



Connected Women

The Mobile Gender Gap Report 2018





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GSMA Connected Women

The GSMA Connected Women Programme works with mobile operators and their partners to address the barriers to women accessing and using mobile internet and mobile money services. Connected Women aims to reduce the gender gap in mobile internet and mobile money services and unlock significant commercial opportunities for the mobile industry and socio-economic benefits for women.

For more information, please visit www.gsma.com/mobilefordevelopment/programmes/connected-women



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1. The importance of equalising mobile ownership and use for women

With over 5 billion subscribers worldwide,¹ mobile is one of the most far-reaching technologies in history. It has the capacity to deliver transformative services and opportunities to users, especially access to the internet. In fact, for most of the world's population, mobile is the primary way to access the internet,² with close to 3.3 billion people subscribing to mobile internet services.³

Mobile also has the power to transform lives. It can empower women by making them feel safer and more connected, and provide access to information, services and life-enhancing opportunities like health information, financial services and employment opportunities, often for the first time.

However, in today's increasingly connected world, women are being left behind. While mobile connectivity is spreading quickly, it is not spreading equally. In low- and middle-income countries, women have less access to technology than men, especially mobile. Unequal access to mobile technology threatens to exacerbate the inequalities women already experience.

This report builds on previous work by the GSMA and other organisations⁴ to draw attention to women's unequal access to mobile technology and to spur action on this important issue. The analysis is based on findings from quantitative face-to-face surveys with women and men in 23 low- and middle-income countries across Asia, Africa and Latin America.

1. GSMA Intelligence, Q4 2017.

2. Mobile is the primary means of accessing the internet for most residents of the low- and middle-income countries covered in this report. See, for example, [ITU Facts and Figures 2017](#).

3. GSMA Intelligence, Q4 2017.

4. See, for example, GSMA, 2015, "[Bridging the gender gap: Mobile access and usage in low- and middle-income countries](#)"; GSMA, 2010, "[Women & Mobile: A Global Opportunity](#)"; APC, 2015, "[How technology issues impact women's rights: 10 points on Section J](#)"; Broadband Commission for Sustainable Development, 2017, "[Working Group on the Digital Gender Divide, Recommendations for action: bridging the gender gap in Internet and broadband access and use](#)"; UNESCO, 2015, "[Mobile Phones & Literacy: Empowerment in Women's Hands - A Cross-Case Analysis of Nine Experiences](#)"; and further work from organisations such as Research ICT Africa and the Alliance for Affordable Internet.

KEY FINDINGS

1. Women in low- and middle-income countries are, on average, 10% less likely to own a mobile phone than men, which translates into 184 million fewer women owning mobile phones.⁵

2. Even when women own mobile phones, there is a significant gender gap in usage, particularly for more transformational services, such as mobile internet.

3. Over 1.2 billion women in low- and middle-income countries do not use mobile internet. Women are, on average, 26% less likely to use mobile internet than men. Even among mobile owners, women are 18% less likely than men to use mobile internet.⁶

4. The gender gap is wider in certain parts of the world. For instance, women in South Asia are 26% less likely to own a mobile than men and 70% less likely to use mobile internet.

5. Cost remains the greatest barrier to owning a mobile for both men and women.

6. Beyond cost, barriers to mobile ownership tend to be related to the local context, with low digital literacy⁷ and literacy⁸ standing out in several markets, and safety and security concerns in Latin America, all of which tend to affect women disproportionately.

7. Women are less aware of mobile internet compared with men, which significantly limits their uptake, particularly in Africa and Asia.

8. Among those who are aware of mobile internet, the biggest barriers to use for both women and men are cost-related. Other key barriers across markets, often felt more strongly by women, are a perception that mobile internet is not relevant to their lives, low digital literacy,⁹ and safety and security-related issues.

9. Closing the gender gap represents a substantial commercial opportunity for the industry. If mobile operators in low- and middle-income countries could close the gender gap in mobile ownership and mobile internet use today, this would generate an estimated incremental revenue of \$15 billion over the coming year.¹⁰

5. Throughout this report, 'mobile' or 'mobile phone' ownership refers to personally owning a SIM card, or a mobile phone which does not require a SIM, and using it at least once a month.
 6. Compared to 850 million men. Refers to use of the internet on a mobile phone in the last three months. Mobile internet users do not necessarily have to personally own a mobile phone.
 7. Refers to not knowing how to use a mobile phone.
 8. Refers to reading and writing difficulties.
 9. Refers to not knowing how to use a mobile phone and not knowing how to access the internet on a mobile
 10. The \$15 billion estimate assumes that the gender gap in mobile ownership and mobile internet use would be closed during 2018, and represents the subsequent 12-month incremental revenue opportunity.

Key findings

In low- and middle-income countries

Women are

10% 

less likely than men to own a mobile phone

184 million

fewer women own a mobile than men

In low- and middle-income countries

Over

1.2 billion

women do not use mobile internet

Women are

26% less likely than men to use mobile internet



There is a significant gender gap in mobile usage



– particularly for more transformational services



Women in South Asia are **26%** less likely to own a mobile than men and **70%** less likely to use mobile internet

Cost



is the greatest barrier to both mobile ownership and to mobile internet use

Other key barriers, often felt more strongly by women than men,

include lack of perceived relevance, safety and security-related issues and low digital literacy and literacy



Women are less **aware** of mobile internet compared with men

\$15 billion 

The estimated incremental 12 month revenue opportunity if mobile operators in low- and middle-income countries could close the gender gap in mobile ownership and mobile internet use today



DEFINITIONS FOR THIS REPORT



GENDER GAP

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

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



MOBILE OWNER

‘Mobile phone owner’ and ‘mobile owner’ are used interchangeably in this report to mean a person who has sole or main use of a SIM card, or a mobile phone which 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 (an average of 97% across the sample countries).



MOBILE INTERNET USER

A person who has used the internet on a mobile phone at least once in the last three months.¹¹ Mobile internet users do not have to personally own a mobile phone, and therefore they can be non-mobile phone owners who use mobile internet by accessing it on someone else’s mobile phone.

11. Respondents were asked the question: “People are using the internet on their mobile phones when they do ANY of the following: browse internet websites (e.g. Google or Amazon), visit social networking websites (e.g. Facebook, Twitter, YouTube, Weibo), send emails or IP messages (e.g. WhatsApp, Snapchat, WeChat, LINE), download apps. 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.” Mobile internet users are those who answered “Yes, I have used the internet on a mobile phone in the last three months.”

2. Sizing the mobile gender gap

There is still a considerable gender gap in mobile ownership

There is a substantial and persistent gender gap in mobile ownership across low- and middle-income countries. This study found that women in these countries are on average 10% less likely to own a mobile than men, which translates into 184 million fewer women than men owning mobiles (Figure 1).

The analysis in this report estimates that in 86% of all low- and middle-income countries, more men than women own mobiles, and 58% of these countries have a gender gap greater than 5%.¹² Corroborating previous studies, the analysis found a strong negative correlation between women's education and income levels and a gender gap

in mobile ownership.¹³ That is, where female educational attainment is lower and female income is smaller, particularly relative to handset costs, the gender gap tends to be larger.

Analysis also found a negative correlation between the level of mobile phone penetration and the gender gap in mobile ownership, so countries with lower overall rates of mobile ownership are more likely to have a larger gender gap in mobile ownership. For example, in Bangladesh, overall mobile ownership is 68% and there is a gender gap of 33%, whereas in Argentina, mobile ownership levels are much higher at 86% and there is no gender gap.



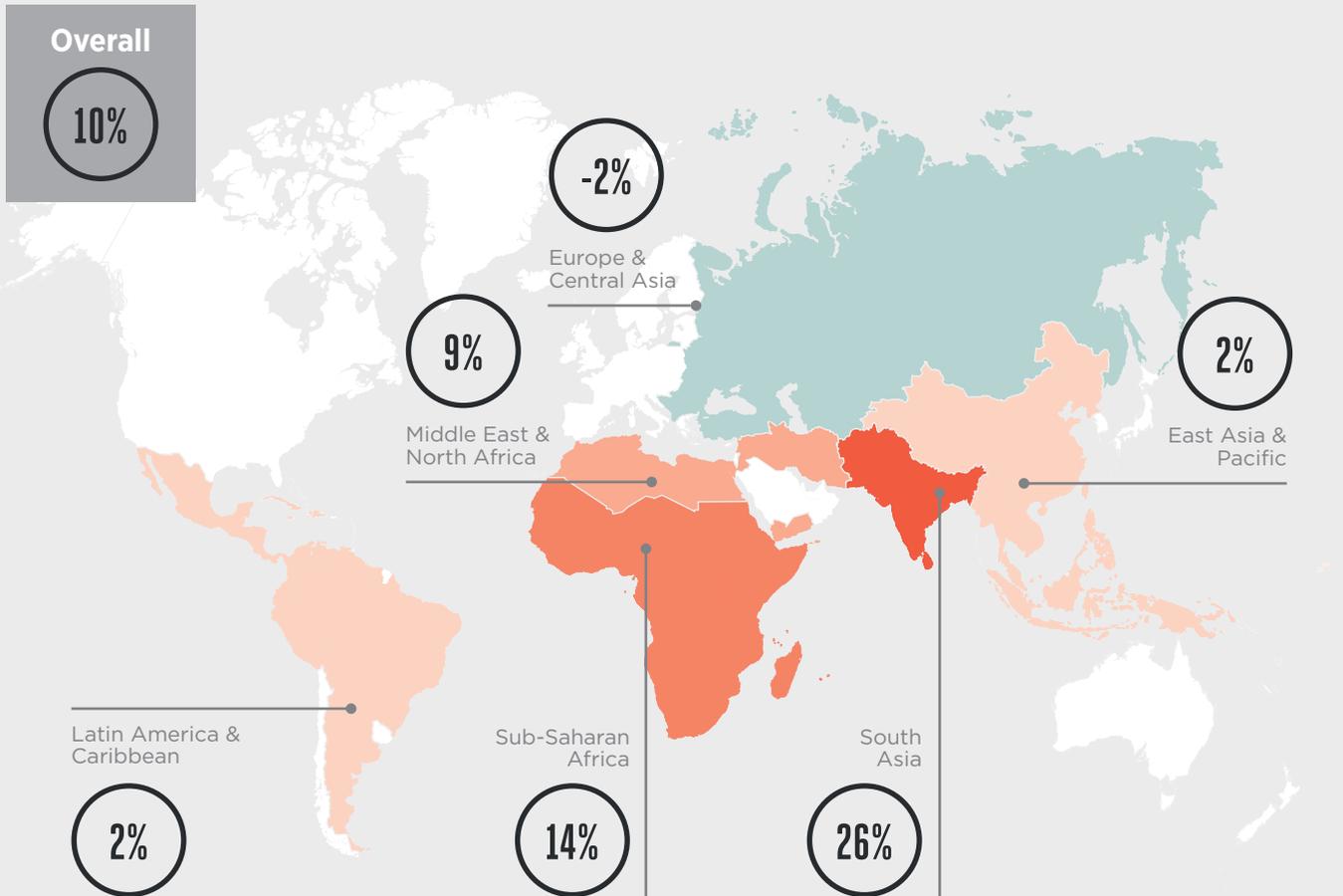
12. These figures are the result of an extrapolation of survey findings to non-surveyed countries, combined with findings from surveyed countries. For more details on this approach, see the Methodology section.

13. For example, Research ICT Africa found that income and education have had a significant effect on mobile ownership in 11 countries in Africa. See Research ICT Africa and University of Cape Town, 2012, "Lifting the veil on ICT gender indicators in Africa".

Figure 1

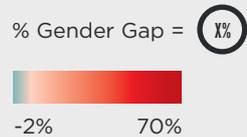
The gender gap in **mobile ownership** in low- and middle-income countries, by region

Base: total population



Across low- and middle-income countries:

- 390 million women are unconnected
- 184 million fewer women than men own a mobile



Source: GSMA Intelligence, 2017

The gender gap refers to how less likely a woman is to own a mobile than a man

Mobile ownership is defined as a person having sole or main use of a SIM card (or a mobile phone that does not require a SIM), and using it at least once a month

Based on survey results and modelled data for adults aged 18+

Beyond ownership: the mobile usage gender gap

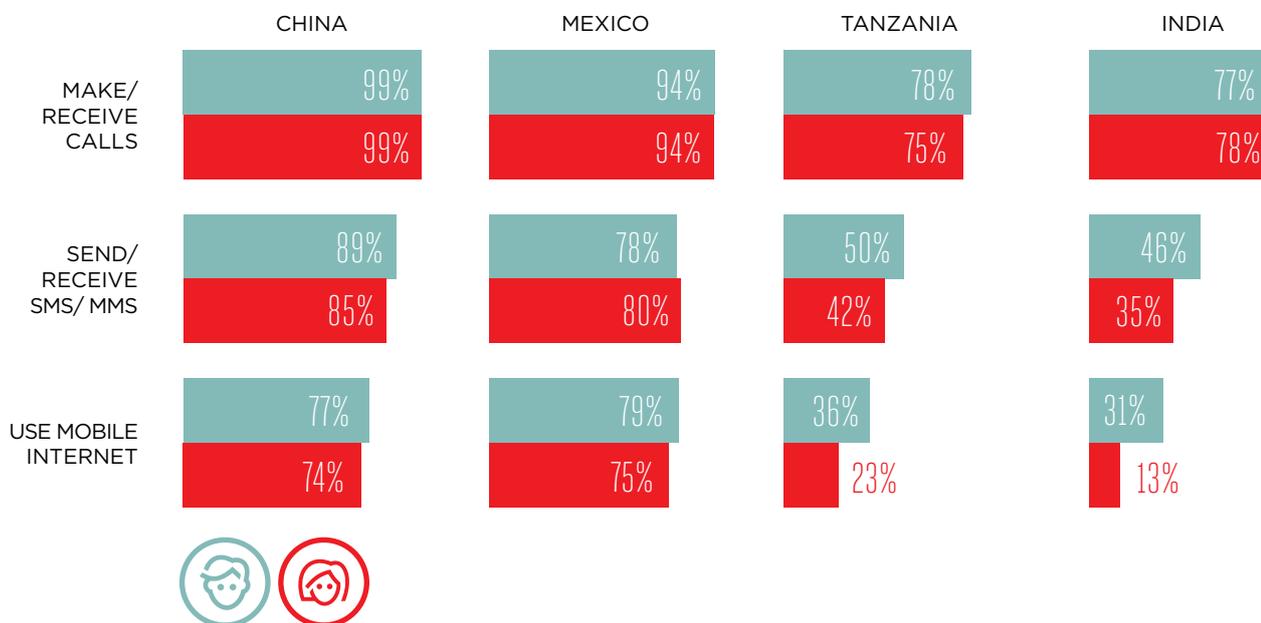
Even when women own a mobile phone, they are generally less likely than men to use more transformational services, preventing them from reaping the full benefits of the technology. In most of the 23 countries surveyed,¹⁴ women and men used voice calling at similar levels — often more than 90% of mobile owners. In comparison, SMS use was found to be lower for women in around half of the countries.

The gender gap in mobile internet use is greater than the mobile ownership gap in 19 of the 23 surveyed countries.¹⁵ In several countries, women’s mobile internet use remains extremely low; for example, only 13% of female mobile owners in India had used mobile internet in the last three months, compared to 31% of males, as illustrated along with a selection of example countries in Figure 2.

Figure 2

Services used by mobile owners in selected countries

% of mobile owners who...



Source: GSMA Intelligence Consumer Survey, 2017

Base: mobile owners aged 18+. A mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM), and uses it at least once a month

Use of SMS and making/receiving calls = 'at least once a month'; mobile internet use = 'at least once in the past three months'
 n = 386 to 955 for women and n = 382 to 986 for men

The gender gap in mobile internet use is considerably wider than the mobile ownership gap in all regions

Over 1.2 billion women in low- and middle-income countries do not use mobile internet. Women are 26% less likely than men to use mobile internet, which translates into 327 million fewer women than men using mobile internet (Figure 3).

While the gender gap in mobile ownership is a significant factor in the mobile internet gender gap, it does not fully explain the scale of the disparity. Even among mobile owners, women are on average 18% less likely to use mobile internet than men.

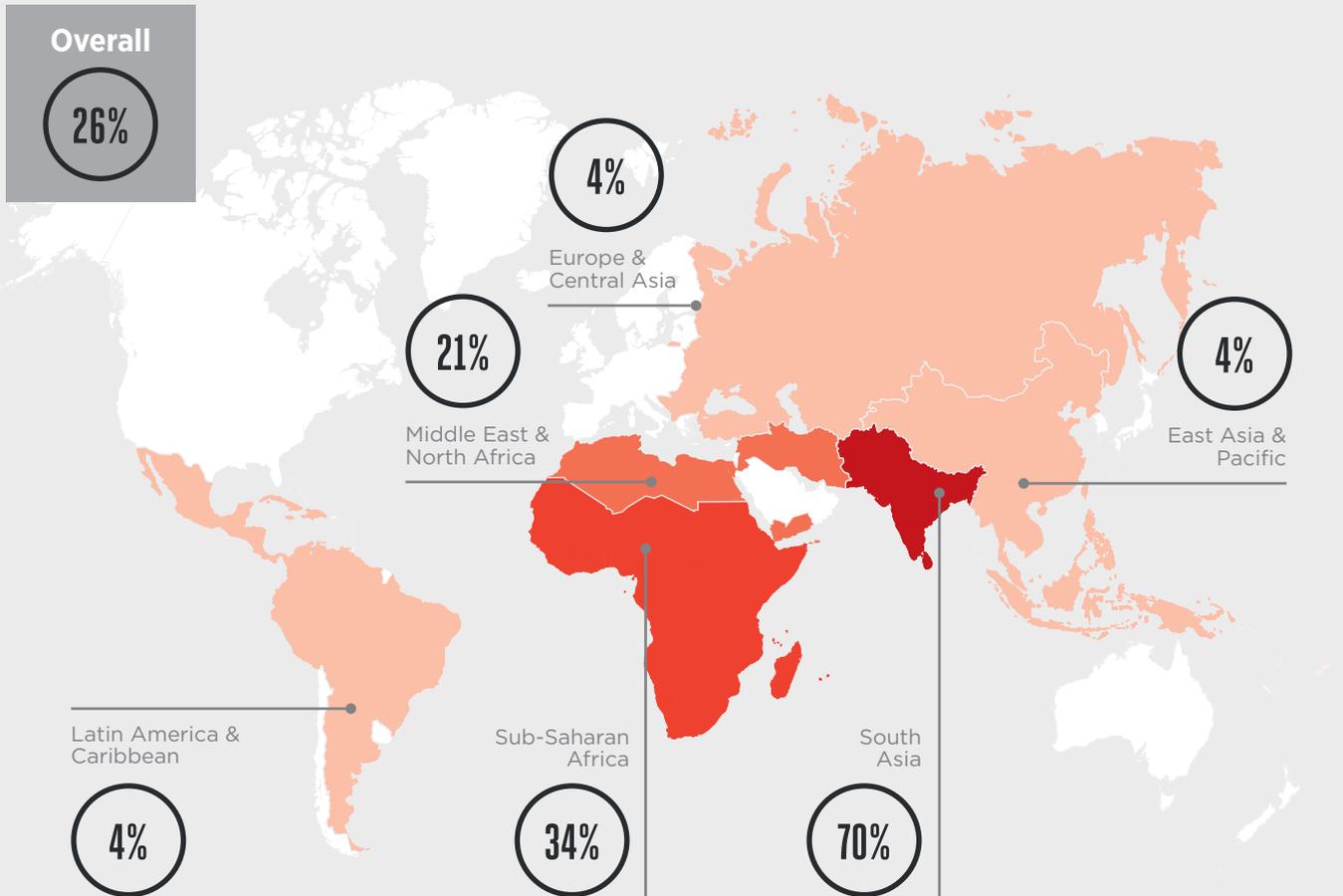
14. 'Countries surveyed' refers to the 23 countries where primary research was conducted. See the Methodology section of this report for the complete list of markets covered in the research.

15. This refers to mobile internet use as a share of the total population. The exceptions are Argentina, Chile, Dominican Republic and the Philippines. In Indonesia, a higher share of female mobile phone owners used mobile internet, but this represents a lower share of the total population due to higher levels of male mobile ownership.

Figure 3

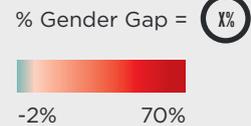
The gender gap in **mobile internet** use in low- and middle-income countries, by region

Base: total population



Across low- and middle-income countries:

- 1.2 billion women do not use mobile internet
- 327 million fewer women than men use mobile internet



Source: GSMA Intelligence, 2017

The gender gap refers to how less likely a woman is to use mobile internet than a man

Mobile internet use is defined as a person having used the internet on a mobile phone at least once in the last three months.

Mobile internet users do not have to personally own a mobile phone, and the above figures therefore also include those who used mobile internet on somebody else's phone

Based on survey results and modelled data for adults aged 18+



Women who use mobile internet are less likely to use as many services as men

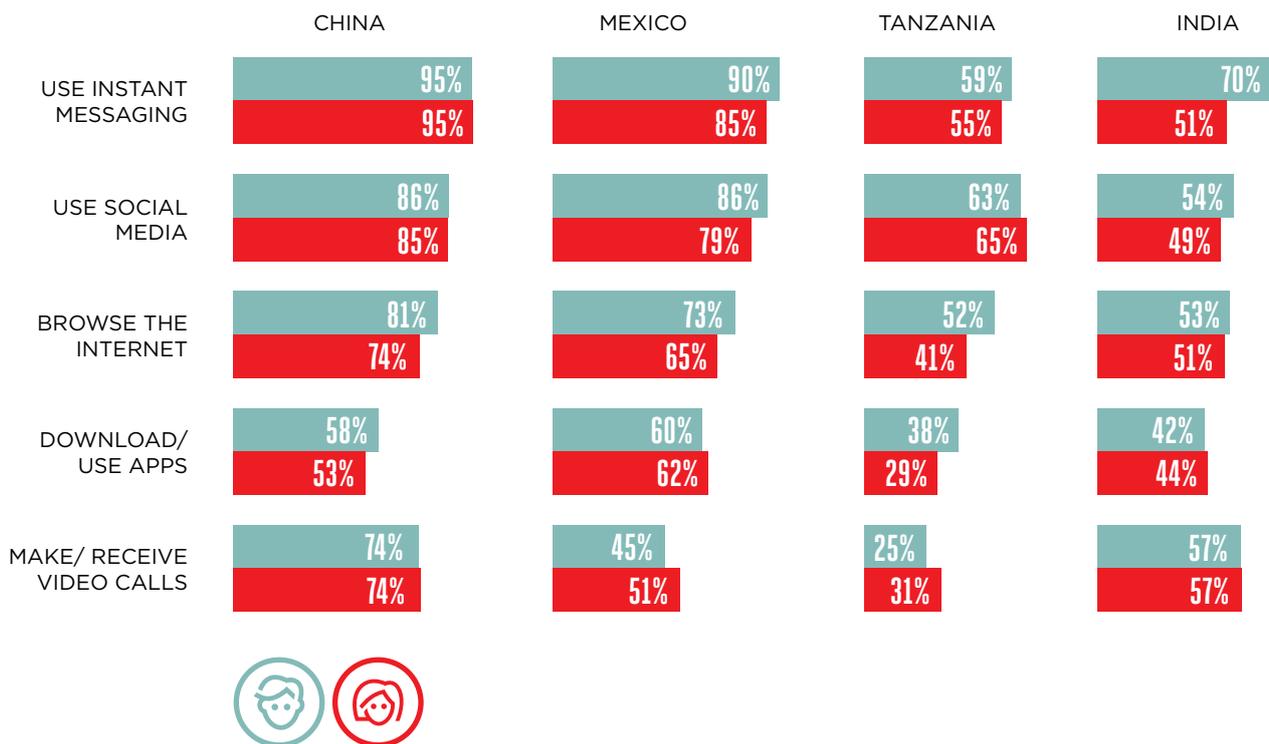
Among mobile internet users, women tend to be less likely than men to use internet services. For example, while social networking and instant messaging were found to be popular among female mobile internet users, the rate of uptake of these services, along with downloading and installing apps, is still lower than for men (Figure 4).

One exception is video calling, where more female mobile internet users than male use this service in almost three-quarters of the markets surveyed.¹⁶ Despite high data use, video calling can be appealing to less confident internet users because of the lower literacy requirements, and may be considered a more socially acceptable use case for women whose internet use may otherwise be restricted by social norms.¹⁷

Figure 4

Online activity of mobile internet users in selected countries

% of mobile internet users who...



Source: GSMA Intelligence Consumer Survey, 2017

Base: mobile internet users aged 18+. Mobile internet user is defined in this graph as those who own a mobile phone and have used mobile internet in the last three months. Percentage represents the proportion of mobile internet users who perform each of the above online activities at least once per month.

n = 78 to 708 for women and n = 137 to 761 for men

16. In 17 of the 23 markets, usage rates for video calling were higher for women than men, and were more than five percentage points higher in 7 of these markets.

17. Video calling was highlighted as an important use case for women in "Triggering mobile internet use among men and women in South Asia", GSMA Connected Women and Connected Society, 2017. It was perceived by many South Asian men and women as an effective way of staying in touch with family, particularly those living abroad, and was therefore seen as more socially acceptable than other, more 'frivolous' uses of the internet.

There are substantial regional and country-level variations in the mobile gender gap

The size of the gender gap in mobile ownership and mobile internet use varies considerably between regions, within regions and even within countries.

Regionally, South Asia has the largest average gender gap in both mobile ownership and mobile internet use, followed by Sub-Saharan Africa. In South Asia, the mobile ownership gender gap is 26%, while the gender gap in mobile internet use stands at 70%, highlighting the region's dramatic gender inequality in access to mobile technology. By contrast, across European and Central Asian low- and middle-income countries, slightly more women than men own mobiles, although they

were still less likely than men to use mobile internet. The gender gap within regions is also far from homogenous. For example, in East Asia and Pacific, there is a 20% gender gap in mobile ownership in Myanmar compared to -3% in the Philippines.¹⁸

While some countries are approaching saturation in mobile ownership, mobile internet penetration is still comparatively low in many of the surveyed markets, particularly for women. For example, only 10% of women in Pakistan use mobile internet compared to 26% of men.¹⁹ Figure 5 illustrates the gender differences in mobile ownership and mobile internet use in example markets.



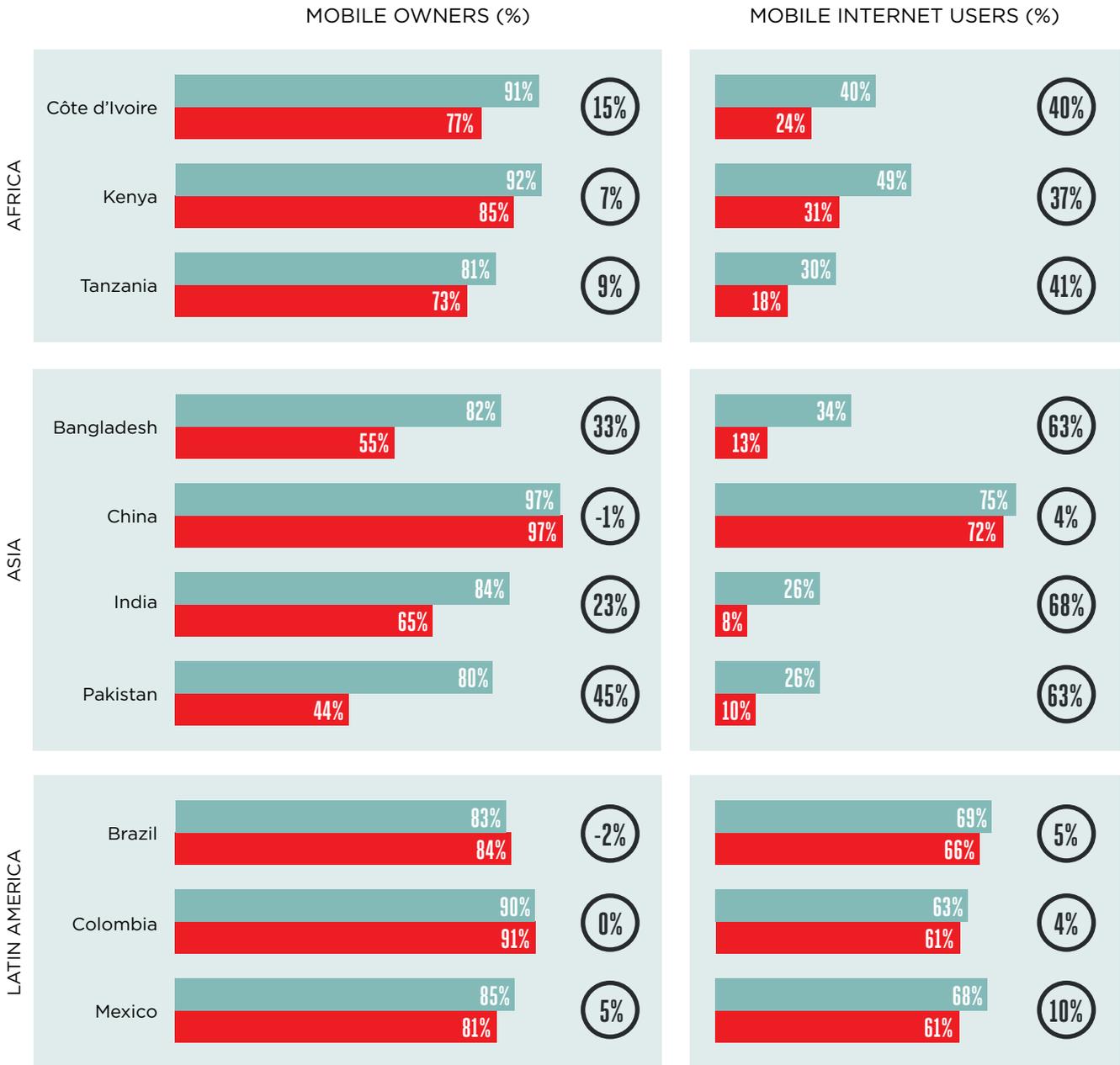
18. A negative gender gap indicates that mobile ownership is higher among women than men.

19. As a share of total population.

Figure 5

Mobile and mobile internet penetration

% of total adult population, by country and gender



Source: GSMA Intelligence Consumer Survey, 2017

Base: total population aged 18+

A mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM), and uses it at least once a month

A mobile internet user is defined as a person who has used the internet on a mobile phone at least once in the last three months.

Mobile internet users do not have to personally own a mobile phone

The gender gap in mobile ownership and mobile internet use refers to how less likely a woman is to own a mobile (or to use mobile internet) than a man

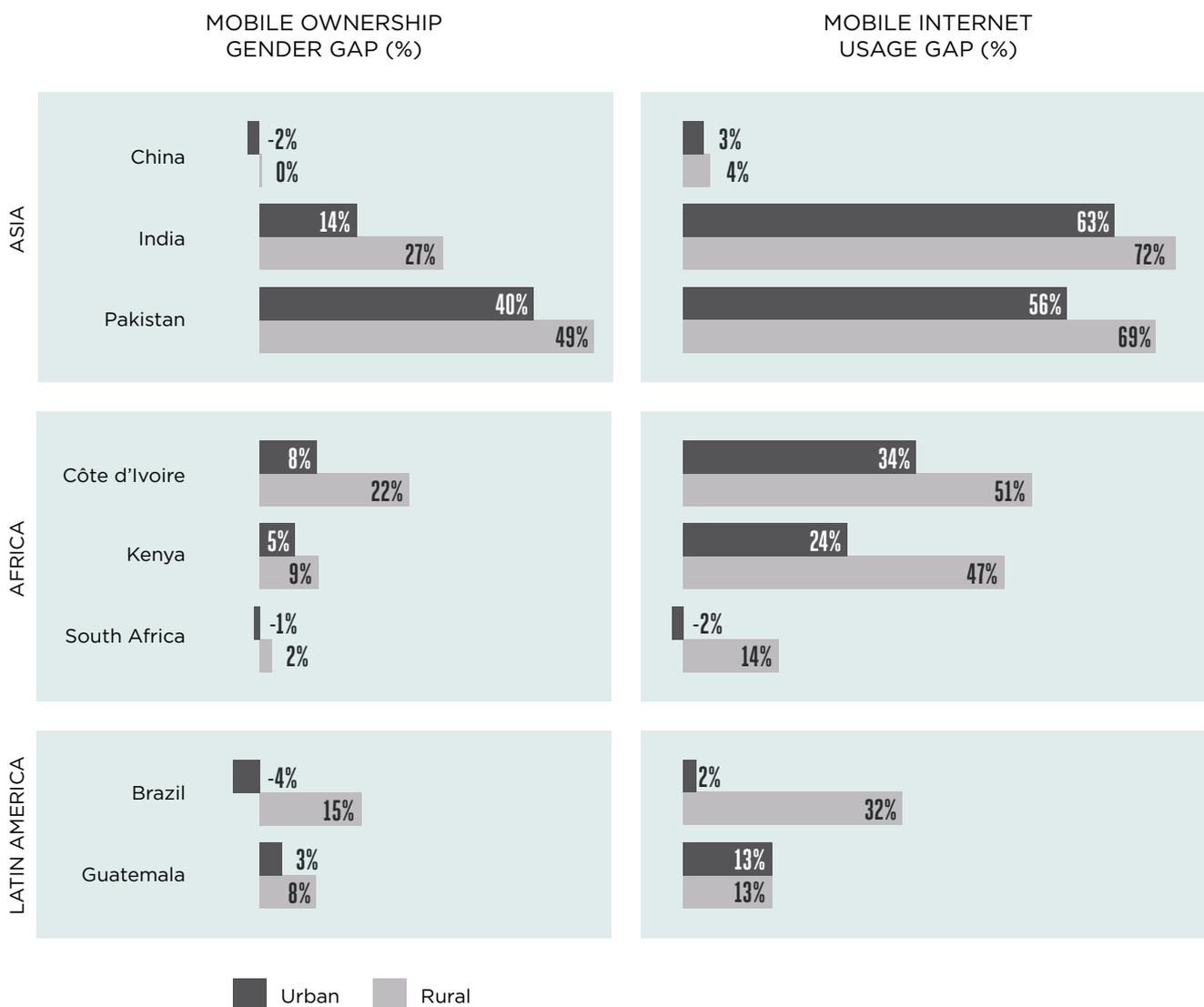
n= from 480 to 980 for women and n= from 474 to 1048 for men

For both mobile ownership and mobile internet use, the gender gap tends to be wider in rural areas than urban areas. Even where the gender gap in urban mobile ownership is minimal, the percentage of rural women who own mobiles is still generally far lower than men.

For example, in Côte d'Ivoire, the gender gap in mobile ownership is only 8% in urban areas compared to 22% in rural areas.²⁰ (see Figure 6 for examples of markets with a range of urban/rural gender gaps).²¹

Figure 6

The gender gap in mobile ownership and mobile internet use, urban versus rural



Source: GSMA Intelligence Consumer Survey, 2017

Base for 'Mobile ownership gap': mobile owners aged 18+; base for 'Mobile internet usage gap': mobile internet users aged 18+
 A mobile owner is defined as a person who has sole or main use of a SIM card (or a mobile phone that does not require a SIM), and uses it at least once a month

A mobile internet user is defined as a person who has used the internet on a mobile phone at least once in the last three months. Mobile internet users do not have to personally own a mobile phone

The gender gap in mobile ownership and mobile internet use refers to how less likely a woman is to own a mobile (or to use mobile internet) than a man

n= from 480 to 980 for women, n= from 476 to 1048 for men

20. It is important to note that mobile ownership and mobile internet use are both typically lower in rural areas than in urban ones. This could be due to a number of exacerbating factors that are often felt more strongly in rural areas, for example, lower income levels, lower levels of education, poor infrastructure and more limited coverage.

21. There are some exceptions to this, such as Colombia and the Philippines.

3. Barriers to mobile ownership and mobile internet use

The gender divide in mobile ownership and use is driven by a complex set of social, economic and cultural barriers. The 2017 GSMA Consumer Survey asked respondents in 23 countries whether certain pre-determined barriers were preventing them from 1) owning a mobile (if they did not already own one) or 2) using mobile internet (if they had used a mobile

in the last three months and were aware of mobile internet,²² but did not use it).

Figures 7 and 9 provide an overview of the responses. The percentages represent the proportion of respondents who claimed that the barrier was a main reason²³ preventing them from owning a mobile²⁴ or using mobile internet.²⁵

Mobile ownership: affordability is the main barrier for both women and men

Women and men who do not own a mobile phone report many of the same barriers to mobile ownership (Figure 7).²⁶ Affordability of handsets²⁷ stands out as a major barrier in almost every sample country, and the cost of credit is another barrier cited by women and men alike.²⁸

Beyond these cost-related barriers, impediments to ownership vary significantly between regions and between countries within regions, highlighting the importance of understanding the local context when tackling the gender gap in mobile ownership. In most countries, the main barriers to mobile ownership after cost tend to be difficulties with reading and writing and using mobile handsets. These challenges are felt

most strongly in several Asian and Sub-Saharan African countries. Across the sample countries, these issues were more commonly reported by female non-owners than male non-owners. For example, in Nigeria, 40% of women who did not own a mobile identified literacy as a key barrier to ownership, compared to only 22% of men.²⁹

Safety concerns, such as worries about being contacted by strangers and information security, are a major factor limiting mobile ownership in Latin America, and are typically felt more strongly by women.³⁰ In Mexico, for instance, 40% of women who do not own a mobile reported concerns about strangers contacting them as a main barrier to ownership (versus 24% of men).

22. Awareness of mobile internet constituted being aware of both the concept of the internet and that it can be accessed on a mobile phone.

23. This was considered to be when respondents chose the response: "This is one of the main reasons stopping me". Other possible responses were "This is a consideration, but not one of the main reasons", "This is not a reason or consideration for me" and "Don't know".

24. Responses to the question: "Thinking now about things that might be stopping you from having an active mobile phone or SIM card, connected to a mobile operator's network, for each of the possible reasons that I read out, please indicate to what extent, if at all, this stops you from having an active mobile phone or SIM card, connected to a mobile operator's network."

25. Responses to the question: "Thinking now about things that might be stopping you from using the internet on a mobile phone, for each of the possible reasons that I read out, please indicate to what extent, if at all, this stops you from using the internet on a mobile phone."

26. It should be noted that the responses presented here are only from those respondents who do not own a mobile phone. They are therefore not necessarily representative of the barriers felt by existing mobile phone owners. Also, as all barriers examined in this study are self-reported, more systemic barriers are not considered. The GSMA has previously identified a lack of gender-disaggregated data and a lack of focus on women by mobile operators and policymakers as key systemic barriers. See GSMA, 2015, "Bridging the gender gap: Mobile access and usage in low- and middle-income countries", p. 76

27. The question asked referred to both handset and SIM cost together. However, previous research has demonstrated that handset cost is typically the more prohibitive barrier than SIM. See, for example, GSMA, 2015, "Bridging the gender gap: Mobile access and usage in low- and middle-income countries", p. 42.

28. Affordability can be closely linked to the perception of value for money. A GSMA qualitative study in South Asia found that some respondents who reported cost as a major barrier to the uptake of mobile internet had a lack of understanding of the relevant use cases and benefits that internet access could bring, limiting its perceived value for money. See GSMA Connected Women and Connected Society, 2017, "Triggering mobile internet use among men and women in South Asia".

29. This corresponds to a commensurate disparity in male and female literacy in Nigeria. In 2008, 41% of females over the age of 15 in Nigeria were literate, compared to 61% of men, according to United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.

30. However, it is important to note that studies also show that some women feel that mobile ownership and access to services can be used in ways that enhance their personal security. See GSMA, 2015, "Bridging the gender gap: Mobile access and usage in low- and middle-income countries", p.50

Figure 7

Barriers to owning a mobile phone

% of non-mobile owners who identified the following as a main barrier to mobile ownership:

	AFFORDABILITY				USABILITY AND SKILLS						RELEVANCE	
	HANDSET / SIM COST		CREDIT COST		HANDSET NOT IN MY LANGUAGE		DO NOT KNOW HOW TO USE A MOBILE		READING/WRITING DIFFICULTIES		MOBILE IS NOT RELEVANT FOR ME	
	W	M	W	M	W	M	W	M	W	M	W	M
AFRICA												
Algeria	10%	8%	13%	11%	9%	10%	18%	17%	17%	16%	12%	14%
Côte d'Ivoire	33%	31%	19%	26%	10%	9%	28%	19%	38%	24%	15%	7%
Ghana	23%	20%	24%	15%	9%	6%	9%	13%	14%	4%	6%	8%
Nigeria	47%	30%	29%	20%	21%	7%	30%	10%	40%	22%	23%	10%
South Africa	21%	8%	25%	12%	11%	12%	11%	10%	11%	11%	9%	12%
Tanzania	42%	42%	17%	19%	12%	7%	15%	12%	19%	9%	9%	6%
ASIA												
Bangladesh	19%	22%	18%	18%	13%	13%	28%	37%	43%	44%	27%	31%
India	26%	22%	26%	23%	19%	18%	25%	22%	30%	22%	16%	12%
Indonesia	29%	33%	22%	24%	16%	11%	34%	22%	22%	13%	23%	10%
Myanmar	26%	22%	18%	12%	14%	12%	36%	30%	11%	18%	39%	34%
Pakistan	27%	20%	26%	29%	20%	25%	26%	27%	38%	41%	16%	23%
Philippines	27%	27%	27%	34%	14%	3%	29%	28%	15%	12%	11%	14%
LATIN AMERICA												
Argentina	56%	42%	49%	48%	11%	6%	28%	27%	6%	13%	36%	53%
Brazil	47%	45%	40%	47%	23%	30%	37%	29%	26%	22%	34%	31%
Colombia	49%	46%	56%	41%	15%	13%	28%	27%	30%	24%	29%	21%
Dominican Republic	41%	35%	28%	42%	10%	10%	14%	15%	10%	20%	24%	24%
Guatemala	48%	50%	55%	45%	23%	25%	40%	40%	48%	50%	29%	17%
Mexico	41%	41%	41%	40%	20%	16%	34%	26%	24%	21%	42%	36%
Nicaragua	67%	60%	68%	56%	42%	28%	53%	43%	56%	52%	44%	47%

	SAFETY AND SECURITY						ACCESSIBILITY									
	PERSONAL SAFETY		STRANGERS CONTACTING ME		INFORMATION SECURITY		BATTERY CHARGING		NETWORK COVERAGE		FAMILY DOES NOT APPROVE		ACCESS TO AGENT SUPPORT		ID	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M
AFRICA																
Algeria	8%	4%	12%	3%	9%	3%	15%	12%	19%	8%	15%	5%	8%	7%	8%	7%
Côte d'Ivoire	4%	7%	4%	4%	6%	5%	27%	27%	18%	14%	7%	4%	10%	4%	12%	11%
Ghana	8%	9%	9%	7%	6%	6%	11%	8%	11%	14%	11%	8%	10%	7%	6%	3%
Nigeria	19%	7%	17%	7%	12%	2%	23%	22%	27%	25%	24%	7%	19%	14%	18%	5%
South Africa	7%	23%	13%	12%	9%	8%	7%	8%	11%	8%	7%	12%	7%	6%	7%	10%
Tanzania	7%	4%	9%	3%	6%	3%	10%	11%	11%	11%	10%	6%	12%	12%	12%	9%
ASIA																
Bangladesh	10%	19%	15%	13%	10%	15%	9%	14%	11%	10%	26%	11%	8%	16%	3%	9%
India	11%	9%	13%	12%	10%	9%	22%	25%	9%	7%	16%	7%	12%	10%	9%	7%
Indonesia	3%	4%	9%	7%	8%	4%	22%	26%	7%	7%	7%	3%	6%	5%	3%	1%
Myanmar	9%	5%	6%	4%	6%	3%	16%	13%	7%	11%	4%	2%	12%	8%	7%	5%
Pakistan	16%	17%	20%	14%	16%	13%	20%	12%	13%	19%	29%	11%	21%	17%	19%	13%
Philippines	8%	7%	15%	10%	11%	12%	13%	15%	12%	13%	7%	2%	10%	10%	9%	7%
LATIN AMERICA																
Argentina	25%	17%	25%	24%	43%	34%	7%	11%	3%	4%	5%	1%	12%	8%	3%	7%
Brazil	32%	31%	26%	30%	39%	41%	34%	38%	21%	14%	10%	7%	23%	17%	4%	6%
Colombia	46%	39%	61%	33%	59%	34%	34%	32%	20%	22%	10%	14%	34%	18%	21%	22%
Dominican Republic	19%	21%	26%	23%	25%	21%	20%	15%	3%	4%	6%	0%	11%	11%	4%	7%
Guatemala	41%	26%	49%	32%	44%	36%	46%	37%	17%	20%	22%	16%	21%	27%	21%	14%
Mexico	36%	19%	40%	24%	41%	24%	37%	28%	17%	11%	10%	8%	22%	16%	13%	10%
Nicaragua	58%	47%	65%	49%	62%	53%	54%	43%	37%	33%	38%	20%	53%	45%	34%	35%

Source: GSMA Intelligence Consumer Survey, 2017
 Base: non-mobile owners aged 18+. Mobile ownership is defined as a person having sole or main use of a SIM card (or a mobile phone that does not require a SIM), and using it at least once a month
 Percentages indicate the proportion of non-mobile owners who responded 'This is one of the main reasons stopping me' to the question, 'Please indicate to what extent, if at all, this stops you from having an active mobile phone or SIM card, connected to a mobile operator's network'
 n= from 48 to 337 for women, and n= from 48 to 168 for men



The influence of social norms

Social norms likely explain why many of these barriers are felt more acutely by women.³¹ Social norms influence women’s role, status, empowerment, access to education and income in society, and consequently, their relationship with mobile technology. Thus, instead of being a discrete, stand-alone barrier, ‘social norms’ appear to be an underlying barrier, the effects of which are often hidden within other more commonly cited barriers to women’s access to and use of mobile technology.³²

Mobile internet: low awareness limits uptake, particularly for women

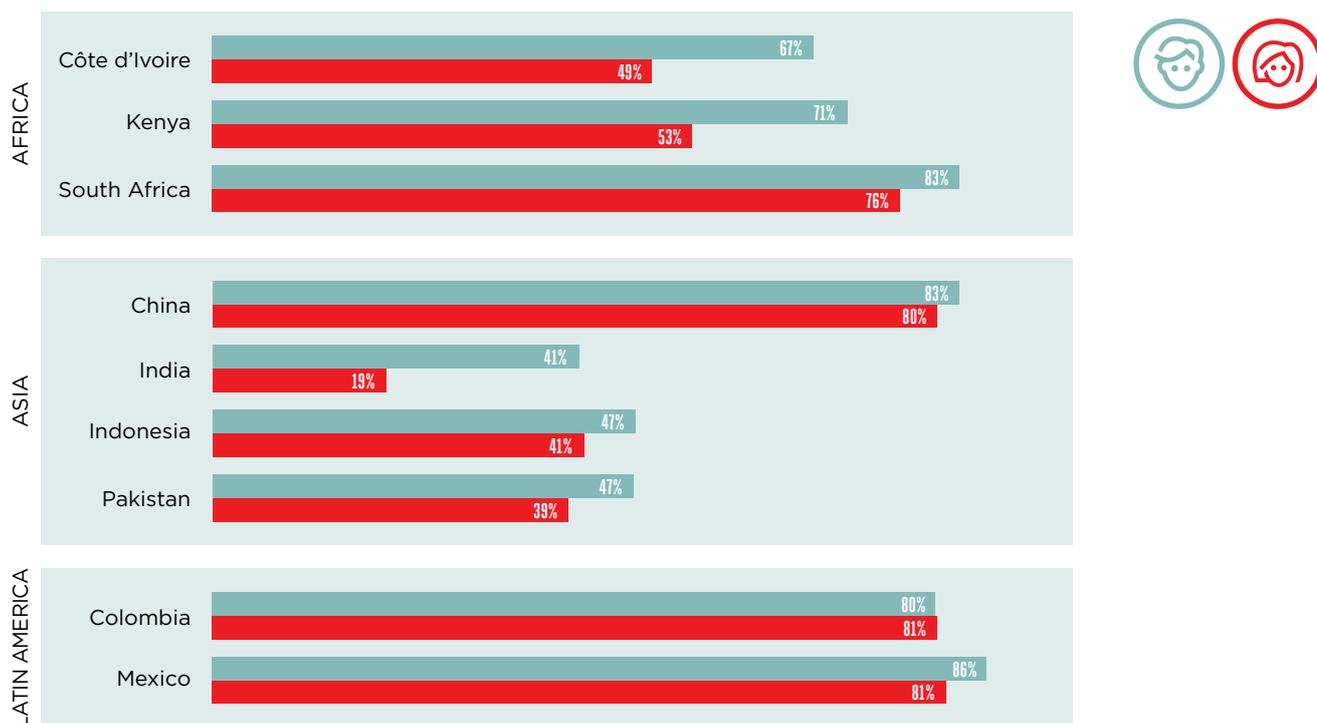
A lack of awareness of mobile internet is a key barrier to use,³³ even for those who may not otherwise be prevented from using mobile internet for financial or social reasons. Across the 23 surveyed countries, awareness of mobile internet tends to be lower among women than men in Africa and Asia, but more comparable in Latin America.³⁴ Figure 8 shows awareness of mobile internet among women and men in selected countries.

In Nigeria, for instance, only 45% of women (versus 62% of men) are aware of mobile internet, precluding internet use for over half the population. Similarly, only 19% of Indian women (versus 41% of men) are aware of mobile internet.

Figure 8

Awareness of mobile internet among women and men

% of total population



Source: GSMA Intelligence Consumer Survey, 2017

Base: total population aged 18+

A person is considered ‘aware’ of mobile internet if they have either used mobile internet before, or have not used mobile internet, but are aware they can access the internet on a mobile phone

n= from 480 to 980 for women and n= from 476 to 1048 for men

31. For example, a common social norm in parts of South Asia is that it is not appropriate for women to interact with men outside of their close family, and indeed, women’s movements outside the home can be restricted. This can have an impact on many aspects of mobile ownership and use, from not being able to visit retailers to top up, to having lower exposure to marketing and fewer people to ask for advice. See GSMA Connected Women and Digital Inclusion, 2015, “Accelerating Digital Literacy: Empowering women to use the mobile internet”.

32. Social norms are difficult to measure as they are so ingrained in the everyday life of a society that respondents may not notice that limits are being placed on them. As a result, women (and men) may report certain barriers around social norms less often than expected. This might explain the relatively low proportion of female respondents reporting that their families do not approve of them using a mobile phone or mobile internet (Figures 7 and 9).

33. Those who had used mobile internet before were automatically categorised as ‘aware’. Those who had never used mobile internet were asked, “Which of the following best describes your knowledge of accessing the internet on a mobile phone?” They were considered ‘not aware’ of mobile internet if they answered either “I don’t know what the internet is” or “I know what the internet is but I was not aware it is possible to access the internet on a mobile phone”.

34. Awareness of mobile internet was higher for men than women in 13 of 15 surveyed countries in Asia and Africa, compared to only 3 of 7 countries in Latin America, where awareness levels tended to be comparable.

Mobile internet: for those who are aware, affordability is the greatest barrier to use

Mobile users who are aware of mobile internet³⁵ but have not used it still face significant barriers to use, many of which affect women disproportionately (Figure 9). There are some similarities between the general barriers to mobile ownership and those for mobile internet use.

In almost all the sample countries, the greatest barriers to mobile internet use are access to, and the cost of, internet-enabled handsets and data. These barriers are clearly interlinked, representing the importance of the overall cost of mobile internet access.³⁶ The analysis also indicates that, although cost is an important consideration for both women and men in many of the surveyed countries, this barrier disproportionately affects women. For example, in Dominican Republic, 53% of female mobile users who do not use mobile internet, but are aware of it, cited handset cost as a key barrier to mobile internet use³⁷ compared to 37% of men. In a similar sample in Kenya, 43% of women and 31% of men stated that not having access to an internet-enabled mobile phone³⁸ was a major barrier to using mobile internet.³⁹

Beyond cost-related barriers, the biggest factors limiting mobile internet use vary significantly by country. However, three additional important barriers to mobile internet access emerged across the sample countries: a perception that mobile internet is not relevant to them,⁴⁰ not knowing how to use the internet on a mobile,⁴¹ and safety and security-related issues.⁴² In many countries, more female mobile users who did not use mobile internet than male identified these as significant barriers. For example, in Côte d'Ivoire, 33% of female mobile users who had not used mobile internet before claimed not knowing how to access the internet on a mobile was a major barrier to using mobile internet (compared to 19% of men).

As with mobile ownership, safety and security issues were particularly prevalent in Latin America. For example, in Chile, 49% of women (versus 23% of men) who used a phone but had not used mobile internet, stated being concerned that they or their family may be exposed to harmful content online was a barrier to using mobile internet.⁴³

35. The barriers in the remainder of this section are those reported by men and women who have used a mobile phone in the last three months (but do not necessarily own one), and have never used mobile internet, but are aware of it.

36. For discussion and recommendations on addressing the barrier of handset cost, see GSMA, 2017, "Accelerating affordable smartphone ownership in emerging markets".

37. Agreed with the statement: "The cost of a mobile phone that can access the internet is too high for me".

38. Agreed with the statement: "I do not have access to a mobile phone that can access the internet".

39. For the 21 countries with a sufficiently large base of respondents to this question, in 14 of the countries, women mobile users who did not use the internet were more likely than men to agree that mobile handset cost was a major barrier, and in 15 of the countries, women mobile users who did not use mobile internet were more likely than men to cite data costs as a major barrier.

40. Agreed with the statement: "I do not find the internet relevant enough for me (not useful or not interesting)".

41. Agreed with the statement: "I do not know how to access the internet on a mobile phone".

42. Safety and security issues include three barriers shown in Figure 9: "Harmful content (self/family)", "Strangers contacting me", and "Information security".

43. Includes those who agreed that the statement, "I am concerned that using the internet on my mobile might expose myself or my family to harmful content" was a major consideration in not using mobile internet.

Figure 9

Perceived barriers to mobile internet use

% of mobile users who have not used mobile internet, who claimed the following as a main barrier:

	AFFORDABILITY				USABILITY AND SKILLS						RELEVANCE			
	HANDSET COST		DATA COST		DO NOT KNOW HOW TO ACCESS INTERNET ON A MOBILE		DO NOT KNOW HOW TO USE A MOBILE		READING/WRITING DIFFICULTIES		INTERNET IS NOT RELEVANT FOR ME		INSUFFICIENT LOCAL INFORMATION	
	W	M	W	M	W	M	W	M	W	M	W	M	W	M
AFRICA														
Algeria	19%	17%	15%	13%	24%	20%	24%	17%	33%	19%	33%	33%	5%	7%
Côte d'Ivoire	17%	21%	17%	14%	33%	19%	13%	8%	25%	17%	20%	9%	0%	1%
Ghana	33%	30%	19%	21%	28%	14%	21%	15%	26%	16%	8%	9%	4%	3%
Kenya	32%	29%	16%	23%	11%	9%	2%	6%	3%	6%	18%	21%	3%	5%
Nigeria	26%	31%	25%	16%	10%	14%	6%	9%	18%	16%	12%	17%	4%	5%
South Africa	23%	25%	25%	24%	12%	5%	4%	8%	6%	4%	6%	16%	5%	5%
Tanzania	34%	29%	13%	11%	24%	19%	17%	9%	3%	1%	10%	3%	7%	8%
ASIA														
Bangladesh	14%	20%	15%	11%	13%	15%	11%	8%	13%	18%	20%	21%	0%	0%
China	27%	38%	28%	37%	29%	13%	24%	14%	37%	22%	44%	34%	13%	2%
India	25%	32%	23%	31%	21%	20%	19%	13%	10%	14%	23%	19%	2%	6%
Myanmar	16%	22%	18%	20%	28%	28%	18%	16%	12%	15%	37%	33%	10%	14%
Pakistan	31%	15%	31%	18%	22%	10%	24%	17%	31%	28%	44%	17%	14%	5%
Philippines	30%	19%	31%	22%	13%	17%	3%	2%	1%	4%	14%	12%	8%	5%
LATIN AMERICA														
Argentina	57%	54%	59%	50%	29%	19%	30%	21%	15%	12%	35%	33%	5%	7%
Brazil	55%	47%	57%	48%	38%	37%	28%	32%	17%	25%	27%	40%	12%	10%
Chile	55%	51%	62%	59%	31%	38%	45%	29%	15%	14%	47%	45%	4%	3%
Colombia	60%	56%	58%	54%	23%	22%	26%	15%	10%	7%	26%	27%	17%	15%
Dominican Republic	53%	37%	54%	40%	38%	43%	30%	25%	15%	21%	19%	30%	3%	13%
Guatemala	49%	40%	48%	48%	32%	19%	36%	17%	27%	12%	46%	20%	12%	14%
Mexico	38%	42%	32%	43%	31%	15%	23%	11%	11%	6%	25%	30%	5%	9%
Nicaragua	42%	45%	43%	49%	29%	26%	20%	27%	20%	17%	33%	36%	23%	24%

	SAFETY AND SECURITY								ACCESSIBILITY												
	INSUFFICIENT CONTENT IN LOCAL LANGUAGE		HARMFUL CONTENT (SELF / FAMILY)		STRANGERS CONTACTING ME		INFORMATION SECURITY		NO ACCESS TO INTERNET ENABLED PHONE		INTERNET DRAINS MY BATTERY		NETWORK COVERAGE		FAMILY DOES NOT APPROVE		ACCESS TO AGENT SUPPORT		SLOW CONNECTION / CANNOT DO WHAT I WANT		
	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	
AFRICA																					
Algeria	14%	10%	15%	22%	13%	9%	9%	9%	44%	41%	9%	15%	15%	14%	20%	13%	12%	12%	13%	17%	
Côte d'Ivoire	5%	1%	5%	6%	5%	7%	4%	7%	28%	28%	3%	5%	8%	15%	3%	3%	15%	10%	7%	7%	
Ghana	9%	2%	9%	4%	1%	3%	1%	6%	29%	27%	6%	9%	6%	9%	7%	1%	7%	4%	3%	4%	
Kenya	2%	3%	9%	6%	9%	7%	3%	8%	43%	31%	9%	12%	11%	9%	3%	5%	5%	8%	6%	14%	
Nigeria	12%	6%	6%	8%	8%	5%	8%	9%	31%	30%	10%	11%	9%	11%	4%	3%	9%	9%	10%	6%	
South Africa	5%	8%	6%	3%	7%	5%	7%	5%	21%	29%	5%	7%	9%	5%	10%	6%	13%	8%	3%	8%	
Tanzania	9%	12%	5%	2%	10%	2%	11%	2%	38%	29%	12%	9%	18%	14%	7%	2%	9%	12%	9%	13%	
ASIA																					
Bangladesh	2%	12%	18%	18%	9%	10%	11%	7%	10%	28%	7%	15%	6%	7%	15%	2%	0%	5%	6%	3%	
China	17%	9%	18%	21%	18%	23%	22%	25%	19%	11%	21%	15%	10%	17%	19%	5%	17%	11%	18%	10%	
India	8%	10%	9%	7%	15%	7%	10%	13%	31%	34%	11%	17%	3%	15%	10%	6%	9%	7%	6%	13%	
Myanmar	14%	12%	11%	11%	6%	6%	9%	9%	18%	14%	7%	15%	14%	10%	8%	3%	9%	11%	9%	11%	
Pakistan	31%	9%	32%	8%	37%	4%	34%	9%	36%	27%	16%	23%	13%	22%	27%	5%	25%	6%	10%	14%	
Philippines	4%	5%	18%	10%	13%	10%	15%	17%	29%	28%	12%	8%	20%	22%	6%	4%	7%	7%	19%	23%	
LATIN AMERICA																					
Argentina	2%	4%	26%	36%	33%	28%	34%	40%	31%	52%	6%	11%	7%	12%	1%	2%	12%	9%	12%	17%	
Brazil	7%	12%	27%	26%	23%	17%	40%	33%	37%	29%	20%	22%	7%	9%	12%	5%	11%	15%	21%	23%	
Chile	7%	4%	49%	23%	47%	23%	58%	47%	45%	48%	12%	5%	13%	11%	3%	1%	4%	5%	13%	13%	
Colombia	13%	6%	49%	28%	50%	20%	54%	40%	54%	43%	15%	19%	14%	20%	11%	3%	17%	17%	32%	31%	
Dominican Republic	2%	4%	21%	29%	21%	18%	39%	35%	57%	41%	11%	10%	15%	8%	2%	3%	9%	19%	14%	10%	
Guatemala	15%	6%	57%	55%	43%	48%	63%	51%	45%	38%	29%	22%	17%	10%	15%	7%	16%	11%	24%	10%	
Mexico	3%	8%	25%	24%	22%	26%	25%	31%	41%	44%	12%	20%	9%	17%	13%	9%	11%	11%	9%	16%	
Nicaragua	22%	14%	54%	40%	43%	36%	60%	54%	39%	39%	24%	34%	22%	29%	21%	15%	31%	22%	35%	29%	

Source: GSMA Intelligence Consumer Survey, 2017
 Base: adults aged 18+ who have used a mobile phone in the last three months but have never used mobile internet, despite being aware of mobile internet (excludes mobile users who are not aware of mobile internet)
 Percentages indicate the proportion of respondents who answered 'This is one of the main reasons stopping me' to the question, 'Please indicate to what extent, if at all, this stops you from using the internet on a mobile phone'
 n= from 50 to 140 for women and n= from 54 to 137 for men



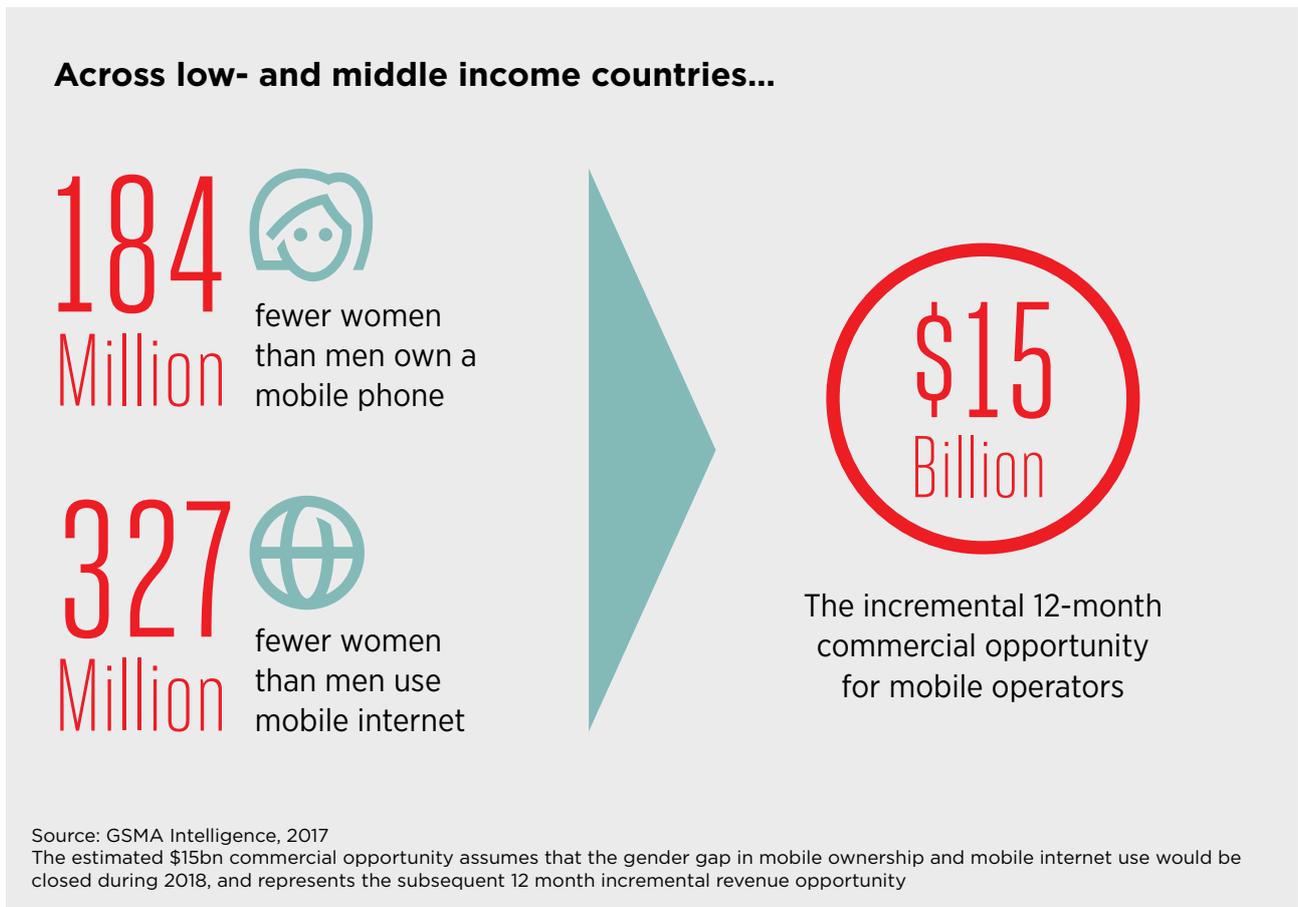
4. The opportunity for mobile operators

In many low- and middle-income markets, male mobile ownership is approaching saturation, particularly in urban areas. This means that women represent the vast majority of the untapped mobile market. Even among mobile owners, there is a gender gap in usage that widens for more transformational, typically higher revenue services, especially mobile internet.

Closing the gender gap in mobile access and use presents a significant commercial opportunity for mobile operators (Figure 10). If mobile operators in low- and middle-income countries could close the gender gap in mobile ownership and mobile internet use today, this would generate an estimated incremental revenue of \$15 billion over the coming year.⁴⁴

Figure 10

The commercial opportunity of closing the mobile gender gap



44. The \$15 billion estimate assumes that the gender gap in mobile ownership and mobile internet use would be closed during 2018, and represents the subsequent 12-month incremental revenue opportunity. For more details on the methodology and assumptions of this estimate, see the Methodology section.

5. Closing the mobile gender gap requires concerted action

This study provides further evidence of the persistence and scale of the mobile gender gap. The barriers women face to equal access to mobile are varied, complex and unlikely to be resolved on their own. Failing to address women's lower access to mobile technology risks excluding them from the increasingly digitised societies and economies of the future.

Concerted action is needed to reduce and ultimately eliminate the gender gap in mobile ownership and use. Successfully doing so will provide substantial benefits to women, their families and their communities, and is an effective way to contribute to the achievement of the United Nations Sustainable Development Goals (SDGs).⁴⁵

Closing the mobile gender gap will also generate significant commercial benefits for the mobile industry and provide an effective catalyst for economic growth. A 10% increase in internet penetration⁴⁶ in a market, for instance, is estimated to result in a 0.25–1.38% increase in GDP.⁴⁷

A number of resources provide frameworks and recommendations for stakeholders to address the mobile gender gap.⁴⁸ A holistic approach and urgent, coordinated action is required by all stakeholders, including the mobile industry, policymakers and others, to ensure women in low- and middle-income countries are not excluded from the benefits mobile technology can deliver.



45. Providing more equitable access to mobile for women also has the potential to contribute to a range of SDGs – in particular SDG 5 (Gender equality and the empowerment of all women and girls), but also SDG 1 (No poverty), SDG 4 (Quality education), SDG 9 (Industry, innovation and infrastructure) and others. For further discussion of mobile's impact on the achievement of the SDGs, see "[GSMA, 2017 Mobile Industry Impact Report: Sustainable Development Goals](#)".

46. Mobile is the primary means of accessing the internet for most residents of the low- and middle-income countries covered in this report. See, for example, [ITU ICT Facts and Figures 2017](#).

47. This depends on a country's level of development and market conditions. A range of literature tackles the topic of the economic impact of internet access. See, for example: Changkyu Choi, 2009; C.Z.W. Qiang, C.M. Rossotto, 2009; Deloitte, 2012, "[What is the impact of mobile telephony on economic growth? A report for the GSM Association](#)"; and ITU, 2012, "[The Impact of Broadband on the Economy: Research to Date and Policy Issues](#)".

48. For example, [the UN Broadband Commission's Report on Access](#); GSMA, 2015, "[Bridging the gender gap: Mobile access and usage in low- and middle-income countries](#)"; GSMA Connected Women and Connected Society, 2017, "[Triggering mobile internet use among men and women in South Asia](#)"; the World Wide Web Foundation [REACT Framework](#); and Research ICT Africa, 2017, "[Internet Use Barriers and User Strategies: Perspectives from Kenya, Nigeria, South Africa and Rwanda](#)".



Methodology

This report is based on the results of face-to-face surveys conducted by GSMA Intelligence in 23 low- and middle-income countries,⁴⁹ and subsequent modelling and analysis.

Survey methodology

In all survey countries, a nationally representative sample of c.1,000 male and female adults aged 18+ were surveyed, with the exception of India and China, where the sample was c.2,000. The sampling frame was predominantly based on data from National Statistics Offices, including census data where possible, and a range of other sources. To ensure a representative geographical distribution of interview subjects, particularly urban versus rural, around 100 sampling points were used per country. However, very remote areas or areas with security concerns were excluded. Interviews were conducted with individuals in the local language, and typically within the home. All surveys were interviewer-administered using handheld devices. Both female and male interviewers conducted the surveys, with permissions sought and interviews accompanied as appropriate. Data was weighted to known population profiles to correct any imbalances in the distributions achieved during fieldwork.

Extrapolating to non-survey countries

The 23 survey countries represent 73% of the total adult population of all low- and middle-income countries.⁵⁰ To estimate the gender gaps in mobile ownership and mobile internet use across all low- and middle-income countries, as well as the commercial opportunity of closing these gender gaps, an extrapolation model was developed. All country-level figures cited in this study were derived from direct face-to-face surveys only.

Regression analysis identified the independent variables that were key to predicting the gender gaps in mobile ownership and mobile internet use.⁵¹ For each of these gender gaps, an equation was generated to estimate the gender gap in low- and middle-income countries not included in this survey. Each equation was tested using several different measures of model fit and accuracy (for example, adjusted R-squared, RMSE and average absolute residuals). Taking into account a range of diagnostics, the selected models demonstrated the highest level of fit when comparing predicted results with the actual results derived from the survey. The outputs of the extrapolation model were also validated against a range of third-party data sources.⁵²

Estimating the commercial opportunity for mobile operators

The potential commercial opportunity of closing the gender gap in mobile ownership and mobile internet use was generated using the country-level results of face-to-face surveys and the extrapolation model described above, as well as operator data drawn from GSMA Intelligence.

Male and female average revenue per user (ARPU)⁵³ was estimated based on country-level estimates of the ARPU of mobile data subscribers (compared to the lower ARPU of voice-only subscribers), combined with the relative rate of data uptake by male and female subscribers, as estimated in the extrapolation model. *The estimated lower female ARPU in this model is therefore the result of women's lower rate of uptake of mobile internet only*, and does not account for lower spending on mobile data among female users than male.

49. The 23 surveyed countries included in the analysis: Algeria, Argentina, Bangladesh, Brazil, Chile, China, Colombia, Côte d'Ivoire, Dominican Republic, Ghana, Guatemala, India, Indonesia, Kenya, Mexico, Myanmar, Nicaragua, Nigeria, Pakistan, Philippines, South Africa, Tanzania and Thailand. Chile was included in some of the analysis despite being classified as high income by the World Bank.

50. United Nations Department of Economic and Social Affairs, Population Division, 2017, "World Population Prospects 2017". Custom data acquired via the website and edited by the author to include ages 18 and above only and the population of Chile.

51. For example, the female Human Development Index (HDI) was used as an independent variable for modelling both the mobile ownership and mobile internet use gender gaps.

52. For example, [The Financial Inclusion Insights Program](#), InterMedia.

53. Average revenue per user is calculated as recurring revenues divided by total unique subscribers.

This approach therefore does not account for either the differences between women and men in the average volume of data usage, or in the revenues from the use of other services, such as voice or SMS. The results of the revenue opportunity should therefore only be taken as an indication of the potential scale that the commercial opportunity of closing the gender gap represents, and is not representative of the full incremental revenue opportunity.

Due to methodological and sampling differences, findings from this study should not be directly

compared to those from the GSMA's 2015 report, "Bridging the gender gap: Mobile access and usage in low- and middle-income countries". For example, changes to the World Bank's categorisation of low- and middle-income countries have meant that global and regional gender gaps do not always represent the same underlying countries, and there are also some differences in the wording of the questionnaire.

For a full description of the survey and extrapolation model, see the accompanying [methodology document](#).





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