Connected Women

Methodology

The Mobile Gender Gap Report 2020

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Introduction

This document details the methodology behind *The Mobile Gender Gap Report 2020.*[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 the key areas of methodological change from previous years.

This document is designed as a supplement to the main report and includes:

1. The parameters of the GSMA Intelligence Consumer Survey 2019, on which the findings of this study are based. The survey covered 15 LMICs in 2019, supplemented by 2017 and 2018 survey results from 13 additional countries.[3] The 28 countries covered by the three waves of the GSMA Intelligence Consumer Survey collectively represent 75 per cent of the total adult population of all LMICs.

2. Extrapolation models, which provide estimates of the gender gaps in mobile ownership, mobile internet use and smartphone ownership in LMICs not included in the GSMA Intelligence Consumer Survey.

3. Analytical approaches used to investigate the results of survey questions on mobile use, and the barriers preventing mobile ownership and mobile internet use.

Comparisons to GSMA Connected Women's earlier work

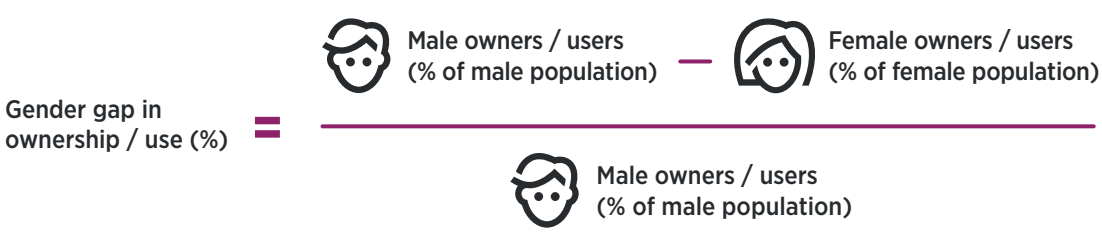
Due to refinement in the wording and structure of the questionnaire year-on-year and the changes in underlying methodology outlined in this document, caution should be taken in drawing conclusions about country-level, year-on-year changes from previous *Mobile Gender Gap* reports. Any trends identified 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 (2020), The Mobile Gender Gap Report 2020.
2. See Table 1 for definitions of the gender gap and other key terms.
3. Twelve countries were surveyed by GSMA Intelligence in 2017, 2018 and 2019: Algeria, Bangladesh, Brazil, Guatemala, India, Indonesia, Kenya, Mexico, Myanmar, Nigeria, Pakistan and South Africa. Five countries were surveyed by GSMA Intelligence in 2017 and 2018: Argentina, Dominican Republic, China, Côte d'Ivoire and Tanzania. One country was surveyed by GSMA Intelligence in 2018 and 2019: Mozambique. Eight countries were surveyed by GSMA Intelligence 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 GSMA Intelligence for the first time in 2019: Senegal and Uganda. Fieldwork was carried out in September, October and November in 2017, 2018 and 2019.

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 as low income (GNI per capita of $1,025 or less in 2018), lower-middle income (GNI per capita between $1,026 and $3,995) or upper-middle income (GNI per capita between $3,996 and $12,375) by the World Bank.[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 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.
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 the period. Subscribers differ from connections in that a unique user 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 87 per cent to 99 per cent across the sample countries).
Unique smartphone subscriber	Unique smartphone users are calculated by taking the number of smartphone connections from GSMA Intelligence data and dividing this by the average number of SIMs per smartphone user using a combination of GSMA Intelligence and survey data to obtain the estimate of 'unique' smartphone connections.
Unique subscriber penetration	Total subscribers at the end of the period expressed as a percentage share of the total market 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:



4. The World Bank Country and Lending Groups, FY 2020 includes 138 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 Intelligence Consumer Survey 2019

Scope of the survey

The Mobile Gender Gap Report 2020 is based primarily on a nationally representative survey of 15 LMICs conducted as part of the GSMA Intelligence Consumer Survey 2019 (see Figure 1 and Table 2). Over 16,000 face-to-face interviews were conducted in 2019. *The Mobile Gender Gap Report* series covers 28 countries representing over 75 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

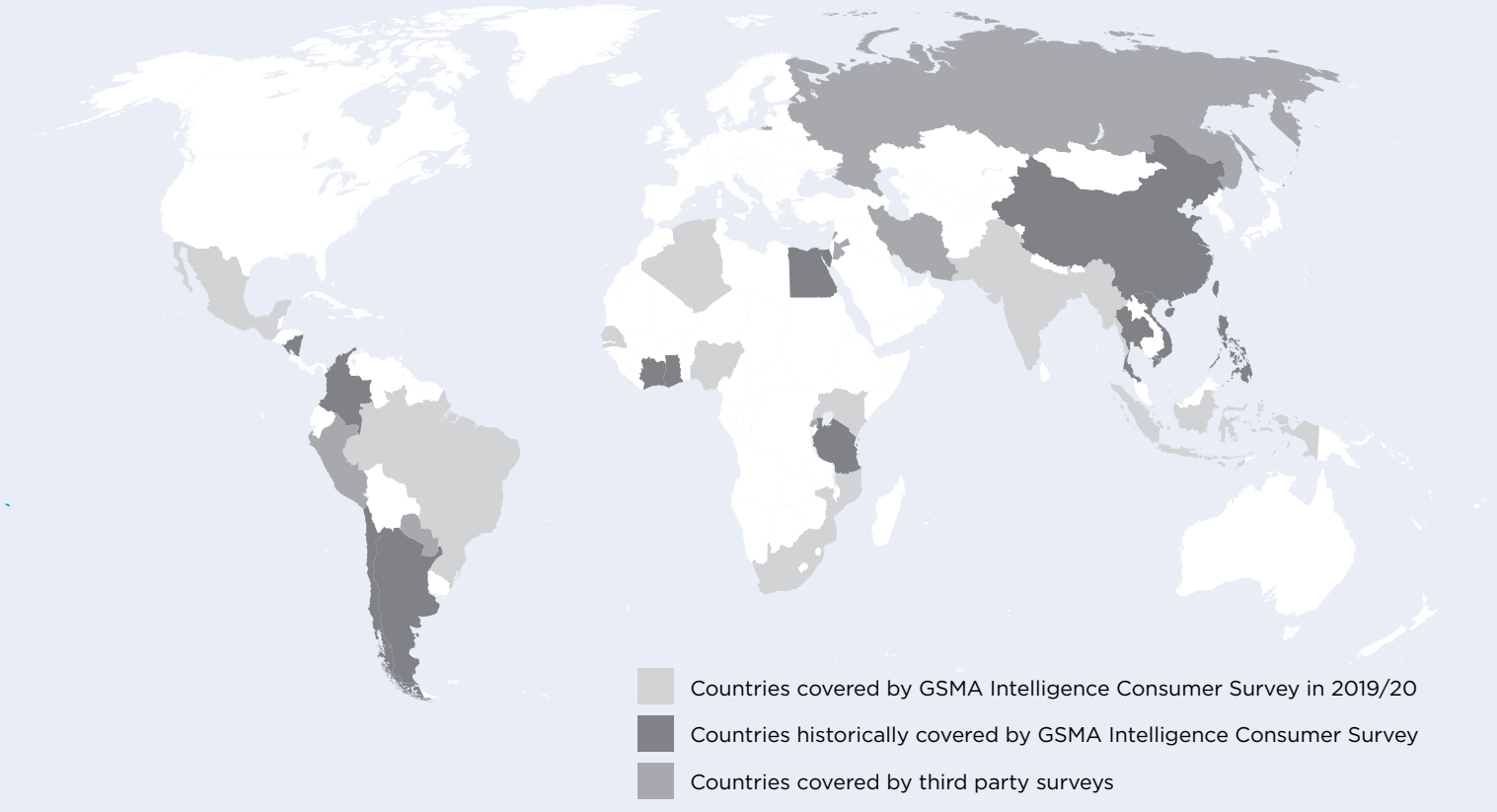


Table 2

Surveyed countries, by region

GSMA INTELLIGENCE CONSUMER SURVEY COUNTRY COVERAGE

REGION	COUNTRY	2017–2018 (28 countries)	2018–2019 (18 countries)	2019–2020 (15 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 2019–2020, see Box 1 on next page

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)	2019–2020 (3 countries)
AFRICA	Rwanda	✓	–	–
ASIA	Cambodia	–	–	–
	China	–	–	✓
	Philippines	✓	✓	✓
EUROPE & CENTRAL ASIA	Russia	✓	✓	–
LATIN AMERICA	Paraguay	✓	–	–
	Peru	✓	–	–
MIDDLE EAST & NORTH AFRICA	Iran	✓	✓	✓
	Jordan	✓	–	–
	Lebanon	✓	–	–

Sampling and fieldwork

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

To achieve a nationally representative sample, quotas were applied in line with census data 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, Senegal and Uganda 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.

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 by both female and male interviewers. Interviews were conducted in 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 ongoing 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.

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 2020* provides figures on the gender gap in LMICs for three key metrics:

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

In the 15 countries surveyed in the 2019 Consumer Survey, these figures were derived directly from the survey results.[6] *The Mobile Gender Gap Report* series covers 28 countries representing over 75 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 and 2019 were the primary inputs for the model.[8] 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.[9] All country-level figures cited in the main study were derived directly from the results of GSMA Intelligence 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 20 per cent, the variable relationships and resultant extrapolation formulae are different, and the country-level estimates vary between the two models (see Tables 4 and 5 and *Final extrapolation model equations* on page 13).

6. The countries surveyed in each year (2017, 2018 and 2019) are used to derive the gender gaps directly for that year.
7. United Nations Department of Economic and Social Affairs, Population Division, 2020, "World Population Prospects 2019".
8. Where 2017 or 2018 data was the primary input for a country, year-on-year change between 2017, 2018 and 2019 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 2019 (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. The extrapolation models estimated a gender gap that was, on average, within +/– two percentage points of those derived from the survey (see Table 4 for a comparison of modelled and survey 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.

Table 4

Survey versus modelled results of gender gaps in mobile ownership, mobile internet use and smartphone ownership across countries surveyed face-to-face in 2019

Country coverage 2019	Mobile ownership		Mobile internet use		Smartphone ownership	
	Surveyed gender gap	Modelled gender gap	Surveyed gender gap	Modelled gender gap	Surveyed gender gap	Modelled gender gap
Algeria	6%	7%	19%	21%	20%	17%
Bangladesh	29%	26%	52%	59%	41%	57%
Brazil	-1%	2%	-3%	-4%	-1%	0%
Guatemala	11%	11%	15%	17%	18%	13%
India	20%	25%	50%	55%	62%	54%
Indonesia	10%	8%	14%	14%	13%	12%
Kenya	5%	6%	34%	31%	26%	23%
Mexico	2%	5%	-1%	-2%	-3%	1%
Mozambique	17%	19%	39%	49%	18%	34%
Myanmar	14%	9%	30%	29%	21%	20%
Nigeria	7%	10%	29%	30%	19%	21%
Pakistan	38%	40%	49%	62%	49%	58%
Senegal	4%	15%	19%	41%	19%	27%
South Africa	6%	2%	13%	4%	13%	7%
Uganda	17%	16%	47%	38%	31%	27%

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.[11] 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 small number of LMICs were not included in the outputs of the extrapolation model due to a lack of available data for the predictor variables.[12] For these countries, gender gaps were imputed based on regional averages. However, as they only made up one per cent of the total adult population of LMICs, this did not have an impact on the overall results. At the regional level, excluded countries made up no more than six per cent of the adult population of LMICs, so they also had minimal influence on the findings.

11. Unique smartphone users are calculated by taking the number of smartphone connections from GSMA Intelligence data and dividing this by average SIMs per smartphone user using a combination of GSMA Intelligence and survey data to obtain the estimate of 'unique' smartphone connections.
12. The countries were: Cuba, Djibouti, Dominica, Eritrea, Grenada, Guinea-Bissau, Kiribati, Kosovo, Marshall Islands, Micronesia, Nauru, North Korea, Palestine, Saint Vincent and the Grenadines, Samoa, Solomon Islands, Somalia, Syria, Turkmenistan, Tuvalu and Vanuatu.

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.[13] Over 90 independent variables were 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 – adopted two variants of the "k-fold" method:
  - 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. GSMA (2019), The Mobile Gender Gap Report 2019: Methodology.
14. Akaike Information Criterion and Bayesian Information Criterion

Table 5 presents regression outputs for 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 for consistency. 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 13).

The top section of Table 5 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 and mobile internet use are consistent with *The Mobile Gender Gap Report 2019*. However, raw survey inputs have been updated to account for new data released in 2019 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 was estimated to be 21 per cent in *The Mobile Gender Gap Report 2018*. However, with updated survey trends, the modelled estimate for that year has been revised to 20 per cent.

Table 5

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	-0.035***	—	—
Proportion of female adults with a mobile phone, Gallup	-0.285***	—	—
GDP per capita	—	-0.105***	-0.080***
Mean years of schooling, female	—	-0.003	0.006
Facebook gender gap	—	0.454***	0.310***
South Asia dummy	0.141***	0.149***	0.259***
N	70	71	60
Adjusted R^2	0.815	0.851	0.854
RMSE	0.049	0.088	0.075
MAE	2.66	4.483	3.395
AIC	-218.7	-138.8	-135.8
BIC	-209.7	-127.4	-125.3

* p<0.1, ** p<.05, *** p<.01

It is worth noting that while the models were selected based on how they performed across relevant diagnostics, 2017, 2018 and 2019 estimates of gender gaps in mobile ownership, mobile internet use and smartphone ownership in LMICs were the same overall regardless of whether the first or second best performing models were used, and the third best performing model differed by just one per cent at most. The estimates for the global gender gap in LMICs are therefore robust across different models.

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

$Ownership_{GG} = 0.292 + 0.141 \times South\ Asia\ Dummy - 0.035 \times Female\ Income\ Education\ Index - 0.285 \times Female\ mobile\ adoption$

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

$MI_{GG} = 1.041 + 0.149 \times South\ Asia\ Dummy - 0.105 \times GDP\ per\ capita - 0.003 \times mean\ years\ of\ schooling\ for\ women + 0.454 \times Facebook_{GG}$

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

$Smartphone_{GG} = 0.750 + 0.259 \times South\ Asia\ Dummy - 0.080 \times GDP\ per\ capita + 0.006 \times mean\ years\ of\ schooling\ for\ women + 0.310 \times Facebook_{GG}$

Analysing mobile use and barriers

Barriers to mobile ownership and mobile internet use

In *The Mobile Gender Gap Report 2020*, 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 in the last three months but have not used mobile internet during that period, despite being aware of it.[15]

The GSMA Intelligence Consumer Survey 2019 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 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 18 barriers to mobile internet use (see Table 6 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 Skills;
- Relevance;
- Safety and Security; and
- Accessibility.

Within each theme, responses to individual barriers were further grouped into a single composite figure, with the exception of those under the Accessibility theme, which were too diverse to be combined into one. Table 6 shows how the barriers to mobile ownership and mobile internet use were grouped by composite. The composites were calculated using respondent level feedback, and are not an average of the values of all barriers included in the category. 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 accurately represented. Once composite barrier groupings were created, values were averaged across the constituent countries in each region to rank the importance of each barrier on a regional level.

There are now two consecutive years of directly comparable data on barriers to mobile ownership and mobile internet use. This has allowed a year-on-year comparison with the findings of *The Mobile Gender*

15. The proportion of adults that are 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).

Gap Report 2019. If the importance of a barrier has increased, this indicates that either more respondents have cited it as a top barrier, or fewer respondents have cited other barriers as most important, and the barrier is ranked more highly than last year. Similarly, where a barrier's importance has decreased, the inverse is true. Note that some changes in the relative importance of barriers may stem from changes in the countries covered by the annual survey.

Table 6

Individual barriers within each composite theme

Affordability composite:		Literacy and Skills composite:		Relevance composite:		Safety and Security composite:		Accessibility (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

Analysing use of mobile services

The GSMA Intelligence Consumer Survey 2019 asked mobile owners to identify the types of services they used on a mobile phone. Respondents were asked to select from a list of 28 common use cases ranging from basic services, such as calling and SMS, to more advanced internet-based services (see Table 7).

The list of use cases has been updated in the 2019 Consumer Survey. Respondents were also asked to report how frequently they used each type of service. Analysis in *The Mobile Gender Gap 2020* report focused on weekly usage to exclude services that were used only sporadically.

Table 7

Types of mobile use cases

Communications	Entertainment	Financial	Information
Network calls	Playing free games	Using online banking	Accessing services that improve or monitor health
IP calls	Playing paid for games	Using mobile money to send or receive money	Accessing government services
SMS and MMS	Watching free-to-access online video	Paying for goods using contactless payment	Looking or applying for jobs
Video calling	Paying for online TV subscriptions	Paying utility bills	Accessing information to support education
Instant messaging apps	Paying for on-demand TV and movies		Accessing information on farming or fishery services
Visiting social networking sites	Listening to free online music		Using maps, timetables and traffic information applications
	Listening to music from a paid subscription service		Finding information about goods and services
	Listening to music purchased from an online music retailer		Ordering and purchasing goods
			Reading the news
			Using a ride hailing, taxi, e-bike or scooter app

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.

For more information about the methodology of *The Mobile Gender Gap Report 2020*, contact: GSMA Connected Women.

www.gsma.com/r/gender-gap

For more information, visit
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