



Connected Society

Consumer barriers to mobile internet adoption in Asia





The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and Internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai and the Mobile 360 Series conferences.

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Supporting the mobile industry to increase the adoption of the internet for the underserved by tackling key barriers: network coverage, affordability, digital skills and locally relevant content.

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Contents

1	EXECUTIVE SUMMARY	2
2	MARKET CONTEXT AND TRENDS	4
3	CONSUMER PERSPECTIVE ON INTERNET ADOPTION	8
4	RECOMMENDATIONS	16



Executive Summary

Asia is the biggest and fastest growing regional mobile market in the world with nearly 2.5 billion people, 62% of the region's population, using mobile services. But internet adoption is lagging. Only 45% of people living in Asia are actively accessing the internet via mobile, leaving 2.2 billion people without mobile internet. The connectivity issue in Asia is not exclusively or even primarily about network coverage. Around 80% of the Asian population already live within the footprint of a 3G network. The issue relates more to demand than supply.

This research examines why more than 2 billion people in the region can access the internet but are holding back from doing so.

To better understand the demand-side barriers to adoption of mobile internet services across Asia we have analysed the results of the GSMA Intelligence Consumer Survey 2015. This includes data from six markets in the region: China, India, Indonesia, Philippines, Thailand and Vietnam, with face-to-face interviews conducted with approximately 1,000 people in each country.

Our analysis reveals three key barriers to internet adoption in the region:



Lack of awareness and locally relevant content. Across our six survey markets, 72% of respondents cited a lack of awareness and availability of locally relevant content as the primary reason why they were not using the internet. It was the most commonly cited barrier to internet adoption in all six survey markets apart from China.



Affordability. Across our six survey markets, 25% of respondents cited affordability as an important barrier to getting online. It was a particularly common reason in Indonesia (46% of respondents). Although Indonesia has some of the lowest rates for mobile airtime anywhere in the world, it also has a high proportion of low-income citizens, so the relative cost of connectivity is still high.



Lack of digital skills. Across our six survey markets, 24% of respondents cited a lack of digital skills as an important barrier to getting online. It is a particular issue in China, where it was highlighted as a barrier by 89% of respondents.

The GSMA Intelligence Consumer Survey 2015 also confirmed previously identified inequalities in mobile ownership and internet usage between men and women. In particular, the survey identified a significant gender gap in India, where women are 62% less likely to use the internet than men. Many of the underlying reasons for this – affordability, skills and content – are the same as for men; they are simply felt more acutely by women.

Greater access to the internet can be a powerful enabler for social development and economic growth. It is in the interests of both the public and private sectors to work together to find ways to

unlock both the supply-side and demand-side barriers to internet adoption. Governments can help by incorporating ICT skills into the education curriculum for all age groups, understanding better the impact of taxation on affordability of airtime and devices, and actively promoting gender equality in all aspects of life. The mobile industry and broader ecosystem should continue to innovate with new business models and partnerships to help make the internet more accessible and affordable, stimulate development of local content, deliver skills training to customers and promote gender equality in access and usage.





2

Market context and trends



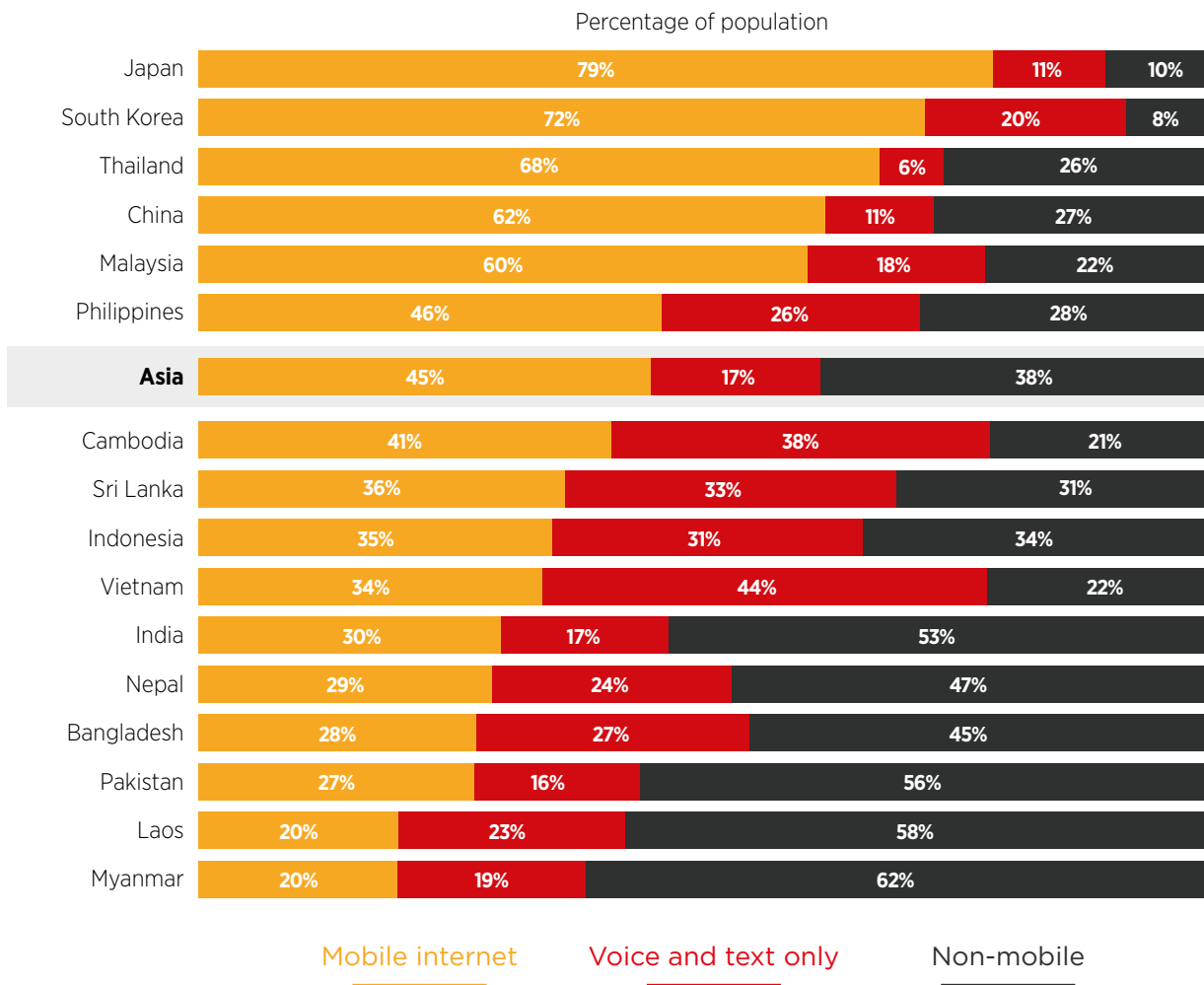
Asia¹ is the world's largest mobile market, home to more than half of the world's mobile users, nearly 2.5 billion people². Unique mobile subscriber penetration, at just over 60% at the end of 2015, is growing faster than in any region in the world and is expected to reach 74% by 2020. However, while developed markets such as South Korea and Japan are fast becoming saturated, developing markets such as India, Pakistan, Myanmar and Laos, where unique mobile subscriber penetration is less than 50%, have significant potential for growth.

In these developing markets, levels of fixed internet penetration are low and mobile is the first access point to the internet. Driven by significant

incremental capex investment, nearly 80% of the Asian population is covered by mobile broadband (3G or 4G). In 2015, investment from selected operators was just over \$60 billion, up 15% from 2014. As a result, the past five years have seen a significant increase in mobile internet adoption, with the number of unique mobile internet users growing from 650 million (17% penetration) in 2010 to 1.8 billion (45%) in 2015. This has been driven by low data tariffs and increased availability of affordable smartphones. Smartphones as a share of connections have increased from 5% in 2010 to 45% in 2015, and are expected to reach 65% by 2020 (see Figure 2).

Figure 1

Asia: mobile internet, voice & text and non-mobile subscribers, Q4 2015

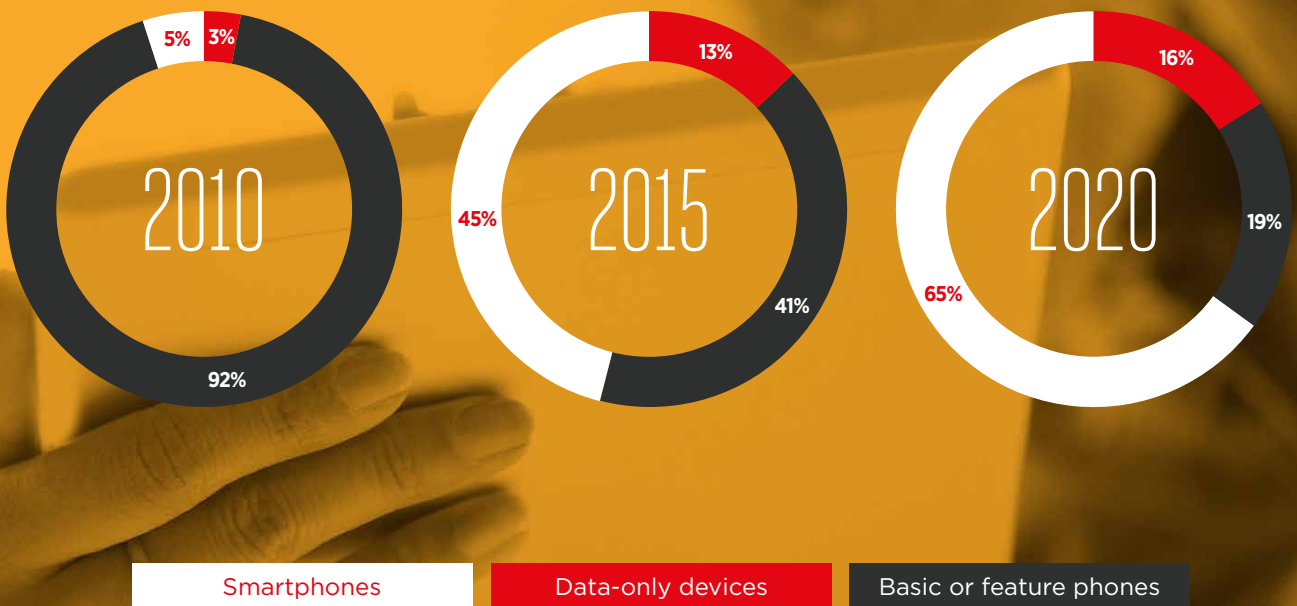


Source: GSMA Intelligence

1. For this report we focus on emerging countries in Southern Asia, South-East Asia and Eastern Asia
 2. As of Q4 2015

Figure 2

Asia: share of connections (excluding M2M) by device type



Source: GSMA Intelligence

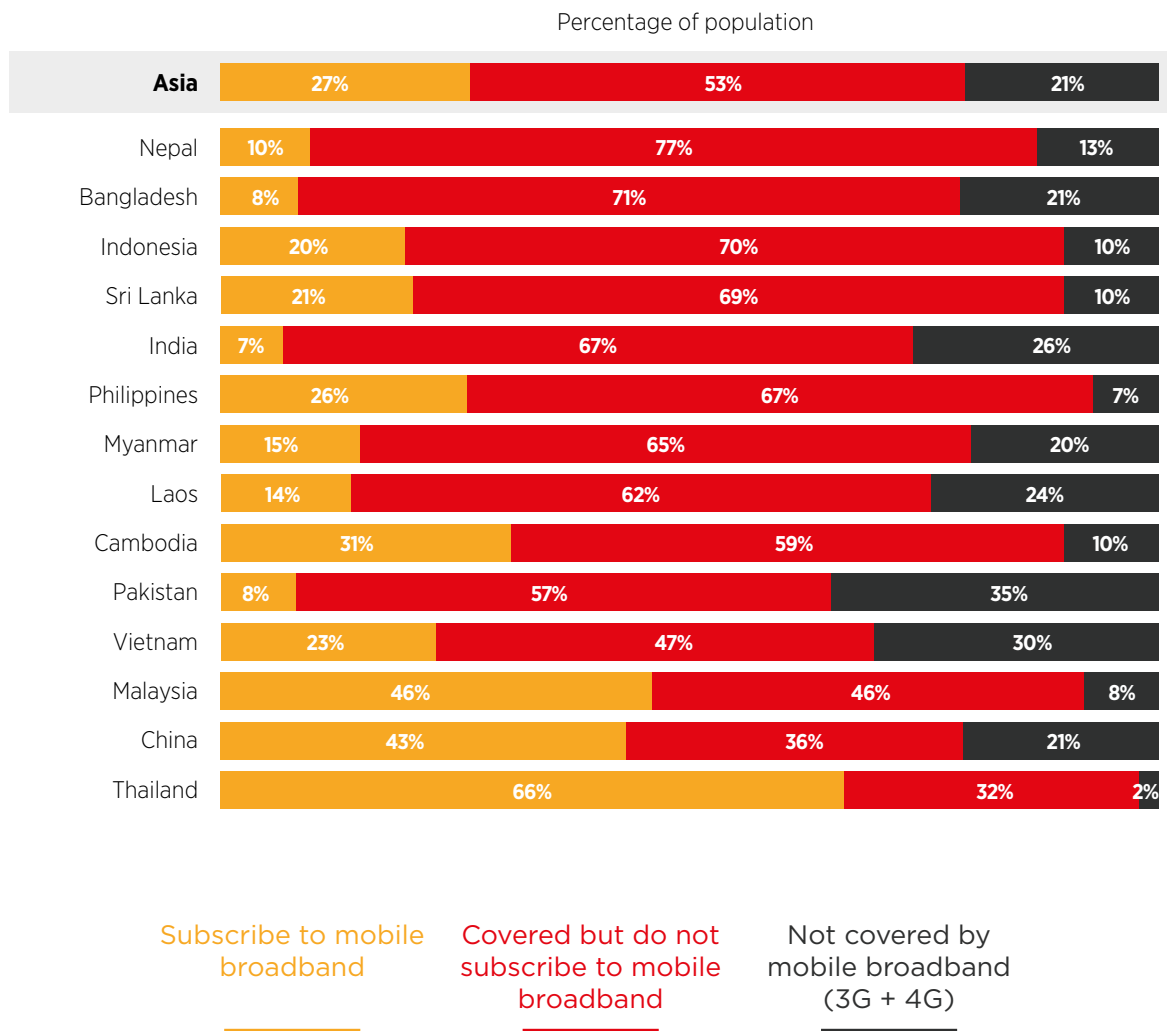


Nonetheless, unique mobile internet user penetration remains low in Asia, particularly for mobile broadband (3G and 4G). At present, only 27% of the region – approximately 1 billion people – subscribe to mobile broadband services

(see Figure 3). This means that more than 2 billion people in Asia who could subscribe to mobile broadband services as they have coverage do not currently do so. Importantly, this is not primarily due to lack of coverage.

Figure 3

More than 2 billion people in Asia are covered by mobile broadband services but do not use them



Source: GSMA Intelligence



3

Consumer perspective on internet adoption





To better understand why adoption of the mobile internet lags behind its availability, we analysed the results of the GSMA Intelligence Consumer Survey 2015. This covers 54 countries globally, including six countries in Asia: China, India, Indonesia, Philippines, Thailand and Vietnam. In each country approximately 1,000 people were interviewed face-to-face, and were selected so that they were representative of the urban/rural and gender splits of the population. Those who had never used the internet³ were asked what was stopping them.



A lack of awareness and locally relevant content was the most commonly cited barrier to internet adoption: 72% of non-internet users across the six survey markets felt this was a barrier.



Many non-users of the internet (25%) also feel that a **lack of digital skills** is holding them back from using the internet.



Many non-users of the internet (24%) consider **affordability** to be an important barrier to adoption.



The **gender gap** in internet usage is typically higher than the gender gap in mobile phone ownership.

Table 1

Lack of awareness and locally relevant content, affordability and lack of digital literacy and skills among top barriers for non-internet users⁴

Barrier	Lack of awareness and locally relevant content	Lack of digital literacy and skills	Affordability barrier	Lack of network coverage	Security and trust barrier	Other
China	30%	89%	11%	0%	2%	15%
India	80%	21%	23%	3%	4%	9%
Indonesia	75%	10%	46%	2%	3%	12%
Philippines	51%	27%	13%	8%	1%	22%
Thailand	88%	23%	22%	1%	2%	3%
Vietnam	80%	20%	24%	0%	1%	12%
Asia	72%	24%	25%	3%	2%	12%



Source: GSMA Intelligence Consumer Survey 2015

3. Internet in this section refers to the internet in general, not just mobile internet
 4. Represents the share of respondents that identified that factor as a barrier to mobile internet adoption. This may total more than 100% as respondents could choose more than one answer



A lack of awareness and locally relevant content is the most commonly cited barrier to internet adoption in Asia

Among non-internet users in the six surveyed countries, nearly three-quarters identified lack of awareness and locally relevant content as the main barrier to internet adoption⁵. In five of the six markets, this was seen as the biggest issue constraining growth of the internet. The only exception to this was China which has a vibrant, well developed content ecosystem with plenty of examples of home-grown internet success stories, such as Baidu, Alibaba, WeChat, QQ and Taobao.

At present, the world's linguistic and cultural diversity is not reflected in the content and services available online. For example, more than 50% of websites worldwide are in English, a language spoken by only 10% of speakers in the survey countries. By way of contrast, only 2% of websites worldwide are in Mandarin and less than 0.1% are in Hindi. A great deal of the content available to Asian users is simply translated into local languages and

does not reflect the significant cultural diversity found across the region.

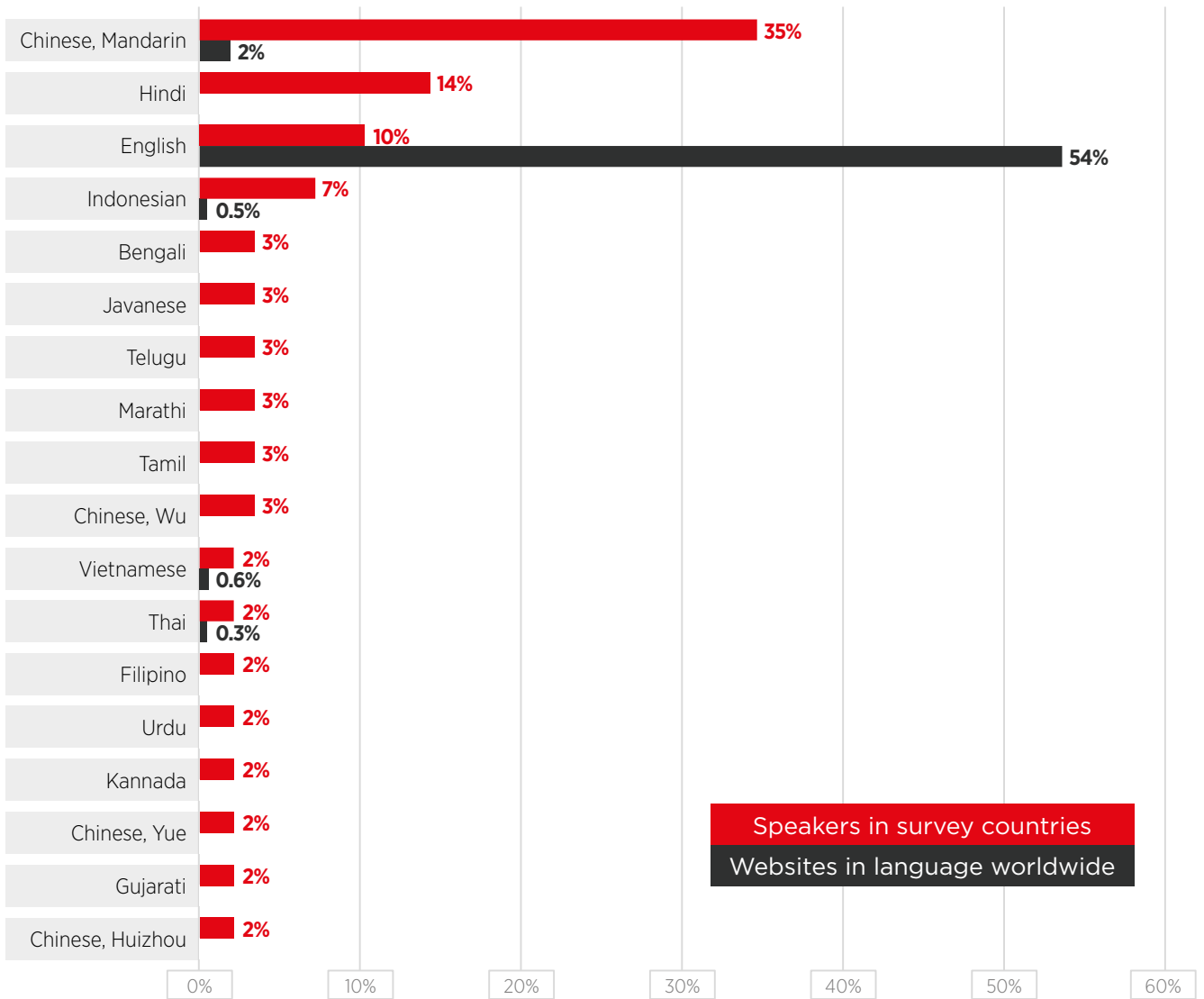
At a basic level, the relative lack of content in local languages simply reflects the fact that a mass of people have only been online for a short period of time. But it also reflects the technical complexity of producing content in certain Asian languages. Most languages in Asia are character rather than alphabet based, so present greater challenges in terms of inputting or indexing content. Even languages using Roman alphabets have complicated features, such as the use of diacritics in Vietnamese, which has historically made it difficult for computers to interpret the language. Nonetheless, an increasing number of Asian languages are now supported by the major online platforms such as Android or Facebook. This trend will need to continue if content is to be understandable (and relevant) for those currently not using the internet.

5. The question we refer to here is "Which of the following reasons are stopping you from using the internet? I do not need the internet (not useful, not interesting, lack of local content)"



Figure 4

Most commonly spoken languages in Asia versus percentage of websites worldwide in language



Source: W3Techs, Ethnologue
 Note: Languages with no website language are used by less than 0.1% of websites

Most of the content available and consumed in Asia is currently focussed on entertainment. This can lead to a misperception among non-internet users that the internet is solely for entertainment. Our survey showed that the main features used by mobile phone users are entertainment and communication & messaging apps, which are used on average by 70% of respondents. Productivity apps, such as online banking, job search and health

information, have generally been used by less than 30% of respondents. GSMA analysis of the mobile operators’ services revealed that less than 30% were productivity related⁶. These kinds of services are important for non-internet users; they can have a clear and positive impact on livelihoods and can demonstrate that the mobile internet is worth spending money on.

6. Source: Mobile internet usage challenges in Asia – awareness, literacy and local content, GSMA Intelligence, 2015



Affordability is still considered a barrier to adoption by 25% of non-users

Our survey revealed that affordability, in terms of handset cost and cost of mobile services, was the second largest barrier for consumers in India, Indonesia and Vietnam. Although Asian markets have some of the cheapest voice and data tariffs in the world, it is also home to some of the world's poorest people (particularly in South Asia), with just under 20% of the population living on less than \$1.90 per day and just over half the population living on less than \$3.10 per day. This has clear implications for the affordability and consequently uptake of mobile services.

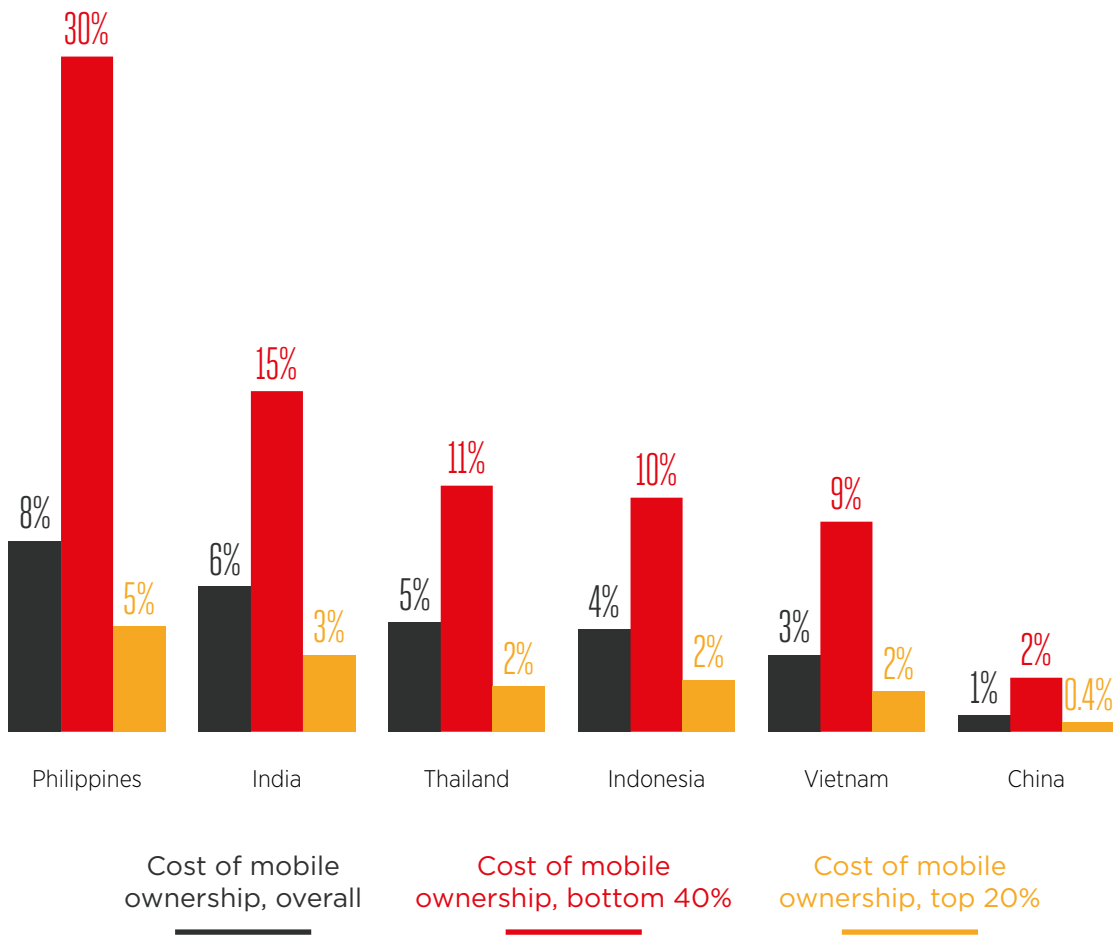
The average cost of mobile ownership, which includes both the cost of the device and the cost of mobile services (voice, SMS and data), as a share of income, is 5% in the survey countries. However, this varies considerably depending on their income level; those in the top 20% would, on average, expect to spend 2% of their income, while those in the bottom 40% would have to spend 13%. Owning and using a phone is unaffordable for many.





Figure 5

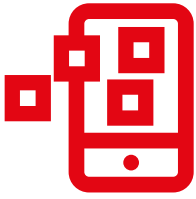
Cost of mobile ownership (after tax) as a share of monthly income



Source: GSMA Intelligence, World Bank, ITU, Strategy Analytics
 Note: Mobile broadband is based on a 500 MB prepaid plan. Handset cost is based on entry-level smartphone (Nokia 215). Monthly income is expressed as GNI per capita PPP (current \$)

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Lack of digital literacy: many people in Asia do not know how to use the internet

Some 24% of survey respondents pointed to a lack of digital literacy and skills as a reason for not using the internet. This was a particular concern in the Philippines and Thailand, where it was rated as the second largest barrier. In China, non-internet users are a minority (less than 40%) but, within this group, 89% felt digital literacy was a barrier to internet adoption.

Among the survey countries basic education levels, such as literacy rates and primary and secondary enrolment rates, are generally above the world

average. However, for people to explore the real value of the internet, they need to be equipped with the necessary digital skills. This can be done by ensuring that ICT is taught as a core skill in the school curriculum, starting from primary and secondary education rather than just at higher levels of education. For example, in the Philippines ICT skills are mainly taught in tertiary-level education, where enrolment rates are quite low – 36%. At lower education levels, the number of ICT-qualified teachers and availability of equipment are limited.





In Asia, the gender gap in internet usage is typically higher than that in mobile phone ownership

The survey revealed differences in internet usage and mobile ownership between men and women, with a pronounced gender gap⁷ in internet usage. This trend varies across the region: in India, the gender gap in internet usage is acute at 62%, while in Philippines and Thailand it was close to non-existent or reversed.

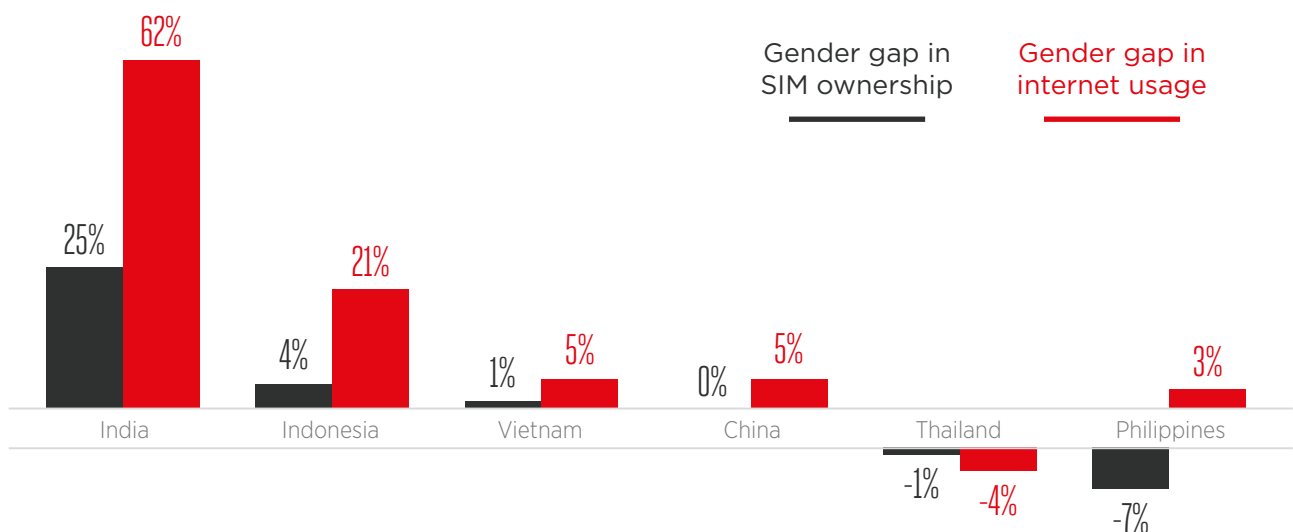
One reason for the wide gender gap in mobile phone ownership in India and South Asia is that women tend to be more price sensitive than men. Research by GSMA Connected Women found that 50% of women in India perceive handset cost as a barrier, compared to 45% of men. This can partly be explained by how women are often less financially

independent. In India, women have particularly low levels of financial autonomy and decision-making power; only 19% of female mobile owners report selecting their own handset, compared to 72% of men. As a result, women tend to have less sophisticated handsets.⁸

Even women with access to internet-enabled handsets are less likely to use sophisticated applications due to lower levels of digital literacy and other barriers. Male smartphone and featurephone owners or borrowers in India are three times as likely as female owners or borrowers to have used Facebook. Similarly, in Indonesia, 48% of female smartphone and featurephone owners reported using Facebook compared to 60% of men.

Figure 6

The gender gap is typically greater for internet usage than mobile phone ownership



Source: GSMA Intelligence Consumer Survey 2015

7. GSMA Connected Women define the 'gender gap' as how less likely a female is to own a mobile phone (or use a mobile service) than a male. Gender gap in ownership (%) = ((male phone owners (% of male population)) - (female phone owners (% of female population))) / (male phone owners (% of male population))

8. Bridging the gender gap: Mobile access and usage in low- and middle-income countries. GSMA, 2015



4 Recommendations

Resolving the issues highlighted in this research requires the coordinated efforts of those working in the mobile industry, government and the development community. Here we provide recommendations to operators, governments and the wider ecosystem, highlighting some of the most notable initiatives these stakeholders are involved in around the region.

In each of these areas – particularly in terms of skills and affordability – women suffer a disproportionate impact. As a result, addressing these areas will also have a positive impact on women and help to close the gender gap in mobile internet usage. Efforts to address barriers to mobile internet adoption must incorporate gender awareness and sensitivity.

1

Ecosystem players need to address the lack of locally relevant content in Asia

The mobile industry, wider internet ecosystem and government need to work together to ensure that relevant content is available in languages that people understand.

- Mobile operators can provide local talent with opportunities to incubate and scale start-ups and innovations, by opening up their APIs to developers or investing directly in local companies.
- Governments need to recognise the importance of developing a local content ecosystem in creating a thriving digital economy. Providing a progressive policy environment is essential, including developing a national digital agenda or strategy.

Smart Philippines: Increasing the amount of relevant content with the IdeaSpace Foundation

In 2012, Smart Philippines started a partnership with national private sector organisations to form the incubator and accelerator programme, IdeaSpace. It aims to enhance the local technology ecosystem in the Philippines by nurturing early-stage technology start-ups. The programme consists of a six-week incubation phase for prototype development, followed by an 18-week accelerator phase of product development, corporation set-up and market validation. Once successfully graduated from the accelerator phase, the start-ups receive seed funding and entrepreneurship training to build a foundation as solid businesses. IdeaSpace is the largest private sector commitment for technology entrepreneurship in the Philippines, and has generated 38 local technology businesses since its inception.

Digital India: The Indian government's holistic attempt to bring about digital inclusion

In 2015, the Indian government launched its flagship digital inclusion programme with a vision “to transform India into a digitally empowered society and knowledge economy”. The programme takes a holistic approach with three core vision areas of developing digital infrastructure, improving public service delivery through e-governance, and providing digital empowerment through universal digital literacy. With this vision, the government is working to provide high-speed internet to every citizen, and through the digital literacy scheme make at least one person per household e-literate, by training 5.25 million people. The e-governance stream aims to make all government services accessible on-demand locally, by digitising records and integrating existing smaller scale e-governance initiatives across the country into one unified platform. During its first nine months, Digital India connected 68,000 rural villages with high-speed broadband. It aims to complete fibre-optic network rollout to the remaining villages by the end of 2016.



Axiata Group: API platform enables increased innovation in Asia's digital ecosystem

Axiata Group launched its Mobile Internet Fulfilment Exchange (MIFE) in 2015 across all its operating companies in Asia as a fast and cost-effective way to spur local digital innovation. The platform exposes Axiata's core network services via easy-to-use APIs. Axiata's local operators are able to use the platform to create new services, which accelerates partnership and integration with third-party developers and ISPs for digital product and services innovation on Axiata networks. The technology for MIFE was developed as an extension of Dialog Axiata's successful API gateway in Sri Lanka, which has generated more than 9,000 new applications.⁹



9. GSMA

2

Stakeholders should invest in digital skills training to ensure non-users are able to come online

Governments, mobile operators and NGOs all have a role to play in increasing awareness of the benefits of the internet and improving the digital skills of users.

- Governments should bring ICT into schools and other educational establishments to ensure citizens have the skills necessary for the modern economy.
- Operators can use their agent and retail networks to introduce new customers to the mobile internet. The value of familiarising customers with digital services has already been demonstrated in other areas, such as digital financial services. For mobile operators, this will help drive an increase in data consumption. However, operators do not have the skills or capacity to solve this problem alone. There also is a clear role here for NGOs – working in partnership with operators and independently – to provide more in-depth training.

GSMA's Mobile Internet Skills Training Toolkit and Telenor India

To tackle the lack of digital skills among mobile users in the developing world, the GSMA's Connected Society programme has recently developed a training tool to assist organisations interested in addressing the problem. The Mobile Internet Skills Training Toolkit (MISTT) has been developed for mobile operators, NGOs, development organisations and governments who want to provide training to improve people's basic knowledge and understanding of the mobile internet. It provides an introduction to using the mobile internet on an entry-level smartphone through three services: WhatsApp, YouTube and Google, with information about safety and cost included throughout. The MISTT was developed with end-users in Maharashtra state in India, with mobile industry partners Idea Cellular and Telenor India, the Digital Empowerment Foundation and other industry experts. It includes an accompanying 'How To' guide to help organisations customise training sessions for their audiences in different contexts.

In 2015, as part of its mandate to provide 'Internet for All', Telenor India began to provide dedicated spaces for customer engagement and education. As of June 2015, 26% of Telenor India's customers were active mobile data users; it aims to increase this to 50% by 2017. To do this, it is converting a portion of its 2,000 stores across the country into hubs that aim to improve customers' mobile internet skills and their awareness of what is available online. Nearly 300 of these have been established to date, with 500 projected by July 2016. Customers not using the internet will be invited to receive training built on the MISTT curriculum. They also receive free Internet trial packs to familiarise themselves with the mobile internet, and to learn which mobile data packs best suits their needs.



3

Governments and operators should ensure access to the internet is affordable to as many people as possible

Mobile operators in Asia currently offer some of the world's most competitive mobile internet tariffs and have been creative in their pricing plans. They will need to continue to work to ensure that data packages are affordable for all segments of the population.

Government policies – such as taxes, fees and levies – directly affect the prices paid by end users. Governments should ensure that taxation of mobile services is aligned with best-practice principles: taxation should be broad based, easily understandable and enforceable, and should not disincentivise industry investment. By doing this, they can promote digital inclusion, increase productivity and generate economic growth, while also benefitting from increased tax revenues.

Vietnam: tax reductions lead to growth in smartphone and internet usage

Over recent years, Vietnam has seen a rapid decrease in mobile taxation. Tax as a proportion of total cost of mobile ownership fell from 10% in 2011 to 0% in 2014. In addition, the country now has no import tax rates on mobile handsets. This reduction was passed onto consumers, and in 2014 smartphone connections increased 47% compared to the previous year. There was a rise of more than 7 million mobile internet subscribers in 2014 compared to 2013, coupled with 41% growth in active social media accounts.





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