



# Methodology

## The Mobile Gender Gap Report 2022





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[info@gsmaintelligence.com](mailto:info@gsmaintelligence.com)

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For this study, Ipsos worked with the GSMA as a fieldwork partner and, as such, is not responsible for the analysis or conclusions in this report or the Mobile Gender Gap Report 2022.

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For this study, Basis worked with the GSMA as a partner in the qualitative field research and analysis. The views expressed in the Mobile Gender Gap Report 2022 do not necessarily reflect those of Basis.



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## **Authors and contributors**

**Lead author:** Nadia Jeffrie

**Supporting authors:** Matt Shanahan, Caroline Butler, Calvin Bahia

**Fieldwork partners:** Ipsos, Basis





# Introduction

This document details the methodology behind [The Mobile Gender Gap Report 2022](#).<sup>1</sup> This report from the GSMA is part of an annual series analysing the gender gap in mobile ownership and mobile internet use in low- and middle-income countries (LMICs).<sup>2</sup> This accompanying methodology report describes the analysis and modelling used and highlights key methodological changes from previous years.

**This document is designed as a supplement to the [main report](#) and includes:**

1. The parameters of the GSMA Consumer Survey 2021, on which the findings of this study are based. The survey covered 10 LMICs in 2021, supplemented by 2017, 2018, 2019 and 2020 survey results from 18 additional countries.<sup>3</sup> The 28 countries covered by the five waves of the GSMA Consumer Survey collectively represent 79 per cent of the total adult population of all LMICs.
2. Extrapolation models, which provide estimates of gender gaps in mobile ownership, mobile internet use and smartphone ownership in LMICs not included in the GSMA Consumer Survey.
3. The analytical approaches used to investigate the results of survey questions on mobile use, and the barriers preventing mobile ownership and mobile internet use.
4. The details of qualitative research conducted to support the findings of the GSMA Consumer Survey 2021 in the context of COVID-19 in two of the surveyed countries: India and Kenya. This was the second year that qualitative research was conducted.

## Comparisons to GSMA Connected Women's earlier work

**Due to the refinement of the wording and structure of the questionnaire year on year and changes to the underlying methodology outlined in this document, caution should be taken in drawing conclusions about country-level, year-on-year changes from previous *Mobile Gender Gap* reports. Any trends identified in this year's report are based on assessments of gender-disaggregated data over the past five years from GSMA Intelligence and third parties, and have been deemed significant on a case-by-case basis.**

1. GSMA. (2022). [The Mobile Gender Gap Report 2022](#).

2. See Table 1 for definitions of the gender gap and other key terms.

3. See Table 2 for surveyed countries by year. 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.

Table 1

## Definitions of key terms

KEY TERM	DEFINITION
ARPU	Average revenue per user. Calculated as recurring revenues divided by total number of unique subscribers.
Low- and middle-income countries (LMICs)	Countries classified by the World Bank as low income (GNI per capita of \$1,045 or less in 2020), lower-middle income (GNI per capita between \$1,046 and \$4,095) or upper-middle income (GNI per capita between \$4,096 and \$12,695). <sup>4</sup>
Mobile internet user	A “mobile internet user” is a person who has used the internet on a mobile phone at least once in the last three months. <sup>5</sup> Mobile internet users do not have to own a mobile phone personally, and therefore can be non-mobile phone owners who use mobile internet by accessing it on someone else’s mobile phone.
Socio-economic class (SEC)	A classification system to indicate the economic and social status of an individual based on factors such as employment, education level and living standards. Exact definitions and classification criteria vary by country.
Unique subscriber	A unique user who is subscribed to mobile services at the end of a period. Subscribers differ from connections in that a unique subscriber can have multiple connections. Note that this methodology report also refers to unique subscribers as mobile owners and mobile phone owners. These terms are used interchangeably to mean 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. The vast majority of SIM owners also have sole or main use of a handset (ranging from 89 per cent to 99 per cent across the sample countries).
Unique smartphone subscriber	Unique smartphone subscribers are estimated by taking the number of smartphone connections from GSMA Intelligence data and dividing it by the average number of SIMs per smartphone subscriber using a combination of GSMA Intelligence and survey data.
Unique subscriber penetration	Total subscribers at the end of a period expressed as a percentage share of the total population.
Gender gap	The gender gap in mobile ownership (also referred to as SIM ownership), mobile internet use and smartphone ownership is calculated using the following formula:

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

4. [The World Bank Country and Lending Groups](#), FY 2022 includes 137 countries.

5. 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 GSMA Consumer Survey 2021

## Scope of the survey

*The Mobile Gender Gap Report 2022* is based primarily on a nationally representative survey of 10 LMICs conducted as part of the GSMA Consumer Survey 2021 (see Figure 1 and Table 2). Over 11,000 face-to-face interviews were conducted in 2021. *The Mobile Gender Gap Report* series covers 28 countries representing over 79 per cent of the adult population in LMICs.

(See Table 2 for a comprehensive list of countries covered by the annual Consumer Survey, and Box 1 for a list of countries where third-party survey data was sourced for the extrapolation model.) The survey is representative of the entire adult population of these countries, including both mobile users and non-users.

Figure 1

### Surveyed countries in this report

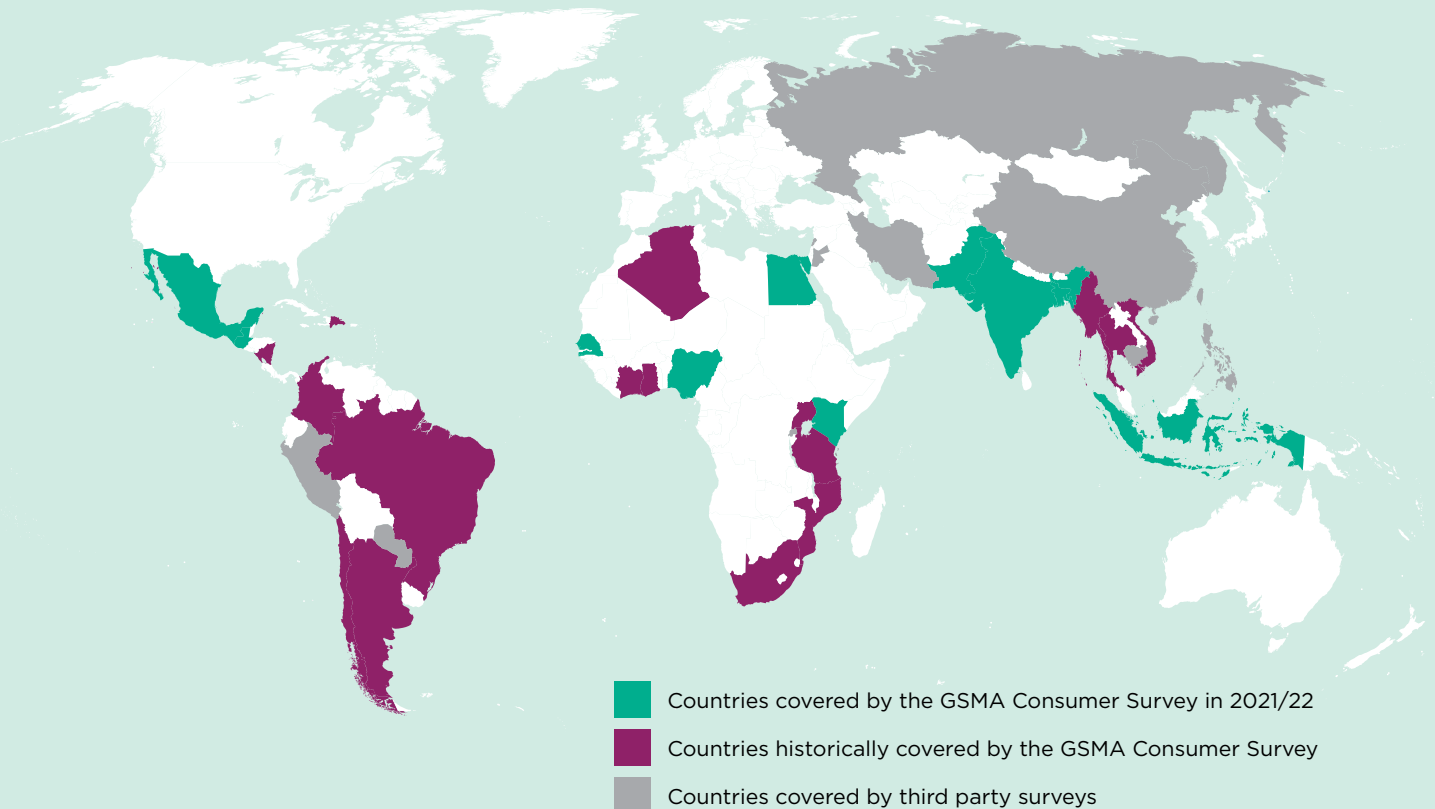


Table 2

## Surveyed countries, by region

## GSMA CONSUMER SURVEY COUNTRY COVERAGE

REGION	COUNTRY	2017-2018 (28 countries**)	2018-2019 (18 countries)	2019-2020 (15 countries)	2020-2021 (8 countries)	2021-2022 (10 countries)
AFRICA	Algeria	✓	✓	✓	✓	–
	Côte d'Ivoire	✓	✓	–	–	–
	Egypt	✓	–	–	–	✓
	Ghana	✓	–	–	–	–
	Kenya	✓	✓	✓	✓	✓
	Mozambique	–	✓	✓	✓	–
	Nigeria	✓	✓	✓	✓	✓
	Senegal	–	–	✓	–	✓
	South Africa	✓	✓	✓	–	–
	Tanzania	✓	✓	–	–	–
	Uganda	–	–	✓	–	–
ASIA	Bangladesh	✓	✓	✓	✓	✓
	China*	✓	✓	–	–	–
	India	✓	✓	✓	✓	✓
	Indonesia	✓	✓	✓	–	✓
	Myanmar	✓	✓	✓	–	–
	Pakistan	✓	✓	✓	✓	✓
	Philippines	✓	–	–	–	–
	Thailand	✓	–	–	–	–
	Vietnam	✓	–	–	–	–
LATIN AMERICA	Argentina	✓	✓	–	–	–
	Brazil	✓	✓	✓	–	–
	Chile	✓	–	–	–	–
	Colombia	✓	–	–	–	–
	Dominican Republic	✓	✓	–	–	–
	Guatemala	✓	✓	✓	✓	✓
	Mexico	✓	✓	✓	–	✓
	Nicaragua	✓	–	–	–	–

\*China was covered by third-party survey data in 2019–20, 2020–21 and 2021–22. See Box 1 below.

\*\*Cameroon, Morocco and Sierra Leone, were surveyed but ultimately excluded from analysis due to data concerns

**Box 1:** Countries covered by third-party surveys, by region

**THIRD-PARTY SURVEY COUNTRY COVERAGE**

Region	Country	2017–2018 (8 countries)	2018–2019 (3 countries)	2018–2019 (3 countries)	2020–2021 (1 country)*	2021–2022 (1 country)*	Sources
<b>AFRICA</b>	Rwanda	✓	—	—	—	—	After Access
<b>ASIA</b>	Cambodia	✓	—	—	—	—	After Access
	China	—	—	✓	✓	✓	CNNIC
	Philippines	—	✓	✓	—	—	Pew Global Attitudes and Trends
<b>EUROPE &amp; CENTRAL ASIA</b>	Russia	✓	✓	—	—	—	RLMS-HES
<b>LATIN AMERICA</b>	Paraguay	✓	—	—	—	—	After Access
	Peru	✓	—	—	—	—	After Access
<b>MIDDLE EAST &amp; NORTH AFRICA</b>	Iran	✓	✓	✓	—	—	ITU
	Jordan	✓	—	—	—	—	Pew Global Attitudes and Trends
	Lebanon	✓	—	—	—	—	Pew Global Attitudes and Trends

\*Only one country was covered in third-party surveys in 2020–21 and 2021–22 due to difficulties conducting research during the COVID-19 pandemic.



## Sampling and fieldwork

In all countries, a nationally representative sample of the adult population aged 18 and over was surveyed. A minimum of 1,000 interviews were conducted in each country, with 2,000 interviews undertaken in India (and China, when covered).

To achieve a nationally representative sample, quotas were applied in line with census data (or other appropriate sources where census data was unavailable) on the following metrics:

- Age category by gender;
- Urban and rural distribution by gender;
- Region/state; and
- Socio-economic class (SEC) to ensure a representative segment of lower income respondents were included (no such quota was applied in Mozambique, when covered, in the absence of reliable SEC profiling data).

While a quota was not applied to education (other than where it contributed to SEC classification), it was tracked regionally and nationally during and after the fieldwork as an important indicator of a representative sample.

Sampling points where interviews were conducted were distributed proportionately between urban and rural areas in accordance with census data and national statistics offices. To achieve wide geographical coverage and reduce the effects of clustering, a minimum of 100 sampling points were used in each country (200 in India).

This research used a mix of purposive and random sampling approaches. Depending on the country, sampling points were either randomly distributed – with an administrative area's probability of selection proportionate to the size of its population (random sampling) – or selected to reflect the linguistic, cultural and economic variations of each country (purposive sampling). Local experts and national statistics offices checked the sampling frames to ensure they were valid and representative.

The survey was delivered via interviewer-administered computer-assisted personal interviewing (CAPI). Survey interviews were conducted in the local language(s) by both female and male interviewers. Interviews were conducted at respondents' homes. Within sampling points, systematic random routes were used for residence selection.

Weights were applied to the data using a random iterative method (RIM) whereby several non-interlocking quotas were applied in an iterative sequence and repeated as many times as needed for the quotas to converge. This corrected any imbalances in the profiles, although weightings (and the resulting impact on effective sample sizes) were minimised as much as possible by controlling key quota variables over the course of the fieldwork.

The sampling approach was designed to achieve full national representativeness where practical; however, some more remote rural areas or regions with on-going unrest or security concerns were excluded from sampling. This may have had an impact on results, especially since mobile phone coverage, access and use will be different, and likely most limited, in these areas, particularly for women.

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). Fieldwork was conducted in accordance with local government guidelines on travel, social distancing, and curfews.



# The Gender Gap Extrapolation Model

The Gender Gap Extrapolation Model was developed to estimate the size of the mobile gender gap across LMICs based on data from surveyed countries. *The Mobile Gender Gap Report 2022* provides figures on the gender gap in LMICs for three key metrics:

- Mobile ownership;
- Mobile internet use; and
- Smartphone ownership.

In the 10 countries surveyed in the 2021 Consumer Survey, these figures were derived directly from the survey results.<sup>6</sup> *The Mobile Gender Gap Report* series covers 28 countries representing over 79 per cent of the adult population in all LMICs.<sup>7</sup> To cover LMICs that were not surveyed, extrapolation models were created to estimate these three metrics. Data from countries surveyed in 2017, 2018, 2019, 2020 and 2021 were the primary inputs for the model.<sup>8</sup> In addition, third-party and publicly available survey data was used when it was considered robust, which provided gender gap measures for mobile ownership and mobile internet use for an additional 10 countries, and smartphone ownership for an additional two countries.<sup>9</sup> All country-level figures cited in the main study were derived directly from the results of GSMA face-to-face surveys in that country.

To generate estimates for countries not included in the Consumer Survey, three extrapolation models were developed: one to estimate the gender gap in mobile

ownership, one to estimate the gender gap in mobile internet use and one to estimate the gender gap in smartphone ownership. The analysis had three stages:

1. Testing a range of independent variables to determine the best predictors of the respective gender gaps in mobile ownership, mobile internet use and smartphone ownership in surveyed countries using regression analysis.
2. Generating a best-fit equation for each metric from the most highly correlated independent variables.
3. Applying this equation to countries that were not surveyed to generate individual, country-level estimates of the gender gap for each metric.

Table 3 summarises the final predictor variables used in the extrapolation models. While the models for mobile internet use and smartphone ownership use the same final predictor variables, the variable relationships and resultant extrapolation formulae are different, and the top- and country-level estimates vary between the two models (see *Final extrapolation model equations* on page 12).

6. Data from the countries surveyed in each year (2017, 2018, 2019, 2020 and 2021) is used to derive the gender gaps for that year.

7. United Nations Department of Economic and Social Affairs, Population Division, 2022, "World Population Prospects 2022".

8. 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.

9. 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.

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 <sup>10</sup>	South Asia “dummy” variable	South Asia “dummy” variable
	Mean years of schooling for women (Source: UNDP)	Mean years of schooling for women (Source: UNDP)

The independent variables used in the final extrapolation models are not necessarily those that individually have the greatest explanatory power. The regression analysis identified a combination of variables that together provide the best estimate of the mobile gender gap, even though each individual variable may not have been the one most strongly correlated with the gender gap.<sup>11</sup>

Once the gender gaps in mobile ownership, mobile internet use and smartphone ownership were estimated for non-surveyed countries using these extrapolations, the ratio of male and female uptake of each was applied to GSMA Intelligence estimates for unique adult mobile subscribers, unique mobile

internet subscribers and unique smartphone subscribers.<sup>12</sup> This generated the overall number of male and female mobile owners, mobile internet users and smartphone owners, which we used to calculate our estimates of the gender gaps across LMICs.

A number of low population LMICs were not included in the outputs of the extrapolation model due to a lack of available data for the predictor variables. For these countries, gender gaps were imputed based on regional averages. However, at most they only accounted for three per cent of the total adult population of LMICs, and this did not have an impact on the overall results.

10. This dummy variable takes a value of 1 if a country is in South Asia. It is included to capture the disproportionately high gender gap in South Asian countries.

11. See GSMA (2020), *The Mobile Gender Gap Report 2020: Methodology* for a comparison of modelled and survey results

12. Unique smartphone users are calculated by taking the number of smartphone connections from GSMA Intelligence data and dividing it by average SIMs per smartphone subscriber using a combination of GSMA Intelligence and survey data to obtain an estimate of unique smartphone connections.



## Evaluating the extrapolation models

The extrapolation models for the gender gap in mobile ownership, mobile internet use and smartphone ownership build on the analysis conducted for *The Mobile Gender Gap Report* series. More than 90 independent variables have been tested to determine the best predictors of the gender gap in mobile ownership and mobile internet use. To compare different models, a range of diagnostics were tested, including:

- Adjusted  $R^2$  – the proportion of variance of the dependent variable explained by the independent variable. A higher  $R^2$  means that the predicted values better fit the observed data.
- Root Mean Square Error (RMSE) – the standard deviation of model residuals. A lower RMSE indicates a better fit.
- Mean Absolute Error (MAE) – similar to RMSE, but less sensitive to large residuals. A lower MAE indicates a better fit.
- AIC and BIC<sup>13</sup> – assesses the fitness of a model while balancing parsimony. Lower values indicate a better fit.
- Out-of-sample testing – two variants of the “k-fold” method were adopted:
  - One approach split the sample into a “training” set (used to fit the model) and a “test” set (used to evaluate the model results using the RMSE and MAE). Due to the relatively small sample of countries in the analysis, this was run 10 times for each model, varying the training and test sets. Model fitness was then evaluated by considering the average RMSE and MAE across the 10 tests.
  - The second approach was similar to the first, but applied the “leave one out” method whereby the model is fitted using all the data less one observation. The model fit is then evaluated by assessing how accurately it predicts that remaining observation. This approach was run for each observation to generate an average RMSE/MAE for each model.



13. Akaike Information Criterion and Bayesian Information Criterion

Table 4 presents regression outputs of our preferred models for determining gender gaps in mobile ownership, mobile internet use and smartphone ownership. Three models were created and tested for each gender gap. The final selected models for mobile ownership and mobile internet use performed better than all others for the vast majority of diagnostics and were therefore the preferred model. For smartphone ownership, the same predictor variables were used as the best-performing model for mobile internet use. While this was the second best-performing model for smartphone ownership, the results were extremely close to the top performing model. These models correspond with the final extrapolation formulae (see *Final extrapolation model equations* on page 12).<sup>14</sup>

The top section of Table 4 outlines the final predictors and the corresponding coefficients used in the final equations. The bottom section outlines the performance of each model against the statistical diagnostics. 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<sup>15</sup> 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 in *The Mobile Gender Gap Report 2021*, but, with updated survey trends, has been revised to 28 per cent.

Table 4

## Best performing models for gender gaps in mobile ownership, mobile internet use and smartphone ownership

	Mobile ownership	Mobile internet use	Smartphone ownership
<b>Income-education index for women</b>	-0.037***	–	–
<b>Proportion of female adults with a mobile phone, Gallup</b>	-0.281***	–	–
<b>GDP per capita</b>	–	-0.144***	-0.129***
<b>Mean years of schooling, female</b>	–	-0.005	0.014*
<b>Facebook gender gap</b>	–	0.359***	0.214***
<b>South Asia dummy</b>	0.113***	0.130***	0.258***
<b>N</b>	91	91	78
<b>Adjusted R<sup>2</sup></b>	0.813	0.810	0.852
<b>RMSE</b>	0.05	0.094	0.074
<b>MAE</b>	3.31	6.34	4.413
<b>AIC</b>	-289.1	-167.1	-179.1
<b>BIC</b>	-279.1	-154.5	-167.3

\* p<0.1, \*\* p<0.05, \*\*\* p<0.01

14. Further details on the modelling for the gender gap series, including robustness checks, can be found in [The Mobile Gender Gap Report 2020: Methodology](#).

15. Raw inputs for each year are updated with the most up-to-date data releases. Sometimes the corresponding year for the recorded data lags behind 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, the data that was available to update the 2021 mobile ownership gaps in non-surveyed countries may not capture the potential effects of the COVID-19 pandemic.



## Final extrapolation model equations

The three equations for the final extrapolation models were:

### Formula 1: The extrapolation formula for the mobile ownership gender gap in LMICs

$Ownership_{GG} = 0.288 + 0.113 \times South\ Asia\ Dummy - 0.037 \times Female\ Income\ Education\ Index - 0.281 \times Female\ mobile\ adoption$

### Formula 2: The extrapolation formula for the mobile internet gender gap in LMICs

$Mobile\ Internet_{GG} = 1.362 + 0.130 \times South\ Asia\ Dummy - 0.144 \times GDP\ per\ capita - 0.005 \times mean\ years\ of\ schooling\ for\ women + 0.359 \times Facebook_{GG}$

### Formula 3: The extrapolation formula for the smartphone ownership gender gap in LMICs

$Smartphone_{GG} = 1.165 + 0.258 \times South\ Asia\ Dummy - 0.129 \times GDP\ per\ capita + 0.014 \times mean\ years\ of\ schooling\ for\ women + 0.214 \times Facebook_{GG}$







# Analysing mobile use and barriers

## Barriers to mobile ownership and mobile internet use

In *The Mobile Gender Gap Report 2022*, the barriers to mobile ownership are identified for respondents who do not own a mobile phone, and barriers to mobile internet use are identified for those who have used a mobile phone but have not used mobile internet in the last three months despite being aware of it.<sup>16</sup>

The GSMA Consumer Survey 2021 allowed respondents to identify barriers by level of importance, ranging from “This is a barrier” to “This is one of the most important barriers” to “This is the single most important barrier”. By staggering the questions, we could analyse in detail the key barriers women (and men) face to mobile ownership and mobile internet use. Survey respondents were asked to identify barriers from a list of 13 barriers to mobile ownership and 19 barriers to mobile internet use (see Table 5 for a comprehensive list of the barriers). To analyse the top barrier to mobile ownership and mobile internet use, similar barriers were grouped into five broad themes that the GSMA identified in earlier research.

The five overarching themes were:

- Affordability;
- Literacy and Digital Skills;
- Relevance;
- Safety and Security; and
- Access.

Within each theme, responses to individual barriers were further grouped into a single composite figure, except those under the Access theme, which were too diverse to be combined into one. Table 5 shows how the barriers to mobile ownership and mobile internet use were grouped by composite. The composites were calculated by summing the responses across sub-barriers within that composite, and are not an average of the values of all barriers within that composite. This helps to better illustrate the importance of broad themes, which consumers can experience in a variety of ways. For example, low digital skills or literacy can create a range of barriers to owning or using a mobile phone, and multiple questions must be asked to fully capture the influence of this issue. By contrast, the importance of cost as a barrier can be captured in just two questions.

Composite barriers therefore allow the various components of more complex barriers to be combined, and the full importance of the barrier to be represented accurately. For both mobile ownership and mobile internet, these composites are shown in the report averaged across survey countries to provide an “All countries” ranking. For mobile internet, these composites are also shown at the country level.

16. The proportion of adults considered aware of mobile internet is calculated by summing those who report ever having used mobile internet, and those who report not having used it, but being aware of the internet and that it can be used on a mobile phone (i.e. it is assumed that those who have used mobile internet are aware of it).

Table 5

Individual barriers within each composite theme

Affordability composite		Literacy and Digital Skills composite		Relevance composite		Safety and Security composite		Access (not composite)	
Mobile ownership	Mobile internet	Mobile ownership	Mobile internet	Mobile ownership	Mobile internet	Mobile ownership	Mobile internet	Mobile ownership	Mobile internet
Handset/SIM cost	Handset cost	Do not know how to use a mobile	Do not know how to access internet on a mobile	Mobile is not relevant for me	Internet is not relevant for me	Personal safety	Harmful content (self/family)	Battery charging	Internet drains my battery
Credit cost	Data cost	Reading/writing difficulties	Reading/writing difficulties	-	Insufficient content in local language	Strangers contacting me	Strangers contacting me	Network coverage	Network coverage
-	-	-	Do not know how to use a mobile	-	-	Information security	Information security	Family does not approve	Family does not approve
-	-	-	Do not have time to learn how to access internet on a mobile	-	-	-	-	Access to agent support	Access to agent support
-	-	-	Not sufficient support in learning to use internet	-	-	-	-	ID	Slow connection/cannot do what I want
-	-	-	-	-	-	-	-	-	No access to internet enabled phone
-	-	-	-	-	-	-	-	-	Hard to find where to buy internet-enabled device

## Analysing use of mobile services

The GSMA Consumer Survey 2021 asked mobile owners to identify the types of services they used on a mobile phone. Respondents were asked to select from a list of 23 common use cases ranging from basic services, such as calling and SMS, to more advanced

internet-based services (see Table 6). Respondents were also asked to report how frequently they used each type of service. Analysis in *The Mobile Gender Gap Report 2022* focused on weekly usage to exclude services that were used only sporadically.

Table 6

### Types of mobile use cases

• Network calls	• Finding information about goods and services
• IP calls	• Managing or paying utility bills
• SMS and MMS	• Using online banking
• Video calling	• Accessing services that improve or monitor health
• Instant messaging apps	• Accessing government services
• Visiting social networking sites	• Looking or applying for jobs
• Playing free games	• Accessing information to support education
• Watching free-to-access online video	• Accessing information on farming or fishery services
• Listening to free online music	• Using maps, timetables and traffic information apps
• Using paid-for entertainment services	• Reading the news
• Sending or receiving money using mobile money	• Using a ride hailing, taxi, e-bike or scooter app
• Ordering and purchasing goods	

Questions about mobile use were not exclusive to a respondent's personal handset. Therefore, the survey data is indicative of a respondent's overall usage regardless of who owned the handset.



# Qualitative research

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 on 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 (Table 7). Respondents were located in both urban and rural areas, and were a mix of smartphone, feature phone and basic phone owners. 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.

Five key informant interviews with experts were also conducted in Kenya and five in India (Table 8). All expert interviews were conducted remotely via video call.

Table 7

## End-user demographics

		India	Kenya
Female	Urban	14	8
	Rural	15	8
Male	Urban	12	6
	Rural	14	8
<b>Total number of respondents</b>		<b>55</b>	<b>30</b>

Table 8

## 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)

**For more information about the methodology of *The Mobile Gender Gap Report 2022*, contact [GSMA Connected Women](#).**



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**GSMA HEAD OFFICE**

1 Angel Lane  
London  
EC4R 3AB  
United Kingdom  
Tel: +44 (0)20 7356 0600  
Fax: +44 (0)20 7356 0601