed in 2017 and 2021: Egypt. Two countries were surveyed by the GSMA in 2017, 2018, 2019 and 2020: Algeria and Mozambique. Three countries were surveyed by the GSMA in 2017, 2018 and 2019: Brazil, Myanmar and South Africa. Five countries were surveyed by the GSMA in 2017 and 2018: Argentina, Dominican Republic, China, Côte d'Ivoire and Tanzania. One country was surveyed by the GSMA in 2019: Uganda. Seven countries were surveyed by the GSMA in 2017: Chile, Colombia, Ghana, Nicaragua, Philippines, Thailand and Vietnam. However, since Chile is now defined as a high-income country, it is not included in this analysis. Fieldwork was conducted from September to January in 2017, 2018, 2019, 2020 and 2021.
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