Connected Women

Methodology

The Mobile Gender Gap Report 2021

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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 this report do not necessarily reflect those of Basis.

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Introduction

This document details the methodology behind The Mobile Gender Gap Report 2021.[1] 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).[2] This accompanying methodology report describes the analysis and modelling we 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 2020, on which the findings of this study are based. The survey covered eight LMICs in 2020, supplemented by 2017, 2018 and 2019 survey results from 20 additional countries.[3] The 28 countries covered by the four waves of the GSMA Consumer Survey collectively represent 78 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 internet use.
4. The details of qualitative research conducted to support the findings of the GSMA Consumer Survey 2020 in the context of COVID-19 in two of the surveyed countries: India and Kenya.

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 longitudinal assessments of gender-disaggregated data from GSMA Intelligence and third parties, and have been deemed significant on a case-by-case basis.

1. GSMA. (2021). *The Mobile Gender Gap Report 2021*.
2. See Table 1 for definitions of the gender gap and other key terms.
3. Seven countries were surveyed by the GSMA in 2017, 2018, 2019 and 2020: Algeria, Kenya, Nigeria, Bangladesh, India, Pakistan and Guatemala. One country was surveyed by the GSMA in 2018, 2019 and 2020: Mozambique. Five countries were surveyed by the GSMA in 2017, 2018 and 2019: Brazil, Indonesia, Mexico, Myanmar and South Africa. Five countries were surveyed by the GSMA in 2017 and 2018: Argentina, Dominican Republic, China, Côte d'Ivoire and Tanzania. Eight countries were surveyed by the GSMA only in 2017: Chile, Colombia, Egypt, Ghana, Nicaragua, Philippines, Thailand and Vietnam. However, since Chile is now defined as a high-income country, it is not included in this analysis. Two countries were surveyed by the GSMA in 2019: Senegal and Uganda. Fieldwork was conducted from September to January in 2017, 2018, 2019 and 2020.

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 $1,035 or less in 2019), lower-middle income (GNI per capita between $1,036 and $4,045) or upper-middle income (GNI per capita between $4,046 and $12,535).[4]
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.[5] 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 84 per cent to 98 per cent across the sample countries).
Unique smartphone subscriber	Unique smartphone subscribers are calculated 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 to obtain an estimate of unique smartphone subscribers.
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 2021 includes 135 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 2020

Scope of the survey

The Mobile Gender Gap Report 2021 is based primarily on a nationally representative survey of eight LMICs conducted as part of the GSMA Consumer Survey 2020 (see Figure 1 and Table 2). Over 9,000 face-to-face interviews were conducted in 2020. *The Mobile Gender Gap Report* series covers 28 countries representing over 78 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

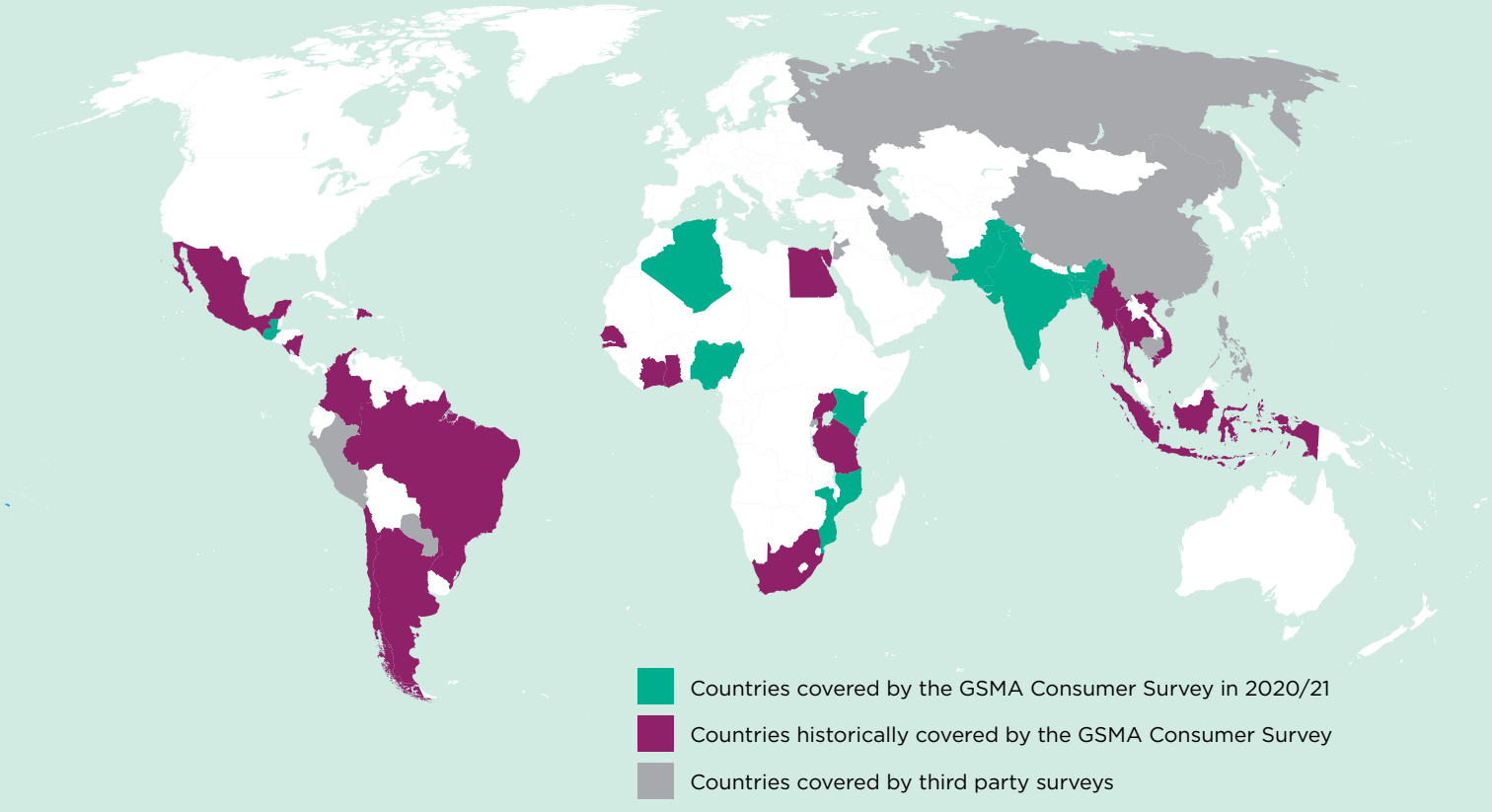

Table 2

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)
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 and in 2020–21, see Box 1 below.**

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)*	Sources
AFRICA	Rwanda	✓	–	–	–	After Access
ASIA	Cambodia	✓	–	–	–	After Access
	China	–	–	✓	✓	CNNIC
	Philippines	–	✓	✓	–	Pew Global Attitudes and Trends
EUROPE & CENTRAL ASIA	Russia	✓	✓	–	–	RLMS-HES
LATIN AMERICA	Paraguay	✓	–	–	–	After Access
	Peru	✓	–	–	–	After Access
MIDDLE EAST & NORTH AFRICA	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 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) 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 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 interviewing was conducted inside a home, with interviewing instead taking place on the doorstep or another appropriate location. All necessary precautions were taken to ensure the safety of interviewers and respondents and compliance with guidelines (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 2021* provides figures on the gender gap in LMICs for three key metrics:

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

In the eight countries surveyed in the 2020 Consumer Survey, these figures were derived directly from the survey results.[6] *The Mobile Gender Gap Report* series covers 28 countries representing over 78 per cent of the adult population in all LMICs.[7] To cover LMICs that were not surveyed, extrapolation models were created to estimate these three metrics. Data from countries surveyed in 2017, 2018, 2019 and 2020 were the primary inputs for the model.[8] In addition, third-party and publicly available survey data were 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.[9] 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 and have the same top-level gender gap of 15 per cent, the variable relationships and resultant extrapolation formulae are different, and the country-level estimates vary between the two models (see Final extrapolation model equations on page 12).

6. Data from the countries surveyed each year (2017, 2018, 2019 and 2020) is used to derive the gender gaps for that year.
7. United Nations Department of Economic and Social Affairs, Population Division. (2020). "World Population Prospects 2019".
8. Where 2017, 2018 or 2019 data was the primary input for a country, year-on-year change between 2017, 2018, 2019 and 2020 was modelled based on changes in the values of the predictor variables between the three 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[10]	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.[11]

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.[12] 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.[13] 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 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 *The Mobile Gender Gap Report 2020: Methodology* for a comparison of modelled and survey results.
12. Unique smartphone subscribers 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 subscribers.
13. The countries were: Angola, Belize, Bhutan, Cabo Verde, Cuba, Djibouti, Dominica, Equatorial Guinea, Eritrea, Fiji, Grenada, Guinea-Bissau, Guyana, Kiribati, North Korea, Kosovo, Marshall Islands, Micronesia, Nauru, Papua New Guinea, Saint Lucia, Saint Vincent and the Grenadines, São Tomé and Príncipe, Solomon Islands, Somalia, Sudan, Suriname, Syria, Timor-Leste, Tonga, Turkmenistan, Tuvalu, Vanuatu, Western Samoa and Zimbabwe.

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[14] – 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.

14. 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).[15]

The top section of Table 4 outlines the final predictors and 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 2020*. However, raw survey inputs have been updated to account for new data released in 2020[16] and, as a result, some modelled data points have been revised. For example, the modelled mobile internet gender gap in Middle East and North Africa for 2019 was estimated to be 21 per cent in *The Mobile Gender Gap Report 2020*. However, with updated survey trends, the modelled estimate for 2019 has been revised to 19 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
Income-education index for women	-0.040***	—	—
Proportion of female adults with a mobile phone, Gallup	-0.285***	—	—
GDP per capita	—	-0.126***	-0.111***
Mean years of schooling, female	—	-0.002	0.008
Facebook gender gap	—	0.381***	0.218***
South Asia dummy	0.122***	0.131***	0.265***
N	80	80	68
Adjusted R^2	0.808	0.829	0.858
RMSE	0.05	0.092	0.073
MAE	3.04	5.44	3.866
AIC	-248.4	-150.3	-157.4
BIC	-238.9	-138.4	-146.3

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

15. Further details on the modelling for the gender gap series, including robustness checks, can be found in *The Mobile Gender Gap Report 2020: Methodology*.
16. 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 Gallup World Poll and the 2020 UNDP updates include data for 2019. This means that, in particular, the data that was available to update the 2020 mobile ownership gaps in non-surveyed countries may not capture the potential effects of the COVID-19 pandemic. However, among the surveyed countries, only one (Mozambique) had a significant increase in the mobile ownership gender gap in 2020. This suggests that, in many countries, the COVID-19 pandemic may not have increased the mobile gender gap; so far at least.

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

$Ownership_{GG} = 0.271 + 0.122 \times South\ Asia\ Dummy - 0.040 \times Female\ Income\ Education\ Index - 0.285 \times Female\ mobile\ adoption$

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

$MI_{GG} = 1.238 + 0.131 \times South\ Asia\ Dummy - 0.126 \times GDP\ per\ capita - 0.002 \times mean\ years\ of\ schooling\ for\ women + 0.381 \times Facebook_{GG}$

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

$Smartphone_{GG} = 1.043 + 0.265 \times South\ Asia\ Dummy - 0.111 \times GDP\ per\ capita + 0.008 \times mean\ years\ of\ schooling\ for\ women + 0.218 \times Facebook_{GG}$

Analysing mobile use and barriers

Barriers to mobile internet use

In *The Mobile Gender Gap Report 2021*, 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.[17]

The GSMA Consumer Survey 2020 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 internet use. Survey respondents were asked to identify barriers from a list of 18 barriers to mobile internet use (see Table 5 for a comprehensive list of the barriers). To analyse the top barrier to mobile internet use overall, similar barriers were grouped into five broad themes identified in earlier GSMA research.

The five overarching themes were:

- Affordability;
- Literacy and 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 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 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. These composites are shown in the report at both the country level and averaged across survey countries to provide an 'All countries' ranking.

There are now three consecutive years of comparable data on barriers to mobile internet use. This has allowed a year-on-year comparison with the findings of *The Mobile Gender Gap Report 2020*.

17. 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 are 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 Skills composite:	Relevance composite:	Safety and Security composite:	Access (not composite):
Handset cost	Do not know how to access internet on a mobile	Internet is not relevant for me	Harmful content (self/family)	Internet drains my battery
Data cost	Reading/writing difficulties	Insufficient content in local language	Strangers contacting me	Network coverage
—	Do not know how to use a mobile	—	Information security	Family does not approve
—	Do not have time to learn how to access internet on a mobile	—	—	Access to agent support
—	Not sufficient support in learning to use internet	—	—	Slow connection/ cannot do what I want
—	—	—	—	No access to internet-enabled phone

Analysing use of mobile services

The GSMA Consumer Survey 2020 asked mobile owners to identify the types of services they used on a mobile phone. Respondents were asked to select from a list of 22 common use cases ranging from basic services, such as calling and SMS, to more advanced internet-based services (see Table 6). The list of use cases has been updated in the 2020 Consumer Survey. Respondents were also asked to report how frequently they used each type of service. Analysis in *The Mobile Gender Gap Report 2021* focused on weekly usage to exclude services that were used only sporadically. Note that in order to allow for fair year-on-year comparisons of average weekly use cases between 2019 and 2020, only the 21 use cases asked explicitly in both 2019 and 2020 surveys were used.

Table 6

Types of mobile use cases

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

***Only included in the GSMA Consumer Survey 2020 and therefore excluded from the year-on-year comparison.**

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 2020 conducted in partnership with Ipsos, qualitative field research and analysis were conducted in India and Kenya in March 2021 by Basis. The research aimed to provide additional context on the impact of COVID-19 on mobile internet use and smartphone ownership among women in both countries. In each market the fieldwork consisted of a total of 12 rural and seven urban end-user interviews, 16 of which were with smartphone owners and three with feature phone owners, all of whom used mobile internet (Table 7). Five expert interviews were also conducted in Kenya and seven in India (Table 8). All interviews were conducted remotely via video call.

Table 7

Demographics of end users

	India	Kenya
Number of urban female respondents	7	5
Number of rural female respondents	12	7
Number of urban male respondents	0*	2
Number of rural male respondents	0*	5
Total number of respondents	**19**	**19**

* In India, the focus was to obtain additional feedback from women on specific research questions arising from the Consumer Survey, whereas in Kenya the Consumer Survey highlighted specific research questions for both men and women where there would be particular value in obtaining additional feedback.

Table 8

Expert interviews

India	Kenya
BBC Media Action India	Asphalt & Ink
Centre for Entrepreneurship	Branding Beyond Borders
Digital Empowerment Foundation (DEF)	Busara
Microsave	Quality Control Afrika (QCA)
Purple Audacity	World Vision International
Self Employed Women's Association (SEWA)	
World Vision India	

For more information about the methodology of *The Mobile Gender Gap Report 2021*, contact GSMA Connected Women.

www.gsma.com/r/gender-gap

For more information, visit
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