

Issue Paper: Asia-Pacific Bureau

Mobile Internet



November 2017

Please refer to the ***Internet Society Global Internet Report 2015***¹ that focuses on mobile Internet. This issues paper builds on the report, and discusses the challenges and opportunities specific to the Asia-Pacific region

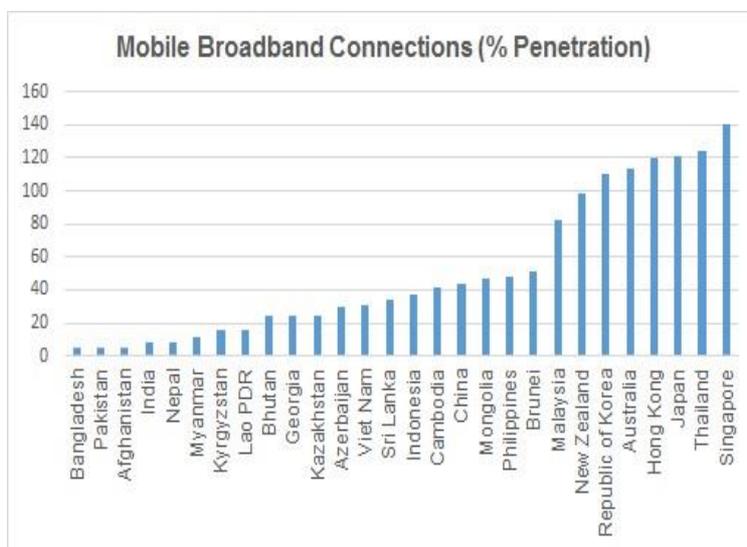
The Issues

Can mobile Internet close the digital divide in the Asia-Pacific region?

The region's digital divide is widening, with no sign of the divide narrowing.²

Mobile broadband networks have in most countries overtaken fixed broadband as the main mode of Internet access,³ but the discrepancies in mobile broadband penetration between advanced and emerging economies in the Asia-Pacific are vast (see figure on the right).

GSMA reports that the penetration of the mobile Internet in Asia-Pacific has doubled in the last five years, reaching 50% of the population by the end of 2016, but estimates that by 2020, only 63% of the population in Asia-Pacific will gain access to the mobile Internet.⁴



Source: GSMA, "*Mobile Connectivity Index*,"

¹ Internet Society, "Global Internet Report 2015: Mobile Evolution and Development of the Internet," 2015, http://www.internetsociety.org/globalinternetreport/2015/assets/download/IS_web.pdf.

² See Issues Paper on Rural Connectivity; and ESCAP, *State of ICT in Asia and the Pacific* (Bangkok, 2016), <http://www.unescap.org/resources/state-ict-asia-and-pacific-2016-uncovering-widening-broadband-divide>.

³ Gemma Brackebush, "How mobile is overtaking desktop for global media consumption, in 5 charts," 14 June 2016, <https://digiday.com/media/mobile-overtaking-desktops-around-world-5-charts/>.

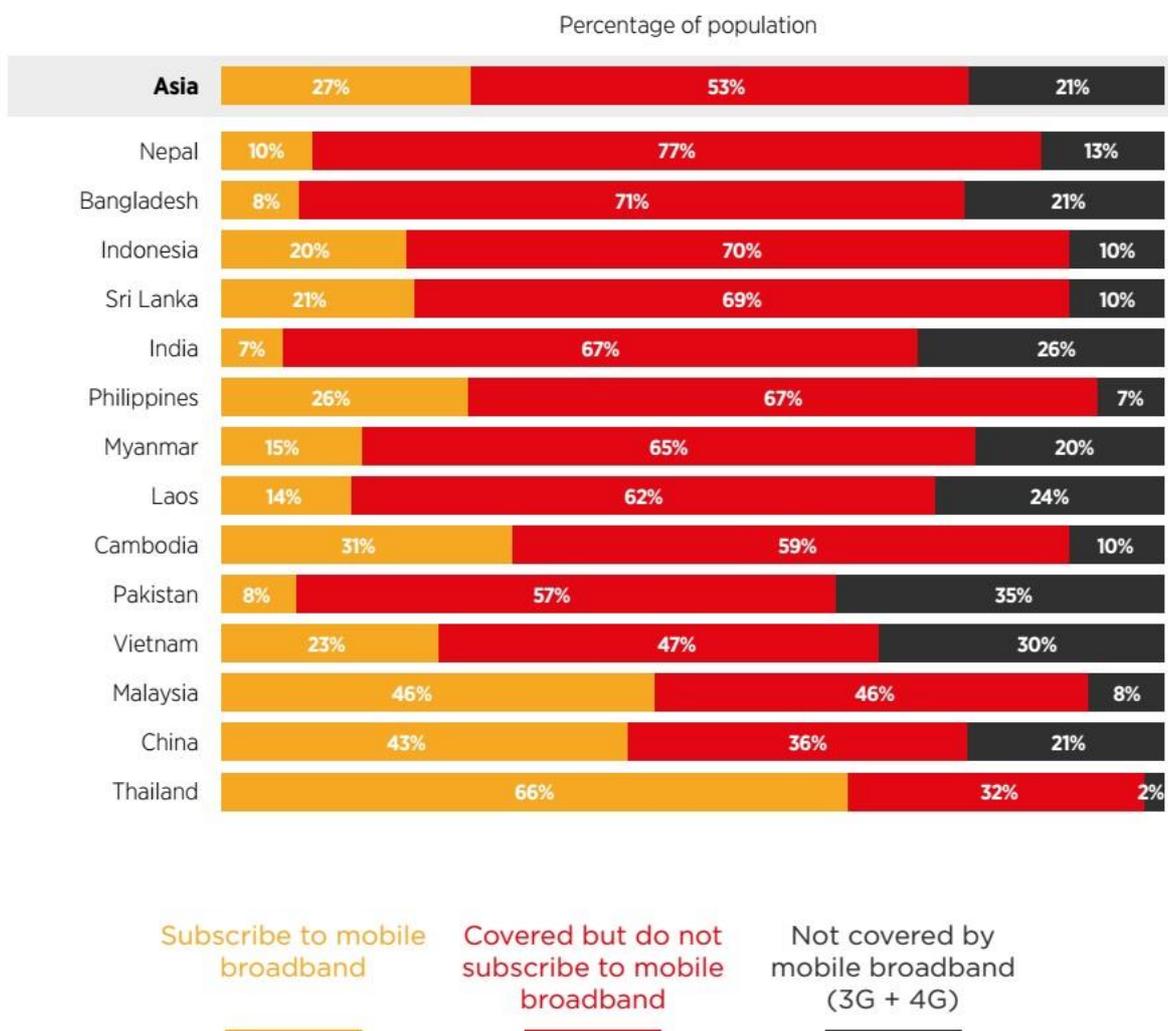
⁴ GSMA, "The Mobile Economy: Asia Pacific 2017," 2017, <http://www.gsma.com/mobileeconomy/asiapacific/>.

Since mobile Internet is and will be the primary means of accessing the Internet for most people in the Asia-Pacific,⁵ it suggests that about 37% of Asia-Pacific's population will still be unconnected via mobile Internet by 2020.

There are no shortcuts to enabling mobile Internet adoption

Many policymakers and development agencies believe that the key roadblock to greater mobile Internet adoption is network coverage.⁶ However, evidence does not always support this. Much more needs to be done to address demand-side barriers related to: (1) affordability; (2) awareness and digital skills; (3) locally relevant content and services; and (4) security, privacy and trust.

In Asia, more than 2 billion people are covered by mobile broadband services but do not use them.



Source: GSMA, "*Consumer Barriers to Mobile Internet Adoption in Asia*," 2016

⁵ Internet Society, "Mobile Internet Usage Trends in Asia-Pacific," February 2016, <https://www.internetsociety.org/sites/default/files/Mobile%20Internet%20Usage%20Trends%20in%20Asia-Pacific.pdf>; and GSMA, "Consumer Barriers to Mobile Internet Adoption in Asia," 2016, <http://www.gsma.com/mobilefordevelopment/programme/connected-society/consumer-barriers-mobile-internet-adoption-asia>.

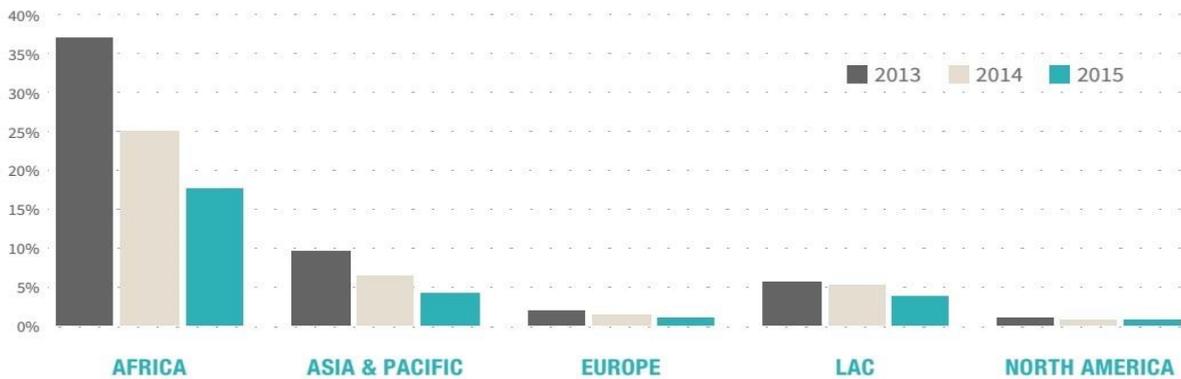
⁶ See Issues paper on Enabling E-Services; and GSMA, "Mobile Connectivity Index Launch Report," 2016, <http://www.gsma.com/mobilefordevelopment/programme/connected-society/mobile-connectivity-index-launch-report>.

Mobile Internet is becoming less affordable as people are consuming more data

While the price of data has generally declined (see figure below), people are using much more data, which means that Internet use has become relatively more expensive.

The increase in mobile broadband coverage and smartphone adoption is leading to a surge in the use of mobile data in the Asia-Pacific region. Ericsson in its latest Mobility Report⁷ estimates that monthly data traffic per smartphone in Asia-Pacific is expected to increase from 1.7GB in 2016 to 9.5GB in 2022, and will account for about half of the total global smartphone traffic.

Average price of a 1GB (prepaid, mobile) broadband plan as a % of GNI per capita, by region



Source: Alliance for Affordable Internet, "2017 Affordability Report," 2017

Although social media and IP messaging services are strong contributors to data traffic, video represents the majority of mobile data—about 50% in the Asia-Pacific region, and is estimated to reach over 70% by 2020.⁸

The Internet Society survey on mobile Internet usage in the Asia-Pacific in September 2015⁹ shows that mobile data continues to be expensive for most people:

- 72% preferred to use free Wi-Fi over a data connection—this preference was higher among respondents from emerging economies.
- 68% stated that lower data costs would encourage them to use their mobile data connection more often.
- 77% stated that faster connection would encourage them to use their mobile data connection more often.

⁷ Ericsson, "Mobility Report," November 2016, <https://www.ericsson.com/assets/local/mobility-report/documents/2016/ericsson-mobility-report-november-2016.pdf>.

⁸ GSMA, "The Mobile Economy: Asia Pacific 2016," 2016, <http://www.gsma.com/mobileeconomy/asiapacific/>.

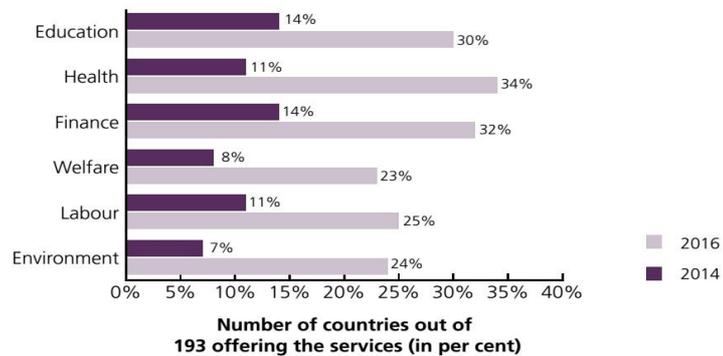
⁹ Internet Society, "Mobile Internet Usage Trends in Asia-Pacific," February 2016, <https://www.internetsociety.org/sites/default/files/Mobile%20Internet%20Usage%20Trends%20in%20Asia-Pacific.pdf>.

Information and services are moving online and this has serious implications for women and low-income groups

Crucial government and community services, knowledge resources for education and learning, and labour market functions are moving online, further excluding those who are not able to access the Internet.

Governments throughout the Asia-Pacific region are delivering public services through mobile applications (see figure below). Globally, the highest growth in government mobile applications and SMS services was in the health sector, followed by the finance sector.

Global trend in government's delivery of mobile apps & SMS services by sectors



Source: UN Department of Economic and Social Affairs, *United Nations E-Government Survey 2016* (New York, 2016)

In India, after the demonetisation of 500 and 1,000 rupee banknotes in late 2016, the Indian government is promoting digital transactions in a bid to transform the country into a cashless economy. Following demonetisation e-wallet companies have seen a rapid surge in the number of transactions and traffic on their web and app-based platforms, but these are mostly driven by the urban population.¹⁰ Women in India, are less likely to have access to digital financial services due to various economic, social and cultural barriers.

INDIA



Source: Financial Inclusion insights, "India: Wave Report FI Tracker Survey Conducted June-October 2015," March 2016

Application islands are limiting the use of the Internet for economic and social development

Findings from a GSMA study on women and their digital literacy in India, Indonesia and Kenya reveal that women using mobile Internet often find themselves stuck on "application islands", which means that the mobile Internet users are unable to expand their mobile Internet usage beyond the few applications that they are already familiar with, such as Facebook and WhatsApp. As the Internet is viewed through the lens of one or two applications and services that users are familiar with, there is a lack of understanding of the depth and breadth of the Internet that traditional PC users have through web browsers and search engines.¹²

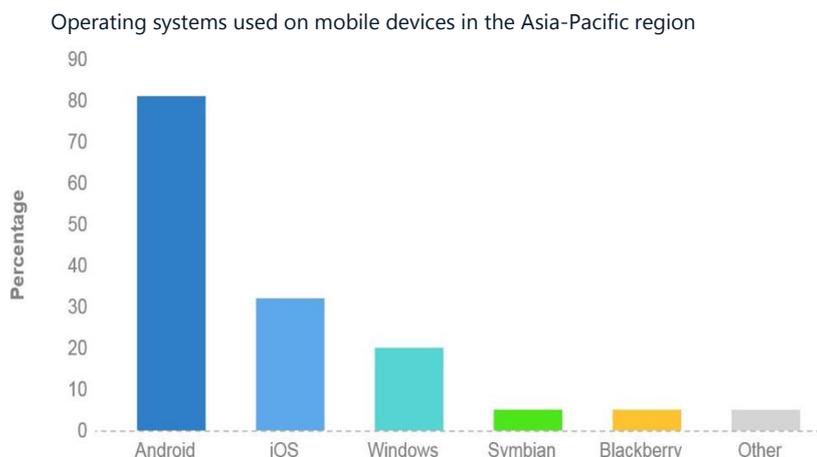
¹⁰ Misha Sharma, "What Does India's Demonetization Experiment Mean for Financial Inclusion?" *Center for Financial Inclusion*, 16 November 2016, <https://cfi-blog.org/2016/11/16/what-does-indias-demonetization-experiment-mean-for-financial-inclusion/>.

¹¹ Tilman Ehrbeck, "Digital Financial Inclusion: Seizing a \$3.7 Trillion Opportunity," *Center for Financial Inclusion*, 17 October 2016, <https://cfi-blog.org/2016/10/17/digital-financial-inclusion-seizing-a-3-7-trillion-opportunity/>.

¹² GSMA, "Accelerating Digital Literacy: Empowering Women to Use the Mobile Internet," 2015, http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/06/DigitalLiteracy_v6_WEB_Singles.pdf.

Lack of interoperability between mobile platforms

The lack of interoperability between mobile platforms adds to the cost for developers that need to customise their apps for each platform, and for the users when they switch mobile platforms. Every app must be downloaded on the new platform, and some paid for again. There is also the issue of user data portability where it is either difficult or not possible to move data from one platform (or app) to another—this then becomes a vendor lock-in concern as well.



Source: Internet Society, "Mobile Internet Usage Trends in Asia-Pacific," February 2016

Information and services are moving online, but many websites are not mobile friendly

By 2014, all 193 Member States of the United Nations had national web portals.¹³ But according to a study by GSMA,¹⁴ only 36% of Asian countries have "mobile friendly" websites.¹⁵ This is lower than Africa, where the figure is 43%.

The issue is exacerbated by the fact that Asia is a mobile-first region—it has well over half of the world's mobile subscribers—and new users will also access the Internet for the first time using a mobile device.

Privacy and security concerns are escalating

In comparison with fixed-line communications, mobile communications have several attributes that have a particularly negative effect on privacy. These include:

- The unique mobile device (IMEI) and SIM card (IMSI) identifiers.
- The ability to regularly ascertain the approximate geographic location of mobile device.
- The ability for third parties to intercept wireless mobile communications as they travel through the air.

The mobile Internet service provider, device manufacturer, operating system provider and app providers all have a certain level of control over and/or access to user personal data. Apps also tend to require access to a range of user and device data that are often unnecessary to the app's actual functioning.

Anonymised big data, however, has been contributing significantly to economic and social development. A multi-stakeholder approach is necessary to address the complex interplay between privacy, security, innovation and socio-economic progress.¹⁶

¹³ United Nations Department of Economic and Social Affairs, *United Nations E-Government Survey 2016* (New York, 2016), <https://publicadministration.un.org/egovkb/en-us/reports/un-e-government-survey-2016>.

¹⁴ Alex Smith, "How Understandable and Accessible are Asian Government Websites," *GSMA*, 21 December 2016, <http://www.gsma.com/mobilefordevelopment/programme/connected-society/how-understandable-and-accessible-are-asian-government-websites>.

¹⁵ Based on Google's mobile friendly test at <https://search.google.com/search-console/mobile-friendly>.

¹⁶ See Issues Paper on Online Privacy.

The Opportunities

Those who own a mobile phone are more likely to use it for advanced functions

Although studies show that the Internet is predominantly being used for social networking¹⁷ and entertainment,¹⁸ the Internet Society survey on mobile Internet usage in the Asia-Pacific indicates that those who go online mainly through a mobile device register higher and more diverse Internet usage, particularly, the more advanced functions and services related to government, employment, banking, education and trading.¹⁹

Good policy and regulatory practices to build the digital economy and society incorporates mobile Internet.²⁰

Recommendations from Alliance for Affordable Internet, Asian Development Bank, GSMA and the World Economic Forum²¹ emphasise the need to:

- Manage spectrum for mobile-based digital services.²²
- Reduce taxation for devices, SIM cards and mobile services.²³
- Incorporate mobile broadband adoption in universal service fund initiatives.²⁴
- Incorporate mobile Internet in digital literacy programmes.²⁵
- Promote the development and adoption of open standards and approaches for the interoperability of mobile devices, apps and platforms, as well as the data collected and processed.²⁶
- Create an open and level playing field to allow industry players to deliver innovative mobile services.²⁷

At the same time, it is important to bear in mind the policy and regulatory challenges, such as, addressing the backbone and backhaul infrastructure deficit, and influencing companies' behaviours to ensure that the public interest is integrated in decision-making.

¹⁷ Jacob Poushter, "Smartphone Ownership and Internet Usage Continues to Climb in Emerging Economies," *Pew Research Center*, 22 February 2016, <http://www.pewglobal.org/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies/>.

¹⁸ GSMA, "Mobile Internet Usage Challenges in Asia," July 2015, <http://www.gsma.com/mobilefordevelopment/programme/connected-society/mobile-internet-usage-challenges-in-asia-awareness-literacy-and-local-content/>.

¹⁹ Internet Society, "Mobile Internet Usage Trends in Asia-Pacific," February 2016, <https://www.internetsociety.org/sites/default/files/Mobile%20Internet%20Usage%20Trends%20in%20Asia-Pacific.pdf>.

²⁰ See Issues Paper on Policies and Regulations for the Digital Economy and Society.

²¹ World Economic Forum, "Internet for All: A Framework for Accelerating Internet Access and Adoption: White Paper," April 2016, <https://www.weforum.org/reports/internet-for-all-a-framework-for-accelerating-internet-access-and-adoption>.

²² Alliance for Affordable Internet, "2017 Affordability Report," 2017, <http://a4ai.org/2017-affordability-report/>; and GSMA, "The Mobile Economy: Asia Pacific 2017," 2017, <http://www.gsma.com/mobileeconomy/asiapacific/>.

²³ Tax as a proportion of mobile ownership is approximately 18% in Bangladesh and more than 30% in Pakistan, compared to a global average of less than 12%. GSMA, "Building Digital Societies in Asia," 2015, <https://www.gsmaintelligence.com/research/?file=bd5b3cf1d0533f9c9641039ba6966864&download>.

²⁴ Asian Development Bank, "Road to 2030: Information and Communications Technology in ADB's Corporate Strategy and Operations," 27 July 2016, <https://www.adb.org/about/policies-and-strategies/new-strategy>.

²⁵ GSMA, "Accelerating Digital Literacy: Empowering Women to Use the Mobile Internet," 2015, http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/06/DigitalLiteracy_v6_WEB_Singles.pdf.

²⁶ GSMA, "Policy and Regulation for Innovation in Mobile Health," 2012, <http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/04/policyandregulationforinnovationinmobilehealth.pdf>.

²⁷ GSMA, "The Mobile Economy: Asia Pacific 2017," 2017, <http://www.gsma.com/mobileeconomy/asiapacific/>.

Mobile operators are taking the lead in enabling innovation and entrepreneurship

Local startups are likely to be one of the primary drivers of relevant content, simply because of the enhanced level of local knowledge that these entrepreneurs bring with them.²⁸ The innovation and investment ecosystem in Asia has been growing fast, although it is still behind North America and Europe.²⁹

Mobile operators are supporting startups and new business models through direct partnerships, the use of open APIs, access channels, incubator programmes or direct funding.

The three biggest operators in Thailand—dtac, True and AIS—all have incubator programmes. In the Philippines, two operators—Globe and Smart—have incubator programmes. In China, all three operators—China Mobile, China Telecom and China Unicom—have developed service delivery platforms to share their technical infrastructure to attract local developers.

The GSMA has identified 287 active tech hubs, incubators and accelerator programmes across 13 countries in South and South-East Asia.³⁰

Alignment with the SDGs

The SDGs commit United Nations member states to:

- Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women (SDG5b).
- Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020 (SDG9c).

One of the indicators for measuring SDG5b is the proportion of individuals who own a mobile telephone, by sex; and an indicator for measuring SDG9c is the percentage of the population covered by a mobile network, broken down by technology.

Questions to Think About

- What is the most suitable regional forum and collaboration mechanism to leverage the mobile Internet to bridge the digital divide?
- What are the strategies for expanding mobile Internet usage beyond the few popular applications?
- What incentives are there to promote the interoperability of mobile platforms?
- What specific areas of mobile Internet should policymakers be focusing on?
- What is the appropriate metric for affordability when it comes to mobile Internet subscription? How about cost of the mobile device?
- What could be the role of mobile operators in enhancing end users' digital literacy, particularly in raising awareness about security, privacy and trust issues?



²⁸ See Social Venture Challenge Asia, "120 Social Enterprises to Watch For in Asia 2016," <http://socialventurechallenge.asia/top-120-teams/>.

²⁹ GSMA, "Mobile Internet Usage Challenges in Asia," 2015, <http://www.gsma.com/mobilefordevelopment/programme/connected-society/mobile-internet-usage-challenges-in-asia-awareness-literacy-and-local-content/>.

³⁰ GSMA, "The Mobile Economy: Asia Pacific 2017," 2017, <http://www.gsma.com/mobileeconomy/asiapacific/>.