

GMEI 2017

Global Mobile Engagement Index

Supplementary data publication

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Summary

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Understanding regional consumer behaviour

Data insights

2 Moving to smarter devices

Mobile technology innovation is driving user engagement, but in some countries it is not the end game.

Living in a 'data first' world

IP-comms continues to change the way we communicate, but mobile data services consumption varies by region.

4 Early adopters on the rise

The next generational demographic shifts will change the profile of tomorrow's mobile consumers.

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Consumer segmentation, regional trends

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Introduction



Introducing a new indicator that offers a new perspective on mobile uptake measurements

The need for a new indicator

The mobile industry needs innovative performance measurements as we enter the fourth industrial revolution.

The Global Mobile Engagement Index (GMEI) builds on the legacy of traditional industry indicators (e.g. mobile penetration, connections); some of these are becoming <u>obsolete</u> as we move to a new phase of growth where data tariffs, converged services and multi-device ownership prevail.

GSMA Intelligence estimates that two thirds of the global population subscribe to mobile services, and over 60% of them are using the mobile internet. By 2020, mobile subscriber penetration is set to reach close to 90% in the developed world and 70% in the developing world - closing the gap against addressable population ceilings in both regions.

As most countries across both developed and developing regions show signs of mobile market saturation, industry indicators reflecting penetration levels are becoming less relevant to measure medium- to long-term growth opportunities.

Mobile is transforming people's lives, and consumer habits will continue to change as mobile devices get smarter, services grow richer and societies become more connected. For instance, 39% on average of smartphone users to date have used their device to look for jobs and access services that help to improve their health or support their education or that of their children.

Understanding what makes mobile users unique in any given country today, and how demand is going to evolve tomorrow, is key to anticipating future growth and challenges. This is the key objective behind the development of the Global Mobile Engagement Index.

The Index and segmentation in a nutshell

The GMEI measures the level of engagement of smartphone and non-smartphone users across a wide array of use cases and services. The higher the score the more likely consumers are to frequently engage in mobile services.

The Index has been built based on inputs from our annual global consumer survey, which was last conducted between June and August 2016 across 56 countries worldwide representing 80% of the global population.

It is based on the computation of two scores for each country surveyed:

- a usage score, i.e. the average number of mobile use cases adult phone owners engage in
- a frequency score, i.e. how often they engage in the use case on average.

Scores are calculated separately for smartphone and non-smartphone owners, which are in turn weighted based on the prevalence of these device types in each country (as a percentage of unique subscribers). GSMA Intelligence estimates that in 2016, over 70% of unique subscribers in the developed world are using a smartphone, against around 40% in the developing world where basic/feature phones are still prevalent.

A segmentation exercise further supports the Index as it helps to interpret the GMEI ranking and understand the differences in user engagement between countries.

Based on the usage patterns of the 56,000 survey respondents, four segments have been identified: the Aficionados, the Pragmatists, the Networkers and the Talkers.



Methodology outline



Global consumer survey

56 countries surveyed in 2016

1,000 adult respondents per country (18+)

Smartphone and non-smartphone owners

29 mobile use cases monitored



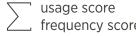
Global Mobile Engagement Index





weighting

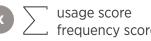














unique subscriber %

Interpreting the score:

The higher the score, the more engaged consumers are in mobile services.

A score of zero would mean that consumers never use their mobile phones for any of the 29 mobile use cases covered in the survey.

A score of 10 would mean that consumers engage in each of the 29 mobile use cases every day.



Global mobile consumer segmentation 56,000 respondents have been clustered into four distinct groups based on how often they engage in the 29 mobile use cases monitored in the survey.

Aficionados Pragmatists Networkers

Talkers

Early adopters

Early majority

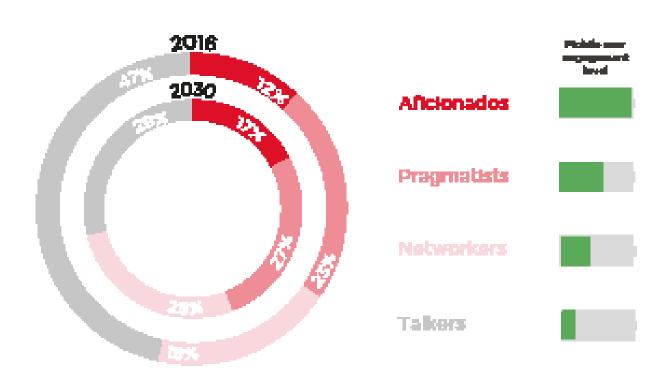
Late majority

Laggards

The segmentation helps to understand some of the differences in the GMEI country ranking.



Global mobile consumer trends summary



Mobile operators and the journey towards more affluent mobile consumers

Globally, around half of mobile phone owners (47%) to date mainly use their device to simply place a voice call or send a text message. However, the prevalence of this consumer segment - labeled the 'Talkers' - is set to decrease over the coming years.

A mix of macro-level and market-related factors – some of which operators can control – are driving some of the differences and projections in mobile user engagement noted throughout this study:

- Demographics
- 2 Mobile technology innovation
- 3 Mobile broadband affordability
- 4 Digital literacy
- 5 Local content availability

A transformation that takes time

We live in a 'data first' world and mobile consumers across the globe are are set to engage more frequently in services powered by the mobile internet - particularly in emerging markets where mobile is the only means to access the internet.

However, it is not necessarily because a country boasts a high mobile user engagement level that operator data revenues grow faster. Similarly, it takes time to see the latest technology innovations being adopted by the less tech-savvy consumers.

Our research highlights that while greater mobile user engagement might contribute to incremental value for mobile providers, this journey takes time and requires a sustainable market environment.

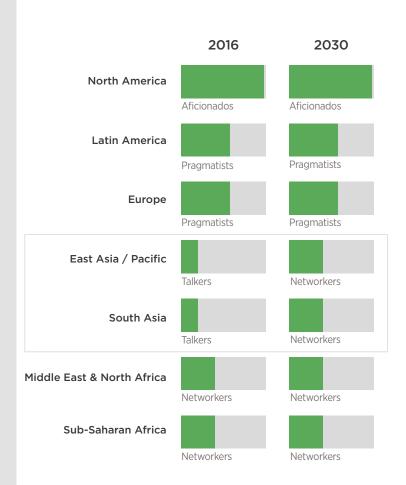
Global mobile consumer segmentation

% of mobile phone owners (18+)

Source: GSMA Intelligence



Regional mobile consumer trends summary



Predominant mobile consumer segment by region

Smartphone owners (18+)

Source: GSMA Intelligence

Towards more affluent mobile consumers, everywhere

Mobile consumer behaviour varies by region, and several markets - across developed and developing economies - are expected to witness a shift in their demographic and mobile consumer segmentation distribution in the coming years.

The regions that will see a substantial increase in the number of 'early adopters' are **North America**, Europe and South Asia. The US is currently the only market where the most highly-engaged mobile users (the 'Aficionados') are predominant.

Aficionados will continue to be an exclusive group of very tech-savvy mobile consumers. Across most regions though, the more price-sensitive and less-engaged consumer groups such as the Pragmatists and Networkers tend to form the dominant mobile consumer segments.

Most emerging markets are rapidly transitioning to greater mobile internet engagement. By 2020, these countries will encompass over 80% of global unique subscribers and over half of global operator data revenue.

South Asia is projected to go through the most radical shift in mobile consumer behaviour in the coming years. By 2030, the proportion of consumers who mainly use their phones for voice and text is expected to decrease by 30 percentage points in the region. Along with East Asia/Pacific, South Asia is to witness a shift in its mobile consumer landscape in that its dominant mobile user segment will transition from the 'Talkers' in 2016 to the 'Networkers' in 2030. This increase in mobile user engagement will be mainly driven by smartphone and 4G adoption, mobile broadband affordability and the regionalisation of online content - particularly in India.

In **Sub-Saharan Africa**, the 'Networkers' will be even more dominant in the future, meaning that more mobile consumers will be more frequently using IP-comms, social networking and web browsing in the coming years. To date, price-sensitive demand in the region shows an appetite for mobile internet services despite lower income and lower smartphone adoption. Mobile users in several African markets (e.g. Tanzania, Kenya, Mozambique) boast a high engagement in financial services (e.g. mobile money, money transfer).

As smartphone adoption is a determinant factor that will drive greater user engagement in the region, it is important to maintain device affordability through appropriate taxation rates. Similarly, in several markets, we noted that poor digital literacy and a lack of local content can hinder mobile user engagement (e.g. Myanmar).

The mobile consumer landscape will remain stable in Latin America over the coming years, with highlyengaged users (Pragmatists) dominating regional consumer segmentation. Under this projection, mobile users in the region are expected to continue to frequently consume mobile internet services. including free mobile entertainment content (e.g. free online video streaming) and IP messaging apps. Brazilian mobile users have embraced mobile internet services and tech-savvy demand in the country will continue to lead developments in the region, placing it on par with other mature markets such as China. In both countries, IP comms has already detroned traditional voice and text. In Latin America in particular, the challenge for industry players is to drive more affluent users to go beyond consuming free content on their mobile to fully reap the benefits of the mobile internet.



Global mobile user engagement - top 10 insights



There are more 'early adopters' in São Paulo than in Tokyo.

Japan shows a lower mobile user engagement level than most developed countries, due to a lower adoption rate of smartphones and a greater prevalence of the 55+ population, which tend to be less engaged than younger Japanese consumers.

Brazil shows a higher prevalence of its base of 'Aficionados' (the most engaged and tech-savvy consumer group) which is almost twice as high as in Japan (14% vs. 8% respectively).



Traditional SMS is still used more frequently than IP messages in several mature markets.

In France and the US, only 28% and 41% of smartphone users respectively claim to be using IP messaging more than text. This is partly due to the fact that unlimited SMS in bundled tariffs were introduced long before IP messaging apps started to become popular.

In France and the US, the vast majority of smartphone users claim to have subscribed to a tariff that offers 'unlimited text' (91% and 80% respectively).



Smartphones are more frequently used for online window-shopping, than to generate actual purchases.

Globally >70% on average of smartphone consumers use their device to get information about products and services, but only half use it to purchase goods.

Consumers in the US and South Korea are leading engagement in mobile shopping, but multi-screen ownership tends to prevent greater usage.



Paying a bill or transferring money to a friend using a mobile phone is more frequent in Nairobi than it is in London, Paris or Zurich.

Around 4 in every 5 consumers in Kenya and Tanzania use their mobile phones to send or receive money from friends, relatives or business associates via mobile money services.

Mobile money services are more convenient to process cash transactions than online banking services, which are being used by around 57% of smartphone users across the UK, France and Switzerland altogether.



The millennials are not always more engaged mobile users than their elders.

Targeting demand from the Baby Boomers is important. In South Korea, over a quarter of smartphone users are Baby Boomers (between 51 and 69 years of age today). This group of consumers use their mobile phones as much as the millennials to browse the web, read the news, download apps, get information about products and services and use navigation apps.



Wearables appeal to all ages and genders, and are not just for mobile

Wearables (smartwatch or fitness tracker) seem to have been adopted by multiple groups of consumers with varying levels of tech-savviness. There are no clear differences in ownership between age groups nor any large inequalities in ownership between men and women.



Free content is king; everyone bows to mobile video streaming.

Ensuring network capacity will remain a key priority for market players as mobile video traffic continues to rise. >70% of smartphone users globally watch free online videos on their phone (e.g. YouTube), and half of smartphone users watch or replay live TV programmes on their phone.



The elders of tomorrow will be more connected than the elders of today.

By 2030, the ageing population and generational shift in Europe will drive an increase of almost 10pp in the number of highly-engaged smartphone users (labeled 'Aficionados' and 'Pragmatists').

Demographic projections towards 2050 show that as Millennial and Post-Millennial mobile users transition to older age bands, the prevalence of highly-engaged users will gradually increase in each market.



Female mobile phone owners in India are 43% less likely to engage in mobile internet services than men.

Last year, 17% of female mobile phone owners (18+) in India engaged in mobile internet based services compared to 29% of male phone owners. These low usage levels in the country are influenced by the large prevalence of non-smartphone subscribers (77%).



Smartphone ownership is not the end game.

There are countries with high smartphone ownership where user engagement is low, due to digital illiteracy and a lack of local content (e.g. in Myanmar).



Global Mobile Engagement Index - ranking

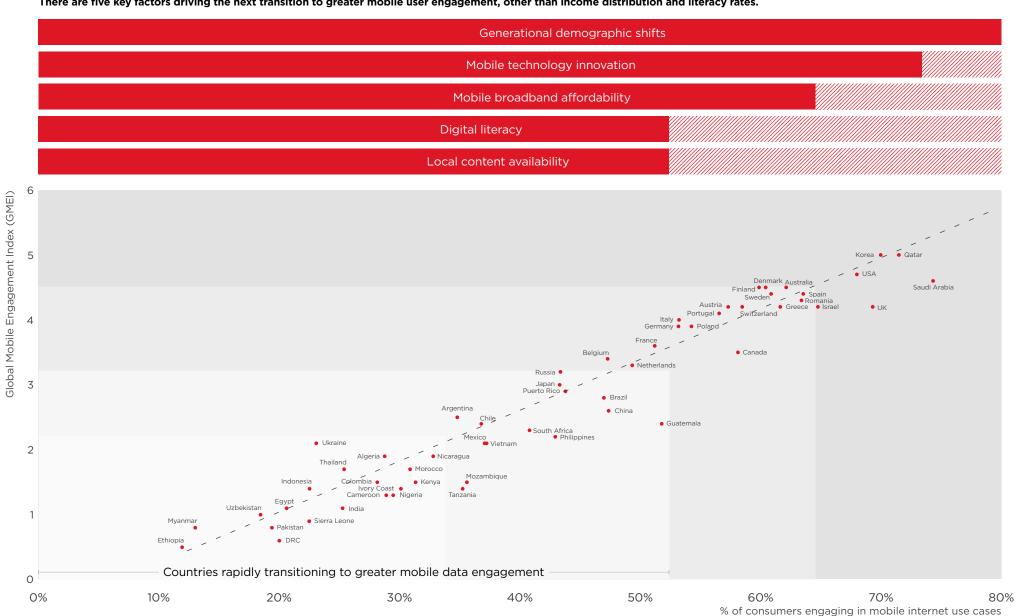
#	Country	Engagement Score				
1	Korea, South	5.0				
2	Qatar	5.0				
3	United States of America	4.7				
4	Saudi Arabia	4.6				
5	Denmark	4.5				
6	Finland	4.5				
7	Australia	4.5				
8	Spain	4.4				
9	Sweden	4.4				
10	Romania	4.3				
11	Greece	4.2				
12	United Kingdom	4.2				
13	Israel	4.2				
14	Austria	4.2				
15	Switzerland	4.2				
16	Portugal	4.1				
17	Italy	4.0				
18	Poland	3.9				
19	Germany	3.9				
20	France	3.6				
21	Canada	3.5				
22	Belgium	3.4				
23	Netherlands	3.3				
24	Russian Federation	3.2				
25	Japan	3.0				
26	Puerto Rico	2.9				
27	Brazil	2.8				
28	China	2.6				

#	Country	Engagement Score				
29	Argentina	2.5				
30	Guatemala	2.4				
31	Chile	2.4				
32	South Africa	2.3				
33	Philippines	2.2				
34	Mexico	2.1				
35	Ukraine	2.1				
36	Vietnam	2.1				
37	Algeria	1.9				
38	Nicaragua	1.9				
39	Morocco	1.7				
40	Thailand	1.7				
41	Colombia	1.5				
42	Kenya	1.5				
43	Mozambique	1.5				
44	Indonesia	1.4				
45	Tanzania	1.4				
46	Ivory Coast	1.4				
47	Cameroon	1.3				
48	Nigeria	1.3				
49	Egypt	1.1				
50	India	1.1				
51	Uzbekistan	1.0				
52	Sierra Leone	0.9				
53	Myanmar	0.8				
54	Pakistan	0.8				
55	DRC	0.6				
56	Ethiopia	0.5				



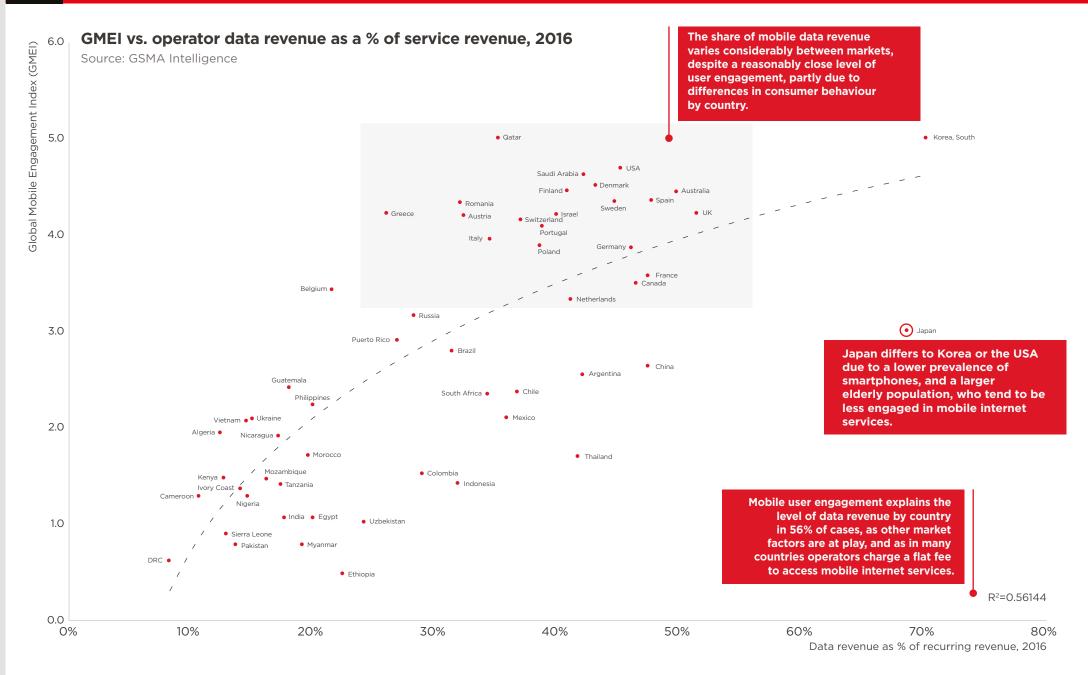
Five key market factors are powering mobile user engagement

There are five key factors driving the next transition to greater mobile user engagement, other than income distribution and literacy rates.



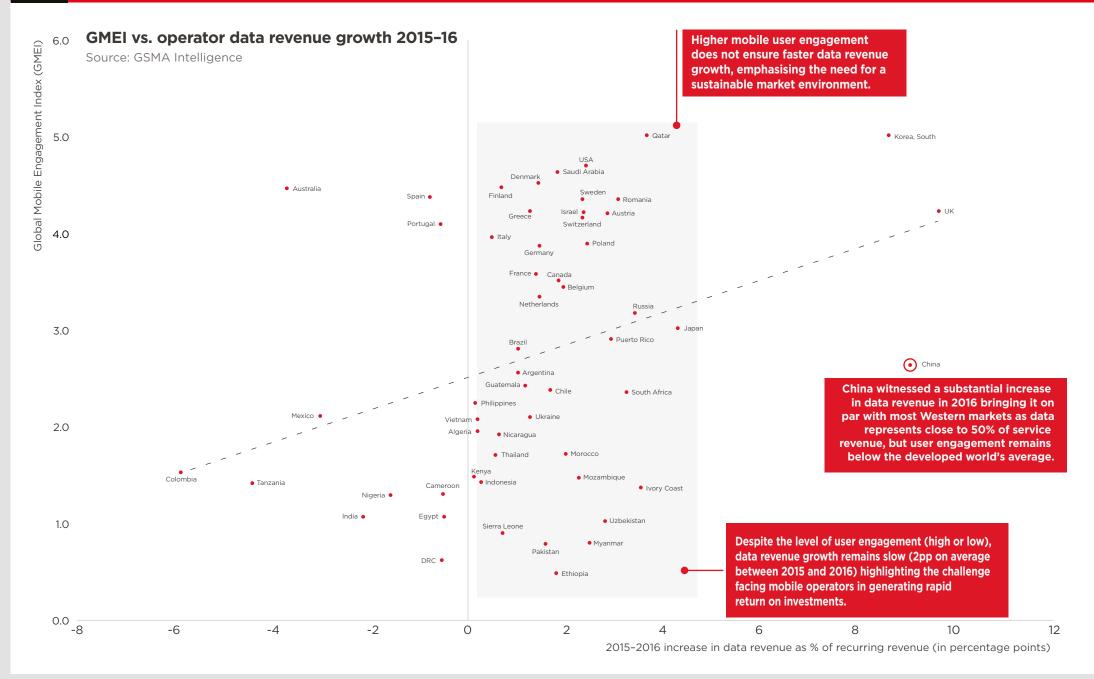


The relationship between mobile engagement and data revenue can be asymmetric





Higher mobile user engagement does not ensure faster data revenue growth





Consumer survey inputs: 29 mobile use cases were covered to build the index

"Please tell me how frequently, if at all, you use each of the following communication tools and services on any of your mobile phones".

[Never - Less than once a month - every month - every week - every day]



Traditional communication

- Phone calls over cellular/mobile network
- SMS/MMS



Mobile internet communication

- Video calls
- IP messaging app
- Email
- Phone calls using a provider other than your mobile operator



Social networking

Visit social networking websites



Apps

Download apps



Navigation

• Use map applications



Internet

- Browse the internet
- Read the news



Entertainment

- Play games
- Watch free online video
- Watch live TV or replay TV programmes
- Listen to free online music
- Listen to the radio
- Reading eBooks



Lifestyle

- Look for or apply for a job
- Access government services
- Access services that help me to improve or monitor my health and or the health of my family



Digital commerce

- Get information about products and services
- Pay for on-demand TV/movie
- Pay for music online
- Order and purchase goods online
- Pay for goods using contactless payment



Financial services

- Transfer money
- Online banking
- Financial services (like paying utility bills)
- Send or receive money from friends/relatives/business associates via mobile money services



Consumer segmentation - key characteristics

Segment	Key characteristics	Key services determining membership
Aficionados	 Highest recorded engagement across all use cases More male oriented and younger generations prevail Greater presence in the developed region Very tech-savvy, good understanding of mobile technology and upcoming products and services Spend more time exploring the web and social networks than placing voice calls or sending SMS Very likely to own smart TVs and wearables Predominantly connected to 4G networks 	∅∅∅⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈⋈<
Pragmatists	 High engagement in digital commerce and financial services High usage recorded across most use cases Similar demographics and characteristics to <i>Aficionados</i>, except that the Pragmatists have a preference for free content and are less likely to use their phones to pay for products and services 	2
	 They engage in entertainment, digital commerce and financial services, but at a rate almost twice lower than the <i>Aficionados</i> Almost equal split between 4G and 3G connectivity Less tech-savvy than the <i>Aficionados</i> 	
Networkers	 Moderate usage recorded across fewer use cases than the above groups Mobile phones are used essentially to explore the internet (web browsing, reading the news) and communicate (via voice, SMS, IP comms, social networks) More female oriented with similar age demographics to the <i>Pragmatists</i> (i.e. younger generations) Less tech-savvy, good understanding of mobile tech but no specific knowledge of upcoming products and services Unlikely to own wearables but reasonably good ownership of smart TVs Predominantly connected to 3G rather than 4G Greater presence in the developing world Almost never use their mobile phones for digital commerce and financial services 	
Talkers	 Occasionally download apps and consume free media content Low usage recorded across all use cases with the exception of traditional comms Mobile phones are used essentially to place a voice call or send an SMS Older generations prevail, with an equal split between men and women Still experimenting with mobile internet communications and internet use (web browsing, online news) Never use their phones for digital commerce and financial services, nor to consume free media content Almost never download apps and no interest in social networking Predominantly connected to 3G, while 2G connectivity is greater than 4G Greater presence in the developing world 	



The average consumer profile varies by region

		Profiling smartphone users						Profiling non-smartphone users				
	·	Average Age	Consumer segment ¹	Tech- savviness ²	Most often connected to ³	Using at least every month		Average Age	Consumer segment ¹	Tech- savviness ²	Most often connected to ³	Using at least every month
North	\bigcirc	35-44	Pragmatists	Medium	4G	୬ 💬 ૐ ⊕ ♡		45-54	Talkers	Medium	2G	୬ 💬 ঽ ⊕
America	8	35-44	Aficionados	High	4G		⊕	55-64	Talkers	High	2G	2 3 0
Latin	\bigcirc	35-44	Pragmatists	Medium	3G	2 P 3 H W		45-54	Talkers	Medium	2G	2 3
America	8	35-44	Pragmatists	Medium	3G	2 P 3 0 0	⊕	45-54	Talkers	Medium	2G	2 3
Europe		35-44	Pragmatists	High	3G		\bigcirc	55-64	Talkers	Medium	2G	∂ 3 ⊕
Europe	8	45-54	Pragmatists	High	3G		⊕	55-64	Talkers	High	2G	2 3 0
East Asia	\bigcirc	35-44	Talkers	Medium	3G	2 P 3 0		45-54	Talkers	Medium	2G	2
/ Pacific	8	35-44	Pragmatists	Medium	3G	୬ 💬 ೨ ⊕	⊕	45-54	Talkers	Medium	2G	2
South	\bigcirc	25-34	Talkers	Medium	3G	2		35-44	Talkers	Medium	2G	2
	8	25-34	Networkers	Medium	3G	୬ 💬 ೨ ⊕	⊕	35-44	Talkers	Medium	2G	2
Middle East North Africa		25-34	Pragmatists	Medium	3G	2 P 3 0 0	\bigcirc	35-44	Talkers	Medium	2G	D
	8	35-44	Pragmatists	High	3G	2 P 3 0 0	⊕	35-44	Talkers	High	2G	2
Sub- Saharan Africa	\bigcirc	25-34	Networkers	Medium	3G	୬ 💬 3 ⊕	\bigcirc	35-44	Talkers	Medium	2G	
	8	25-34	Networkers	Medium	3G	∂	⊕	35-44	Talkers	Medium	2G	2

adopters Pragmatists = early majority

¹ Aficionados = early Networkers = late majority Talkers = laggards

² High = I have a good understanding of mobile phones as well as upcoming mobile products and technologies Medium = I have a good understanding of mobile phones but no particular knowledge about upcoming mobile products and technologies **Low** = I am not comfortable with mobile phone technology, it is too complex and changes too fast

³ Perception based question: Which mobile network is your primary mobile most often connected to?



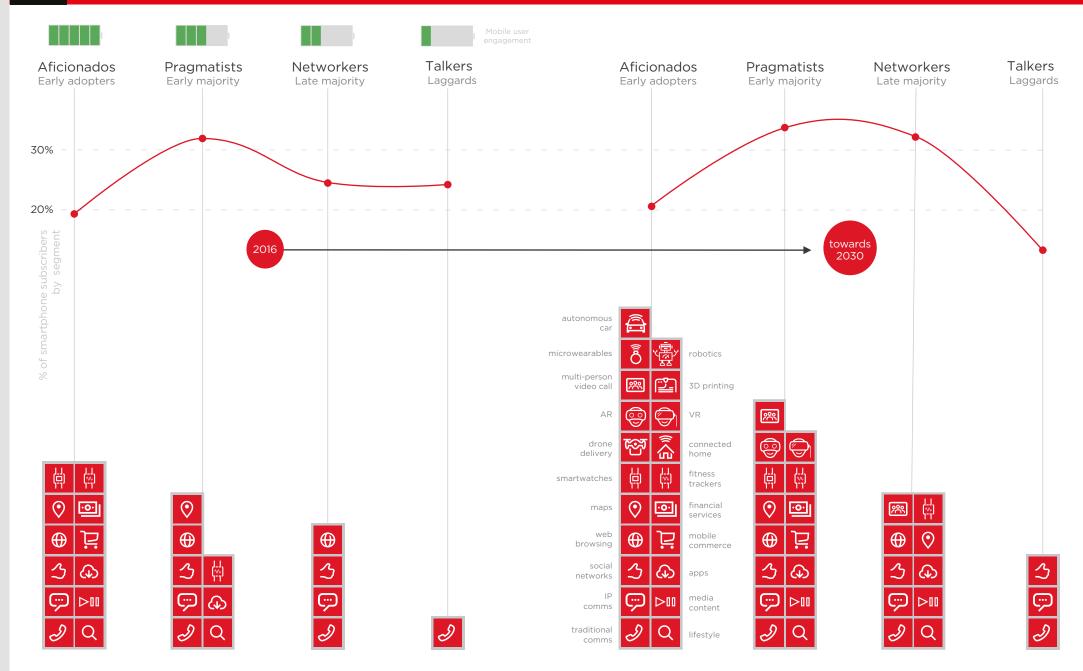
How is consumer behaviour going to change by region?

	Projecte % of adu		_	_		Services contributing the most to the change in user engagement	Key countries to experience the most radical change	Key drivers of user engagement change		
		7	\rightarrow	\rightarrow	И					
North America	2030	0170	27%	15%		F O	Compale	Demographic shiftsPlatformisationNetwork innovation (e.g. 5G, IoT)		
							Canada			
	2016	45%	27%	14%	14%			Network innovation (e.g. 56, 161)		
		\rightarrow	7	\rightarrow	И		• Chile	4G adoption		
Latin America	2030	11%	45%	34%	9%	♠ ♥ ▶■	Colombia	Smartphone adoption		
	2016	11%	43%	32%	14%	C45 V	• Mexico	• Platformisation		
	2016									
		\nearrow	A	\rightarrow	\downarrow	₽ Q	Belgium	Demographic shifts		
Europe	2030	25%	42%	20%	14%		• France • Poland	4G adoption		
•	2016	21%	38%	19%	22%		GermanyUKNetherlands	Platformisation Network innovation		
	2010						Netricianas	- Tection in interest		
E. A.L.		\rightarrow	7	\uparrow	\downarrow	□ 3 ⊕	• Indonesia	Demographic shifts MBB affordability Distributions		
East Asia / Pacific	2030	11%	33%	37%	19%		• Japan	4G adoptionDigital literacySmartphone adoptionLocal content		
, i delile	2016	10%	29%	30%	31%		• Myanmar	• Platformisation • Network innovation		
		7	7		\downarrow			4G adoption		
South Asia	2030	20%	27%			□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	• India	Smartphone adoption		
South Asia	2030			39% 15%	· IIIdia	MBB affordability				
	2016	13%	17%	25%	45%			Local content regionalisation		
		7	>	\uparrow	\downarrow	□	• Egypt	4G adoption		
Middle East	2030	11%	35%	40%	14%		Morocco	Smartphone adoption		
North Africa	2016	10%	31%	32%	27%		Uzbekistan	MBB affordability		
		7	7		→		Ivory Coast	4G adoption		
Sub-Saharan							Kenya	Smartphone adoption		
Africa	2030	11%	24%	55%	10%	$\mathcal{P}[\mathcal{S}] \oplus [\mathcal{G}]$	Mozambique	MBB affordability		
	2016	10%	22%	41%	27%		• Tanzania	Digital literacy		

GMEI summary and findings



Tomorrow's consumer will be more connected and more engaged in internet-based services



GMEI methodology outline

About the survey

GSMA Intelligence has set up an annual consumer survey to better measure mobile uptake across both developed and developing economies. The survey fieldwork took place between June and August 2016 across 56 countries worldwide, representing 80% of the global population.

The sample size included 1,000 respondents per country. Of the 56 countries, the 32 developing countries were surveyed face-to-face while the 24 developed countries were surveyed online.

Sampling frame:

The research is based on proportional quota sampling. The research participants are selected non-randomly according to a fixed quota that represents the major characteristics of a population (gender, age, urban/rural location) by sampling a proportional amount of each. The sampling frame uses base data from the United Nations (UN) and the World Bank.

The variables used to construct the sampling frame are:

- Age (18-64, five-year age bands)
- Gender
- Household income
- Urban vs. rural household location

Household income quotas are monitored in order to get a spread across all variants of the income structure. In developing countries, a specific set of questions was added within the survey for each market to measure the social grade of each household, helping to better assess income, employment and occupation.

Sampling points:

The variables used to construct the sampling frame, and a willingness to take part, are the criteria used to classify a participant as the 'right person'. For the face-to-face survey, the sampling points are set based on local knowledge. If information about gender or age distribution throughout the country is available (e.g. from a census) then generally this will be used to define the sampling points where interviewers should intervene.

An enumerator goes to each of the sampling areas and carries out the survey based on the predefined random-walk instructions. In each quota cell, there is a target set on the number of successful interviews.

Survey administration:

The delivery of the structured survey is via interviewer administered computer-assisted personal interviewing (CAPI) and interviewer administered paper survey (PAPI) in developing countries, and self-completion online in developed countries.

GMEI methodology outline

About the Index

The Global Mobile Engagement Index measures the average level of user engagement with mobile phones by country. So the higher the final score, the more likely consumers are to frequently use their mobile phones.

In this study, the terms 'consumers' and 'users' refer to adult (18+) mobile phone owners. Unless stated otherwise, the statistics presented throughout the report refer to 2016. 'Mobile internet' or 'data' use mentioned throughout the study is calculated based on engagement in the 27 survey use cases that are internet-enabled.

The GMEI is based on the computation of two scores for each country: the average number of use cases people engage in, and the average frequency at which they do them.

The results of our 2016 consumer survey form the inputs used to build the indicator. Respondents were asked how frequently they engage with their mobile phone in 29 use cases ranging from traditional phone calls and SMS to more advanced services such as video streaming or online shopping.

The answers to these questions are turned into a numerical frequency score, such that never = 1, less than once a month = 2, every month = 3, every week = 4, and everyday = 5.

Frequency score vs. usage score:

For each respondent, we therefore calculate a frequency score and a usage score. The averaged frequency of engagement in the 29 use cases, a continuous number on a scale from 1 to 5, results in the average usage frequency score. The average number of use case score is calculated as the proportion of all 29 use cases a respondent engages in, converted into a scale from 1 to 5. The sum of the two scores results in the mobile engagement score of an individual respondent, which is then converted into a 0 to 10 scale.

The frequency and usage scores for any given is calculated separately for smartphone users and non-smartphone users. These two distinct scores are then weighted based on smartphone and non-smartphone ownership rates (as a percentage of unique subscribers). The final score is then multiplied by the unique subscriber penetration rate to normalise the index based on the share of the population that is 'connected'.

The overall equation is as follows:

GMEI = [Smartphone users % × (smartphone usage score + frequency score) + non-smartphone users % × (non-smartphone usage score + frequency score)] × unique subcriber %

About the consumer segmentation

The segmentation of respondents into distinct consumer groups was performed by using the method of k-means cluster analysis. This analysis was performed on the results of the 56,000 survey respondents. This mathematical method assigned each respondent according to their mobile engagement pattern into one of four clusters: the Aficionados, the Pragmatists, the Networkers and the Talkers.

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3 Living in a 'data first' world

IP-comms continue to change the way we communicate, but mobile data services consumption varies by region.

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The next generational demographic shifts will change the profile of tomorrow's mobile consumers.

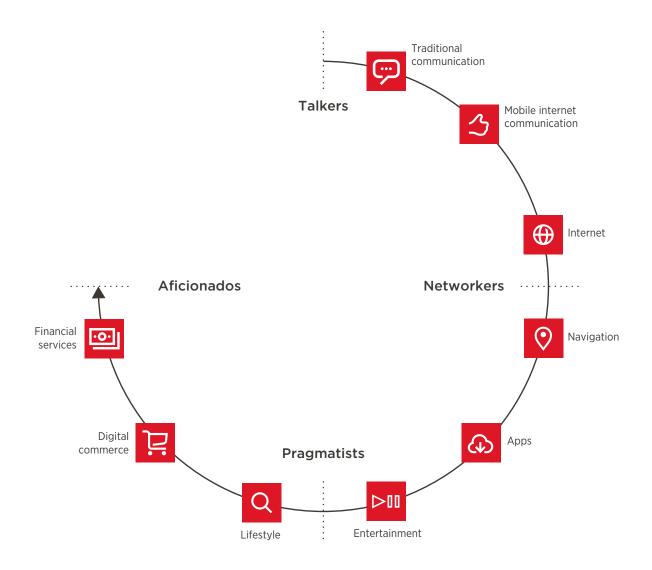
Appendix

Consumer segmentation, regional trends

- i Mobile data use cases that today drive the transition from one consumer segment to the next
- ii Smartphone user engagement is 2.5× greater than non-smartphone
- iii But smartphone ownership is not the end game
- iv Myanmar vs. Thailand
- Digital illiteracy and lack of local content can prevent greater mobile user engagement
- vi Greater local content relevancy and digital literacy can boost mobile user engagement
- vii 4G connectivity drives greater mobile user engagement
- viii But 4G adoption takes time and is not yet mainstream in most countries
- Mobile broadband tariffs and contract prevalence are drivers of mobile data engagement
- x Tech-savviness is not just prevalent among early adopters or younger generations
- xi There are non-smartphone users with high engagement in data-centric use cases

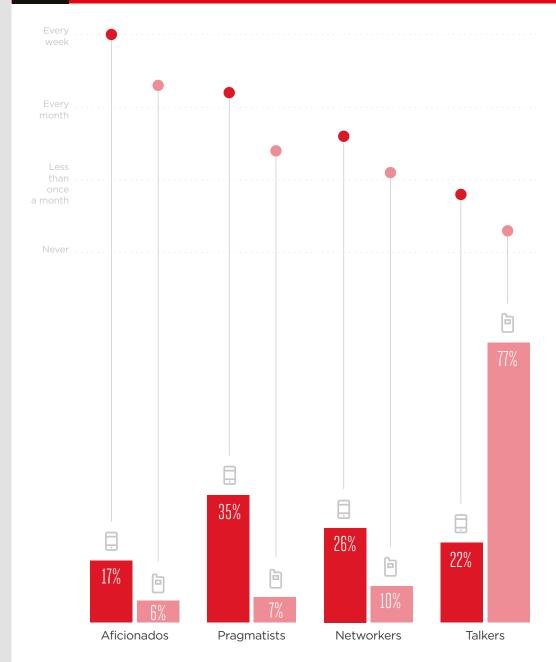


Mobile data use cases that today drive the transition from one consumer segment to the next





Smartphone user engagement is 2.5x greater than non-smartphone



Smartphone user engagement globally is 2.5× greater than non-smartphone engagement. Given the expected ~2 billion smartphone connections to be added globally over the next five years, rapidly taking smartphone adoption to saturation – with growth primarily coming from developing economies – mobile user engagement is going to increase dramatically over the coming years.

Smartphone users engage 4× more in data-centric use cases than non-smartphone users, and at a frequency rate 2.5× greater than the latter group. The smartphone consumer base is home to the greatest shares of highly engaged users (Aficionados, Pragmatists).

On average across the developed countries surveyed, almost 4 in every 5 unique subscribers own a smartphone. Among this group, smartphone user engagement is 2× greater than non-smartphone engagement.

On average across the developing countries surveyed, around 3 in every 7 unique subscribers own a smartphone. Among this group, smartphone user engagement is almost 3× greater than non-smartphone engagement.

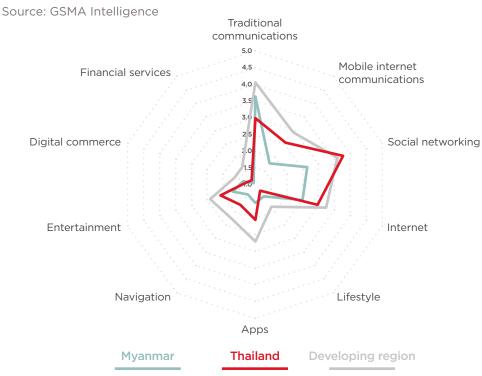


But smartphone ownership is not the end game



Myanmar vs. Thailand

Usage frequency score by use cases, smartphone users



In both Myanmar and Thailand, only 1% of the smartphone consumer base is classified as Aficionados (early adopters). Around 90% of consumers belong to the less engaged segments (Networkers, Talkers).

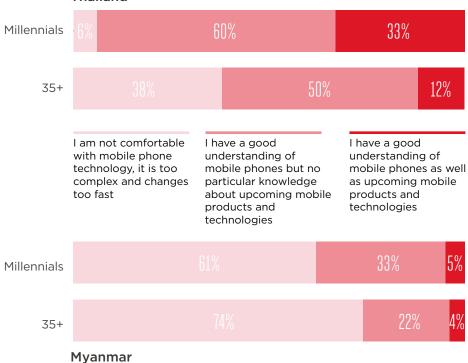
Consumers engage in social networking, IP-comms and web browsing, albeit to lesser extents than in other developing countries.

The millennials represent the more engaged and more tech-savvy consumer group. Yet, in Myanmar, the vast majority of consumers claim not to be comfortable with mobile phone technology, including millennials.

Tech-savviness prevalence by age group

Source: GSMA Intelligence





Engagement in mobile internet use cases

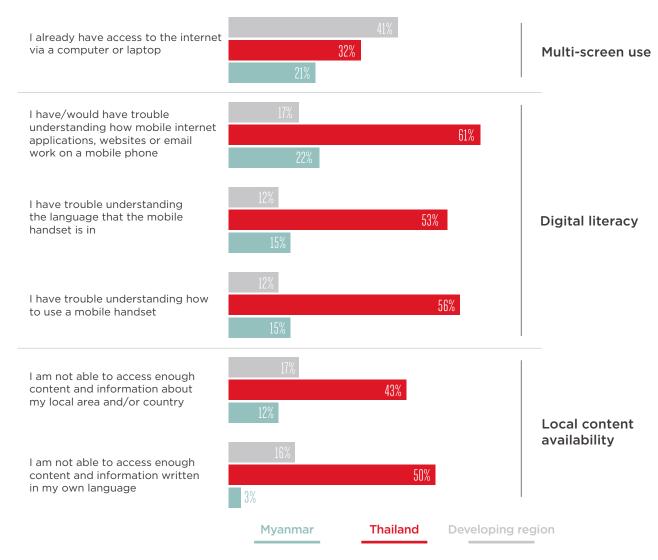




Digital illiteracy and lack of local content can prevent greater mobile user engagement

Percentage of smartphone consumers who agree that the reasons below are preventing them from using the internet on a mobile phone <u>more often</u> or for <u>more varied uses</u> than they are today.

Source: GSMA Intelligence



In the developing world, mobile is the de facto device for connecting to the internet.

But for many smartphone consumers, particularly in Myanmar, digital literacy and a lack of locally relevant content are factors that explain low levels of mobile user engagement.

Local content availability is set to improve in a country like Myanmar as more local start-ups are developing locally relevant services to deliver tailored content to consumers.

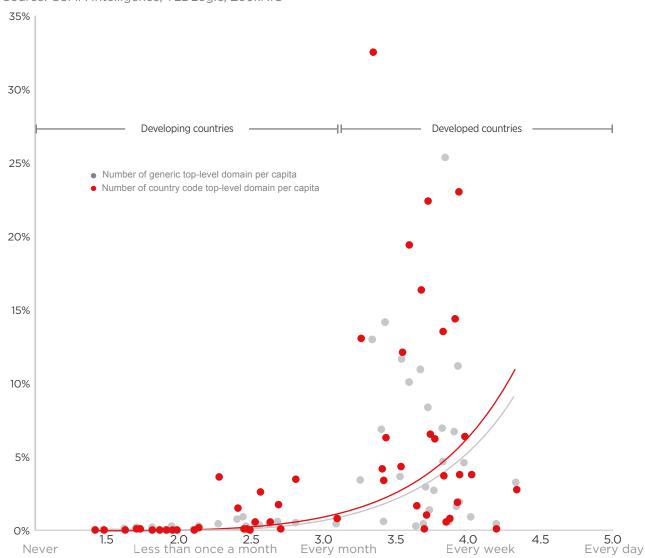
Improving digital literacy is, however, a longer term challenge which should start by targeting the millennials, who today represent 43% of the population in Myanmar, and 31% in Thailand.



Greater local content relevancy and digital literacy can boost mobile user engagement

Engagement in mobile internet services (web browsing, reading the news) vs. local content relevance (gTLDs and ccTLDs).

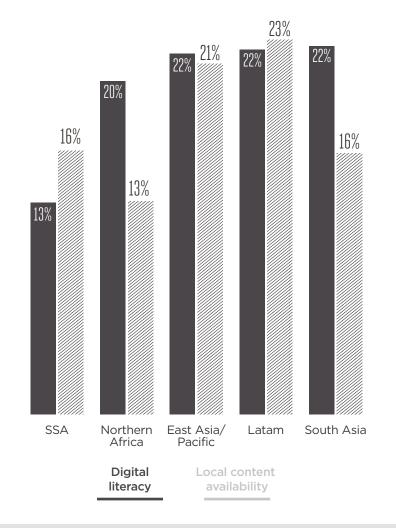
Source: GSMA Intelligence, TLDLogic, ZookNIC



Frequency score - Internet use cases (web browsing, reading the news) (smartphone and non-smartphone)

Percentage of smartphone consumers who agree that the reasons below are preventing them from using the internet on a mobile phone more often or for more varied uses than they are today.

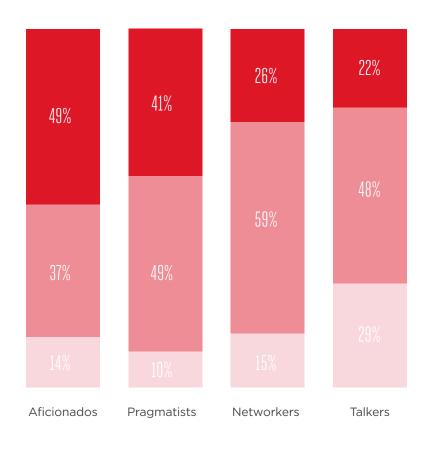
Source: GSMA Intelligence, TLDLogic, ZookNIC



4G connectivity drives greater mobile user engagement

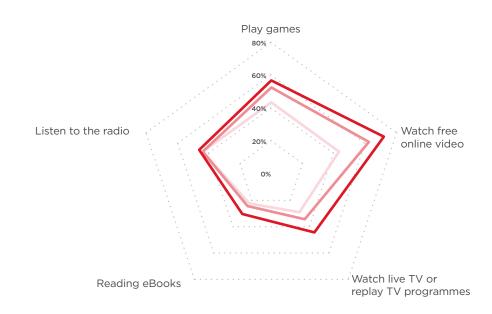
Global smartphone consumer segmentation split by network connectivity

Source: GSMA Intelligence



Percentage of adult consumers who engage in mobile entertainment services by network connectivity

Source: GSMA Intelligence



3G networks (GSM, GRPS, EDGE, E) (WCDMA, HSPA, H, H+) 4G networks (4G, LTE)



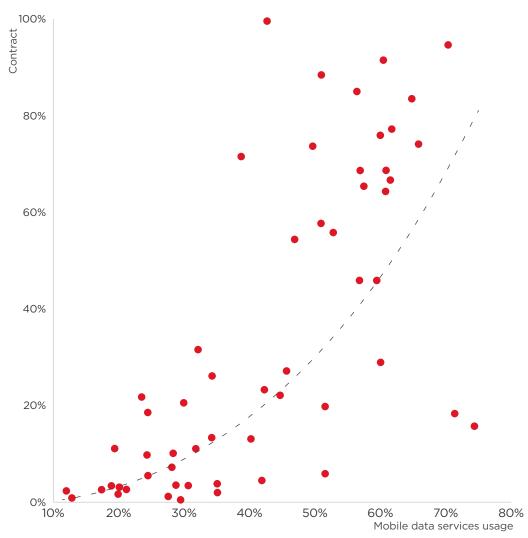
But 4G adoption takes time and is not yet mainstream in most countries



Mobile broadband tariffs and contract prevalence are drivers of mobile data engagement

Mobile data usage vs. contract connections as a percentage of total connections

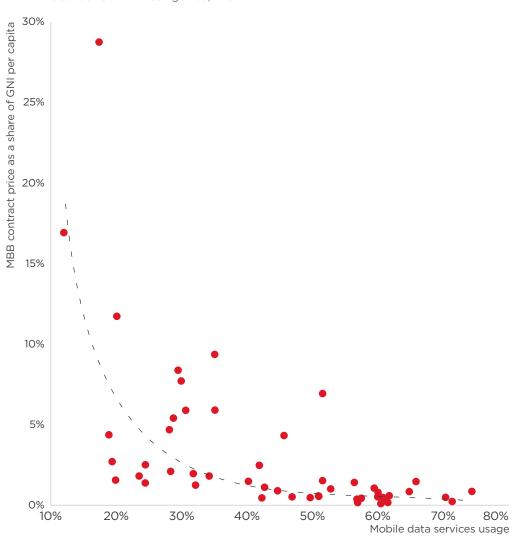
Source: GSMA Intelligence



The higher the share of contract connections in a country, the higher the engagement in mobile data use cases.

Mobile data usage vs. mobile broadband (MBB) contract prices as a percentage of GNI per capita

Source: GSMA Intelligence, ITU



The lower the MBB contract prices (as a share of income) in a country, the higher the engagement in mobile data use cases.

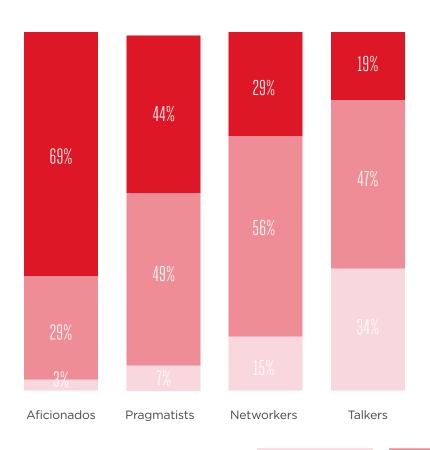
Tech-savviness is not just prevalent among early adopters or younger generations

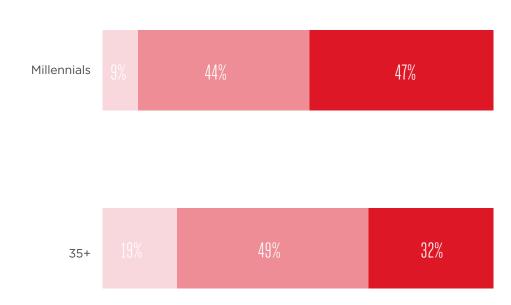
Tech-savviness prevalence by consumer segment (smartphone users)

Source: GSMA Intelligence

Tech-savviness prevalence by age group (smartphone users)

Source: GSMA Intelligence

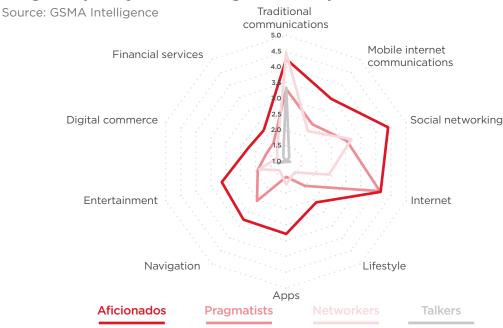




I am not comfortable with mobile phone technology, it is too complex and changes too fast I have a good understanding of mobile phones but no particular knowledge about upcoming mobile products and technologies I have a good understanding of mobile phones as well as upcoming mobile products and technologies

There are non-smartphone users with high engagement in data-centric use cases

Usage frequency score among non-smartphone users



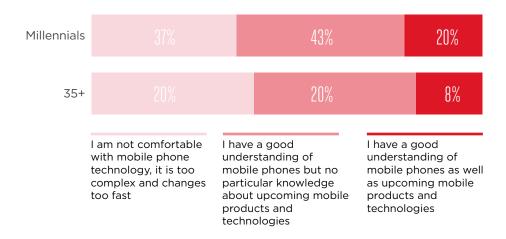
There are key developing countries where non-smartphone users are showing high engagement levels, namely Algeria, Brazil, Guatemala, Mozambique and Philippines.

These countries have very young populations, which is a driver for high user engagement. Additionally, tech-savviness among non-smartphone users in countries like Philippines, Mozambique and Romania is well above the developed world average - this is a driver for engagement in mobile data services.

> These highly engaged tech-savvy users are expected to rapidly transition to smartphones.

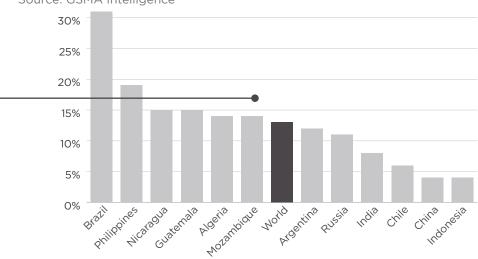
Tech-savviness prevalence by age group

Source: GSMA Intelligence



% of Aficionados and Pragmatists among non-smartphone users

Source: GSMA Intelligence



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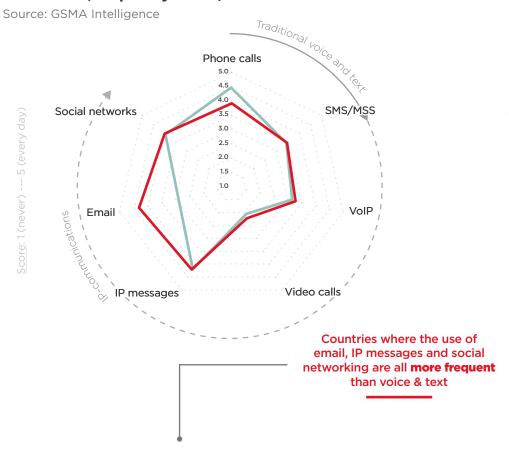
Consumer segmentation, regional trends

- i Mobile IP comms continues to change the way we communicate
- But there are countries where traditional voice and text is not surpassed by IP comms
- iii China vs. India
- iv France vs. UK
- Bridging the age gap in social media and IPcomms mobile engagement
- vi Driving user engagement in financial services: the role of mobile money and the Aficionados
- vii Tanzania, Kenya and Mozambique show high engagement in mobile money services
- viii Free online entertainment content is key to drive greater mobile user engagement
- ix Bridging the mobile entertainment age gap: the millennials are driving usage
- x Mobile user engagement in digital commerce is influenced by multi-screen ownership
- xi North America, Middle East and Western Europe lead on 'lifestyle' services user engagement

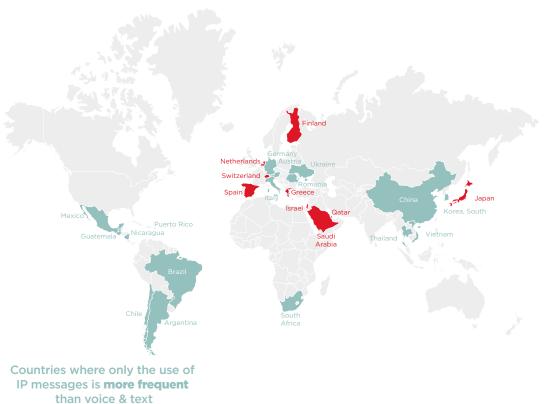


Mobile IP comms continues to change the way we communicate

Smartphone user engagement in traditional voice & text vs. IP comms (frequency score)



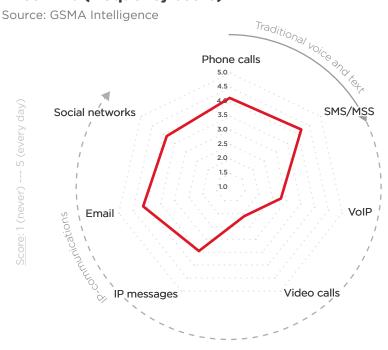
Greater prevalence of highly engaged users (Aficionados and Pragmatists) 66% vs. 53% Greater prevalence of highly tech-savvy consumers 43% vs. 35% Greater prevalence of 4G connectivity among users 44% vs. 33% Greater prevalence of contract as a % of connections 62% vs. 31% Lower MBB prices as % of GNI per capita 0.6% vs. 2.4%





But there are countries where traditional voice and text is not surpassed by IP comms

Smartphone user engagement in traditional voice & text vs. IP comms (frequency score)





This group of countries benefit from a high adoption of contract connections (64%), high tech-savviness (42%), and a high prevalence (43%) of highly-engaged users (Aficionados and Pragmatists).

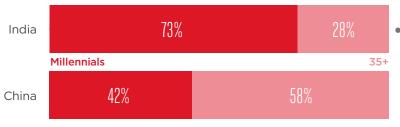
However, in the countries shown above, an average of 60% of smartphone users benefit from 'unlimited text' as part of their tariff, against 37% for consumers in the other groups of countries where IP comms usage is more predominant.

The fact that unlimited SMS in bundled tariffs was introduced long before IP messaging apps started to become popular largely influenced the use of WhatsApp and other IP messaging apps in these countries.

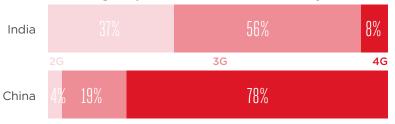


China vs. India

Percentage of mobile consumer by age



Percentage of perceived network connectivity



Percentage of perceived tech-savviness



Percentage of consumer segments



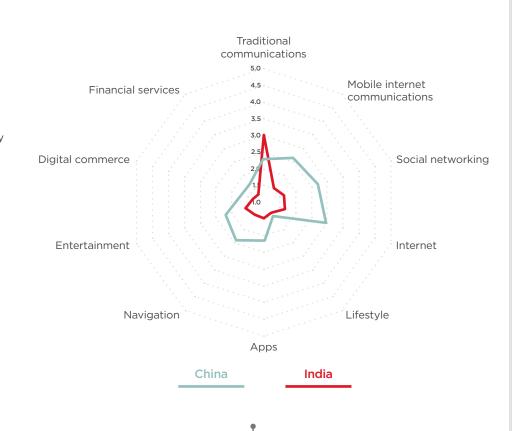
India has a very young population, with the millennials representing the vast majority of mobile consumers, who in turn claim to be more tech-savvy than consumers in China.

Nevertheless, India ranks in 50th position on the Global Mobile Engagement Index, compared to China in 28th position.

The rapid migration away from non-smartphone in India is expected to significantly contribute to the country's increase in mobile user engagement over the next five years.

Mobile user engagement - frequency score

Source: GSMA Intelligence

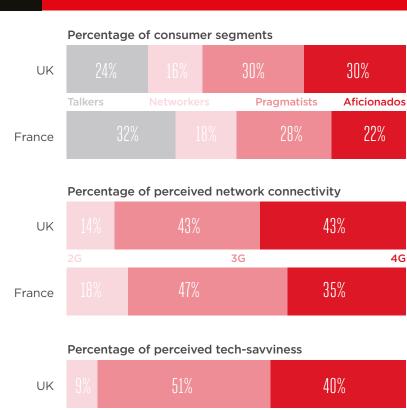


Despite having a much higher adoption of smartphones (66% vs. 23%) and a greater reach of 4G connectivity than in India, the vast majority of consumers in China belong to the less engaged consumer segments (Networkers, Talkers).

In China, consumer engagement on IP comms is high driven by the widespread adoption and popularity of Tencent's WeChat which includes IP-based messaging and voice features.



France vs. UK



Average

49%

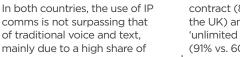
France is the only developed market where the less engaged user group (Talkers) is predominant among smartphone users.

• 4 in every 5 smartphone users in both countries have access to a PC or laptop to connect to the internet, which was quoted as a reason that is preventing them from using the internet on a mobile phone more often or for more varied uses.

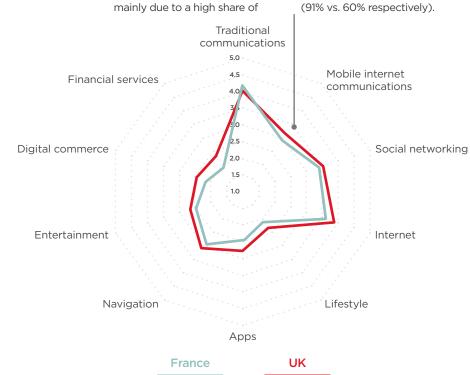
In both countries, tech-savvy millennials are driving mobile engagement on datacentric use cases.

Mobile user engagement - frequency score

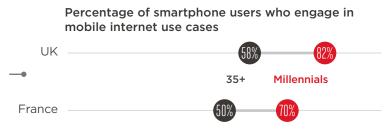
Source: GSMA Intelligence



contract (88% in France, 64% in the UK) and a large prevalence of 'unlimited text' in contract tariffs



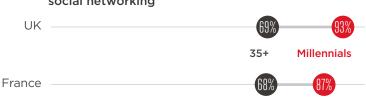
Projected generational demographic shifts coupled with projected smartphone adoption increases show that the prevalence of the most highly engaged ____ user groups (Aficionados and Pragmatists) will make up the vast majority of the user base in France by 2050 (>70%), following the lead of the UK.



4G

Good

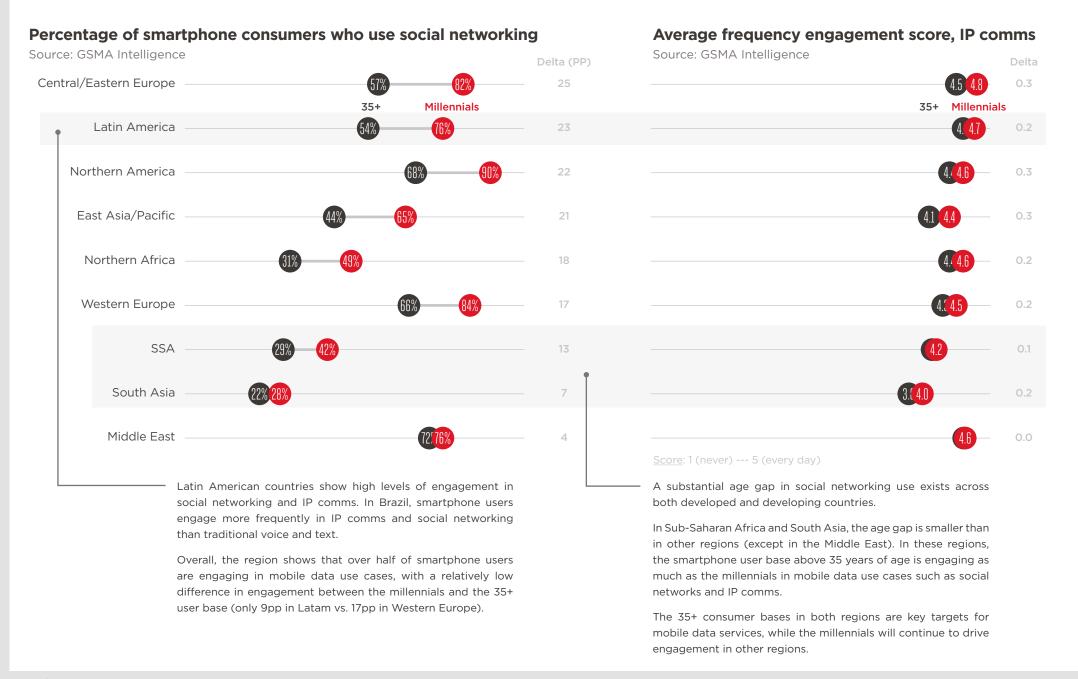
Percentage of smartphone users who engage in social networking



France



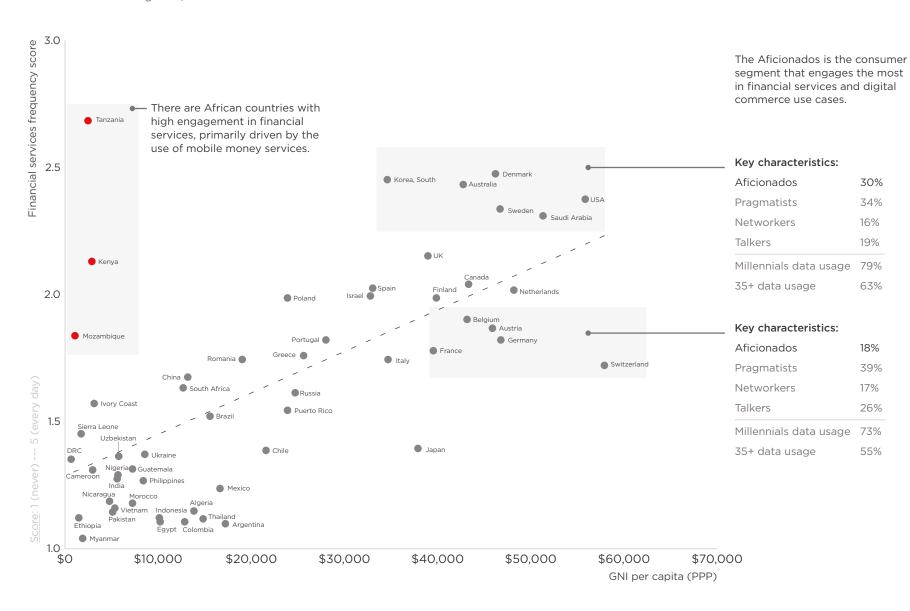
Bridging the age gap in social media and IP comms mobile engagement



Driving user engagement in financial services: the role of mobile money and the Aficionados

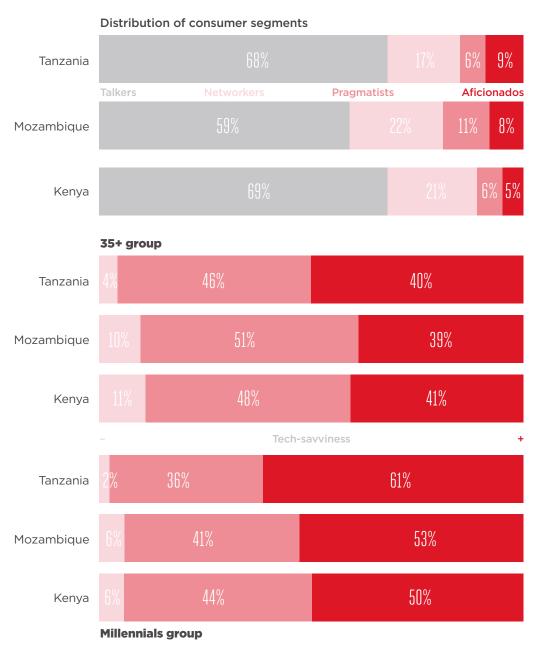
Average engagement frequency score for financial services vs. GNI per capita (PPP)

Source: GSMA Intelligence, World Bank





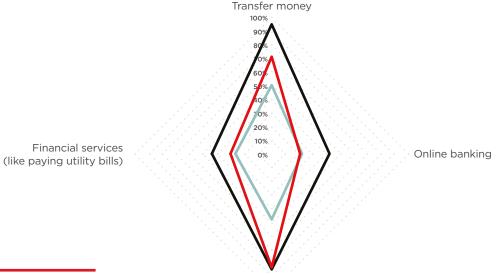
Tanzania, Kenya and Mozambique show high engagement in mobile money services



Percentage of consumers using financial services

Tanzania

Source: GSMA Intelligence



Send or receive money from

friends/relatives/business

associates via mobile money services

Mozambique

countries is a key driver of mobile user engagement.

I have a good understanding of mobile phones as well as upcoming mobile products and technologies

I have a good understanding of mobile phones but no particular knowledge about upcoming mobile products and technologies

I am not comfortable with mobile phone technology, it is too complex and changes too fast The widespread adoption of mobile money services in these

Kenva

Tanzania shows high levels of consumer tech-savviness. It is often described as a more competitive mobile money market than Kenya, but both countries have similar levels of user engagement in mobile money services.

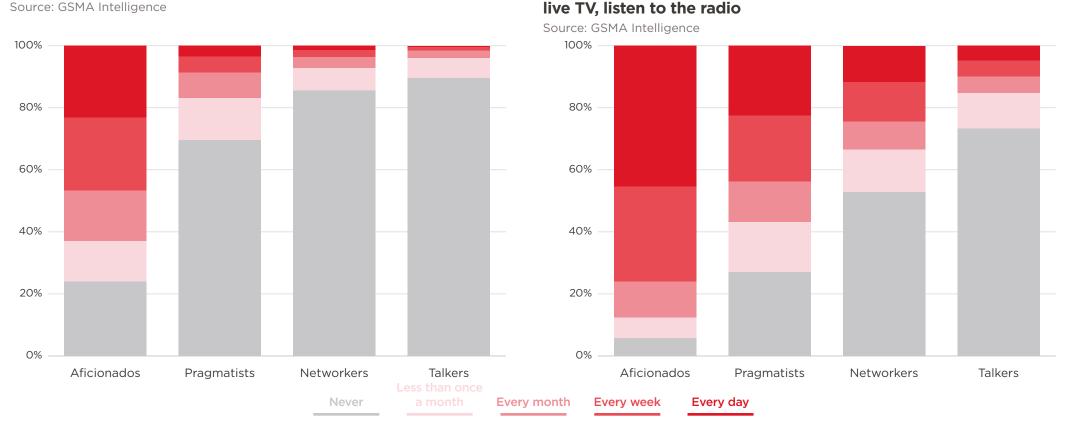
Tanzania differs in usage of mobile money transfers, online banking services and financial services like paying utility bills.



Free online entertainment content is key to drive greater mobile user engagement

Average percentage of smartphone users who pay for on-demand TV/movies and online music

Source: GSMA Intelligence



30% of smartphone users pay for online content, with an equal usage of streaming on-demand TV/movies and online music. The vast majority of them belong to the most engaged consumer group, the Aficionados (early adopters).

60% of smartphone users consume free online content, with a wider spread across all consumer segments.

Average share of smartphone users who consume free

online content: stream free videos/music, watch/replay

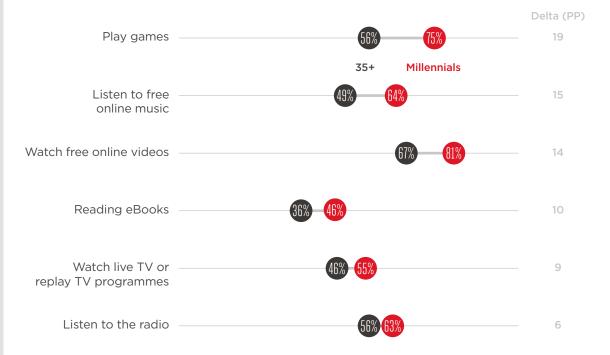
The most popular activity is streaming free online videos (74% of smartphone users), followed by streaming free music and radio (~60% on average), while one smartphone user in two on average watches/replays live TV programmes.



Bridging the mobile entertainment age gap: the millennials are driving usage

Percentage of smartphone users who engage in entertainment use cases

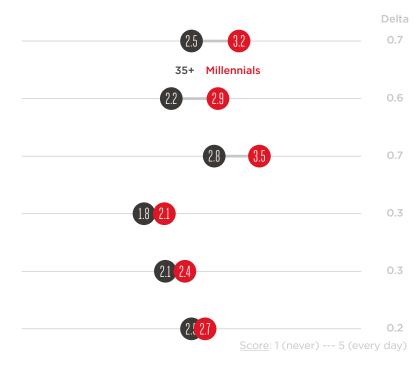
Source: GSMA Intelligence



Mobile gaming and online music/video streaming are the most popular entertainment use cases among smartphone users, with the millennials the primary consumer target for these services.

Entertainment use cases – average usage frequency score

Source: GSMA Intelligence



Online music and video streaming are the two use cases that smartphone users engage in most frequently in Europe, Latin America, North America and North Africa.

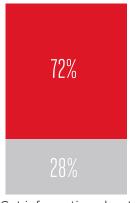
In East Asia/Pacific and the Middle East, consumers engage more frequently in mobile gaming and video streaming.

In South Asia and Sub-Saharan Africa, mobile gaming and listening to the radio are the two use cases that smartphone users engage in most frequently.

Mobile user engagement in digital commerce is influenced by multi-screen ownership

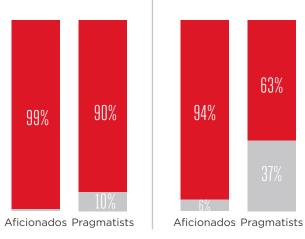
Percentage of smartphone users engaged in digital commerce use cases

Source: GSMA Intelligence



Get information about products and services (e.g. pricing, availability)



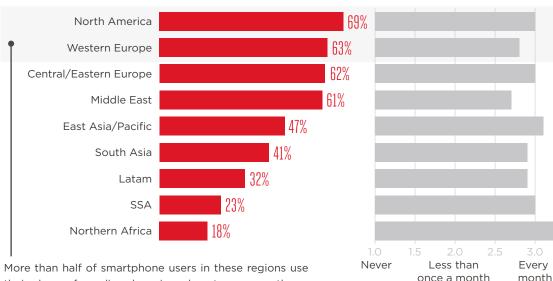


Never

Once a month or more

Percentage of smartphone users who order and purchase goods online using their mobile phone

Source: GSMA Intelligence



More than half of smartphone users in these regions use their phones for online shopping, almost every month.

Using smartphones to look for information about products and services is a common use case among smartphone users (52%) but the conversion rate to purchasing goods online via mobile is much lower (29%) and is typically an Aficionados affair.

These two digital commerce use cases are the only use cases where the millennials do not have greater engagement than their elders (35+).

The use of multiple screens to access mobile internet services is a key reason behind this low conversion rate and low engagement.

Every

week

Every

day

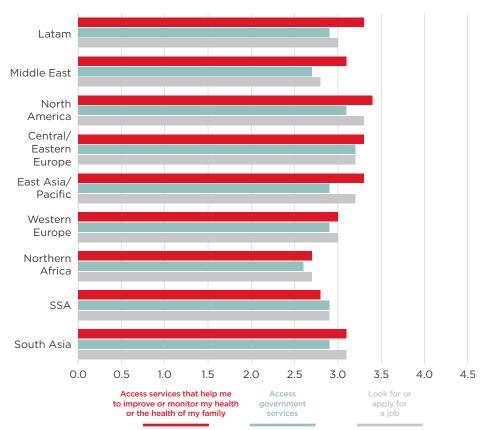
Close to 4 in every 5 smartphone users in the developed world claim that one reason that prevents them from using mobile internet services more often or for more varied uses is the fact that they already have access to the internet via a computer or laptop.

This correlates with IBM's finding that nearly 60% of all e-commerce traffic in the US is coming from mobile devices, but that smartphones and tablets only account for 44% of actual sales. Desktop sales continue to bring in higher-value sales compared to mobile.

North America, Middle East and Western Europe lead on 'lifestyle' services user engagement

Average engagement frequency score - lifestyle use cases

Source: GSMA Intelligence

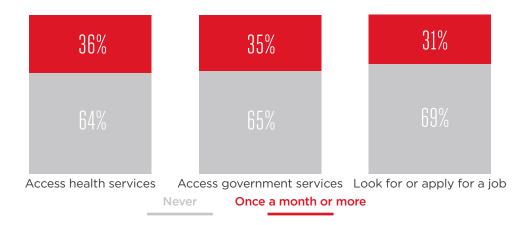


Consumers in India and Pakistan are likely to use their mobile phones to access e-government services and look for/apply for jobs more than consumers in China or Indonesia.

Highly-engaged consumer groups (Aficionados and Pragmatists) are more likely to use lifestyle services on their mobile phones. Similarly, the millennials have a greater engagement in these use cases (49%) than the 35+ group (39%).

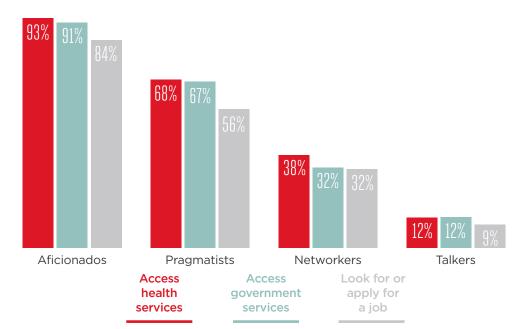
Average usage of lifestyle services

Source: GSMA Intelligence



Average usage of lifestyle services, by consumer segment

Source: GSMA Intelligence



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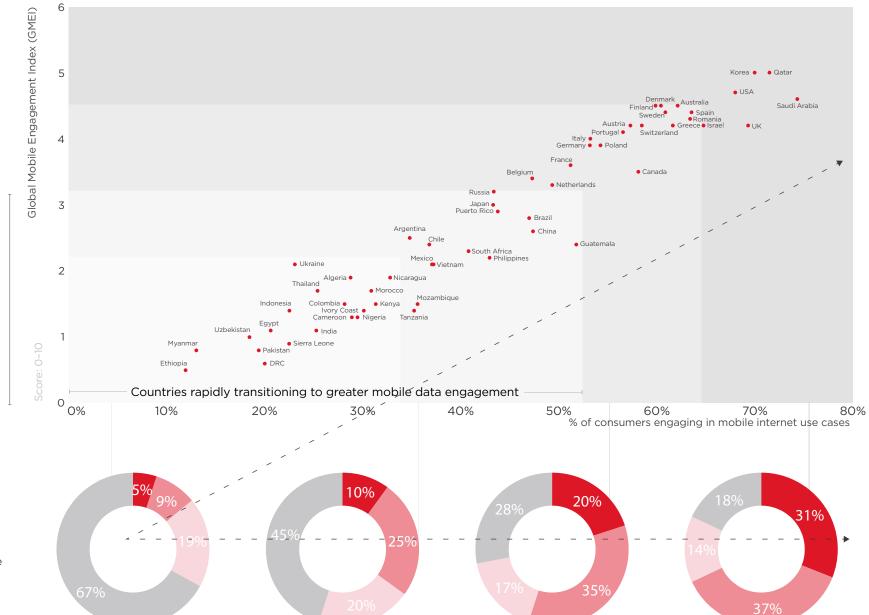
Appendix

Consumer segmentation, regional trends

- The profile of consumers is set to change, driven by greater mobile data engagement
- ii The presence of early adopters is projected to rise globally amongst smartphone users
- 'Mobile-first' is a given for the millennials who show higher mobile data engagement than 35+
- iv US: the millennials are largely influencing future mobile user engagement patterns
- v EU: the population is ageing, but the elders of tomorrow will be more connected than today
- vi Population is not ageing everywhere, demographic shifts differ in emerging markets
- vii Japan vs. US



The profile of consumers is set to change, driven by greater mobile data engagement



Pragmatists

Aficionados

Talkers

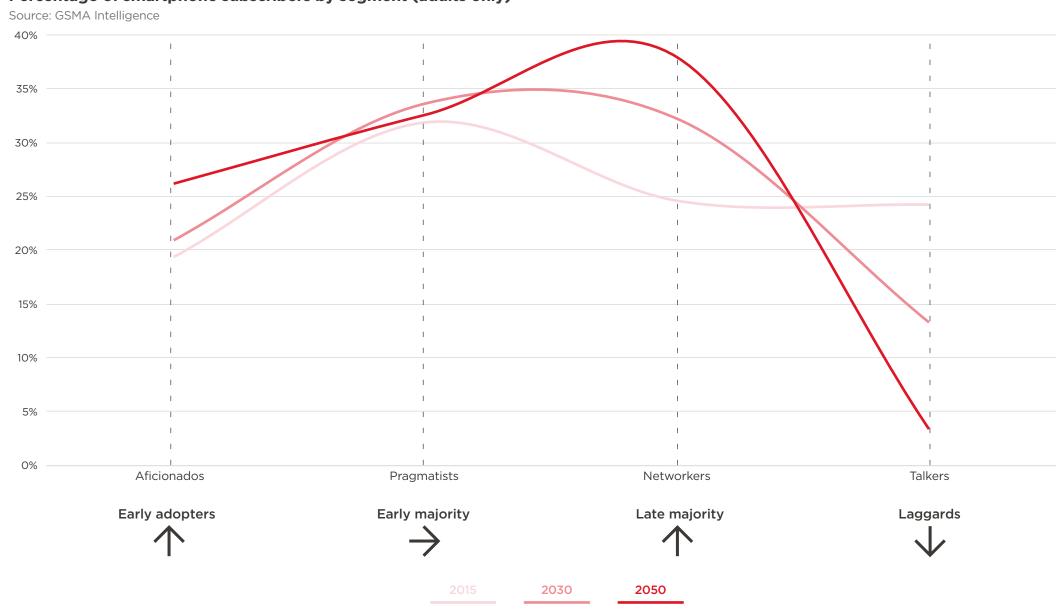
By 2020, these countries will represent: >80% of global subscribers, and >50% of global data revenue.

As countries transition to greater mobile data engagement, their consumer segmentation is expected to reflect more affluent users with greater usage of mobile internet services.



The presence of early adopters is projected to rise globally amongst smartphone users

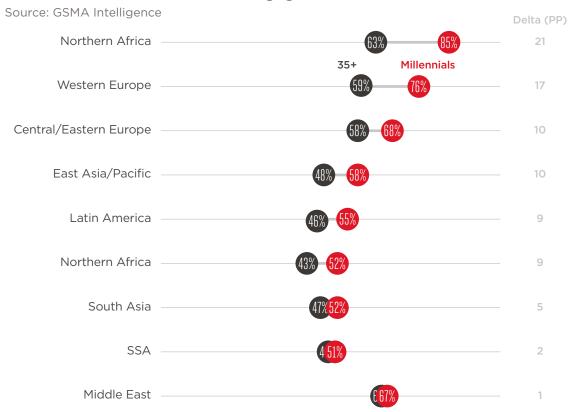






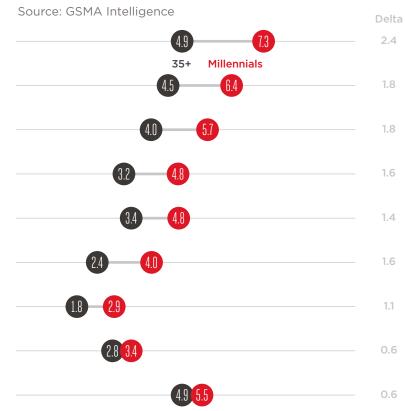
'Mobile-first' is a given for the millennials who show higher mobile data engagement than 35+

Share of adult consumers who engage in mobile data use cases



The millennials are more likely to engage in mobile data services than the 35+ group. Yet, the mobile digital dividend between the millennials and the 35+ group is closing in the developing region where mobile phones are the primary device to access the internet for all. In contrast, while mobile-first is a given for the millennials in developed regions, the 35+ group might prefer engaging in laptops, PCs and tablets.

Regional Mobile Engagement Index by demographic



The intensity of the engagement is greater amongst the millennials than the 35+ group. Despite having a reasonably high usage of data services in developing regions (~50% in most cases), engagement levels remain lower than in developed regions. The Middle East (Qatar, Saudi, Israel) shows relatively high usage and engagement, with the smallest gaps between the millennials and the 35+.



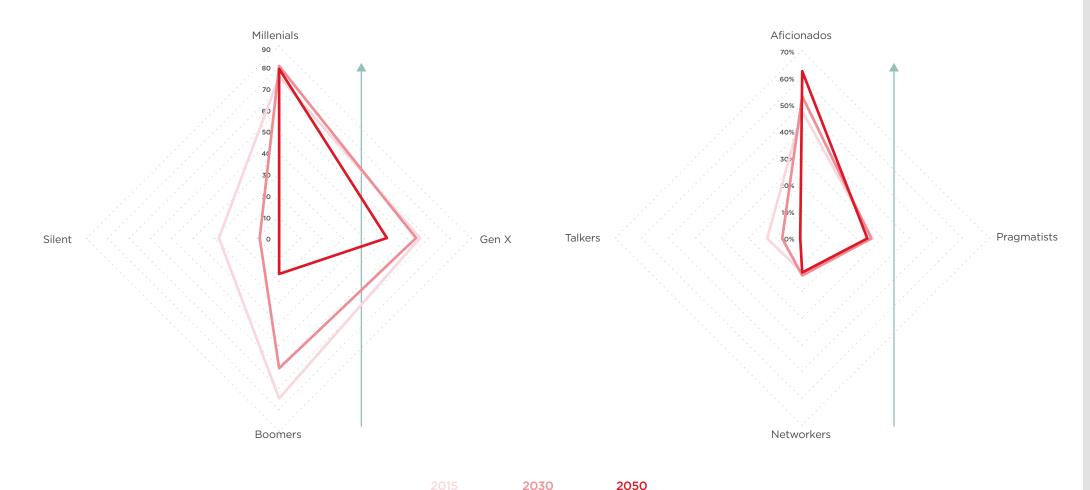
US: the millennials are largely influencing future mobile user engagement patterns

US projected population by generation (in millions)

Source: Pew Research Center computations from US Census Bureau population projections released Dec 2014, and 2015 US Census Bureau population estimates

US projected mobile consumer segmentation (as a percentage of smartphone subscribers, adults only)

Source: GSMA Intelligence



Millennials – people who are 18–34 today, born 1981–1997.

Generation X – people who are 35–50 today, born 1965–1980.

Baby Boomers – people who are 51–69 today, born 1946–1964.

Silent – the generation of people who are >69 today, born before 1946.

EU: the population is ageing, but the elders of tomorrow will be more connected than today

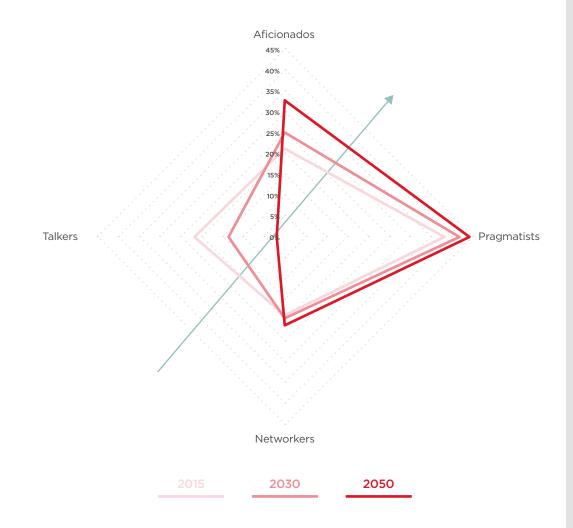
EU projected population by age group (in thousands)

Source: UN, World Population Prospects 2015 revisions

600 500 400 300 200 100 0 2015 2030 2050 Old-age 35-64 65+ dependency ratio

EU projected mobile consumer segmentation (as a percentage of smartphone subscribers, adults only)

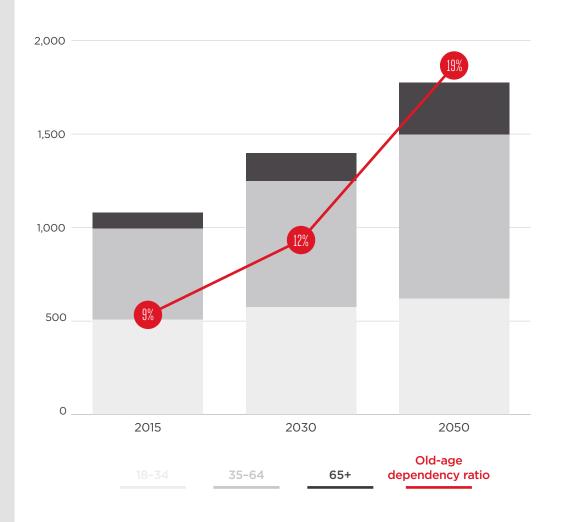
Source: GSMA Intelligence



Population is not ageing everywhere, demographic shifts differ in emerging markets

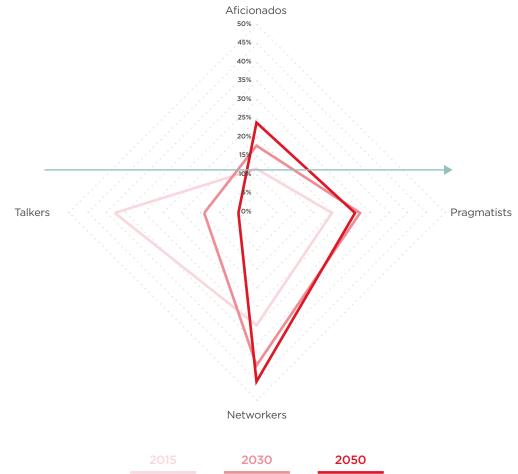
India, Egypt, Nigeria, Kenya, South Africa: Projected population by age group (in thousands)

Source: UN, World Population Prospects 2015 revisions



India, Egypt, Nigeria, Kenya, South Africa: Projected mobile consumer segmentation (as % of smartphone subscribers, adults only)

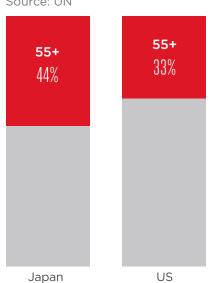
Source: GSMA Intelligence



Japan vs. US

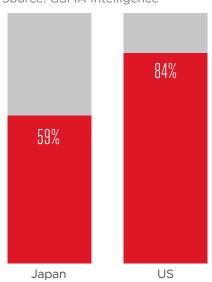
Demographics

Source: UN



Smartphone ownership

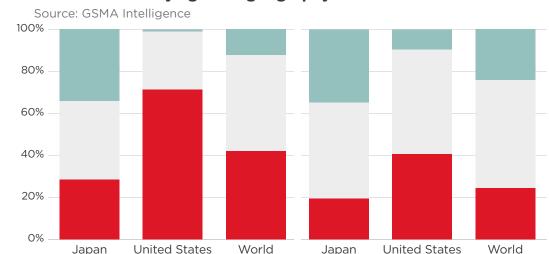
Source: GSMA Intelligence



Tech-savviness by age and geography

Age 18-54

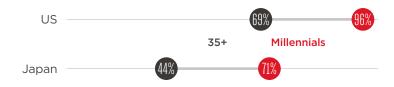
Great understanding



Usage of mobile internet use cases

US 35+ Millennials Japan

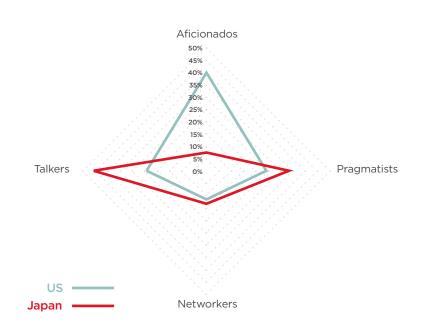
Social networking usage



Source: GSMA Intelligence

Despite having a high market saturation level like in the US (>80% unique subscriber penetration), Japan shows a relatively low level of mobile user engagement, driven by two factors:

- A lower share of smartphone ownership
- A larger prevalence of the elderly population, which is less tech-savvy and less engaged in mobile services than in a country like the US



Age 55+

Not comfortable

Summary

1 GMEI summary and findings

Understanding regional consumer behaviour

Data insights

2 Moving to smarter devices

Mobile technology innovation is driving user engagement, but in some countries it is not the end game.

3 Living in a 'data first' world

IP-comms continue to change the way we communicate, but mobile data services consumption varies by region.

4 Early adopters on the rise

The next generational demographic shifts will change the profile of tomorrow's mobile consumers.

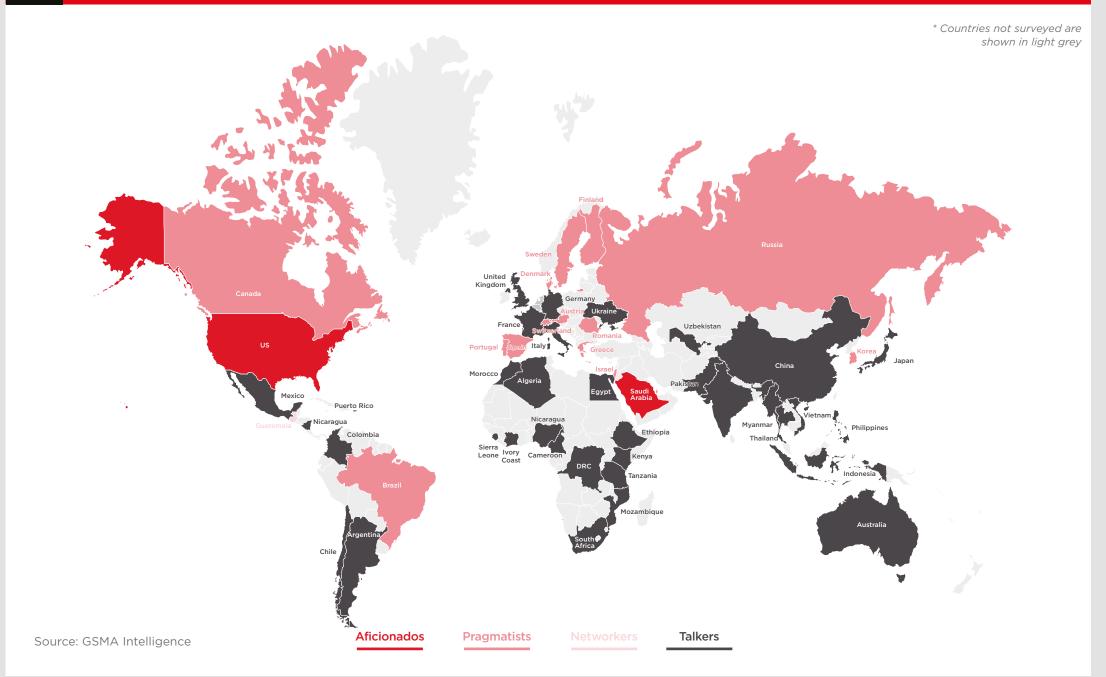
Appendix

Consumer segmentation, regional trends

- Mapping the dominant consumer segments by country
- ii Aficionados key characteristics
- iii Aficionados regional distribution
- iv Aficionados UK vs. India
- v **Pragmatists** key characteristics
- vi Pragmatists regional distribution
- vii Pragmatists Spain vs. Mexico
- viii Networkers key characteristics
- ix Networkers regional distribution
- x Networkers Germany vs. Kenya
- xi Talkers key characteristics
- xii Talkers regional distribution
- xiii Talkers Australia vs. Thailand
- xiv Segmentation regional comparison
- xv Segmentation top countries by segment

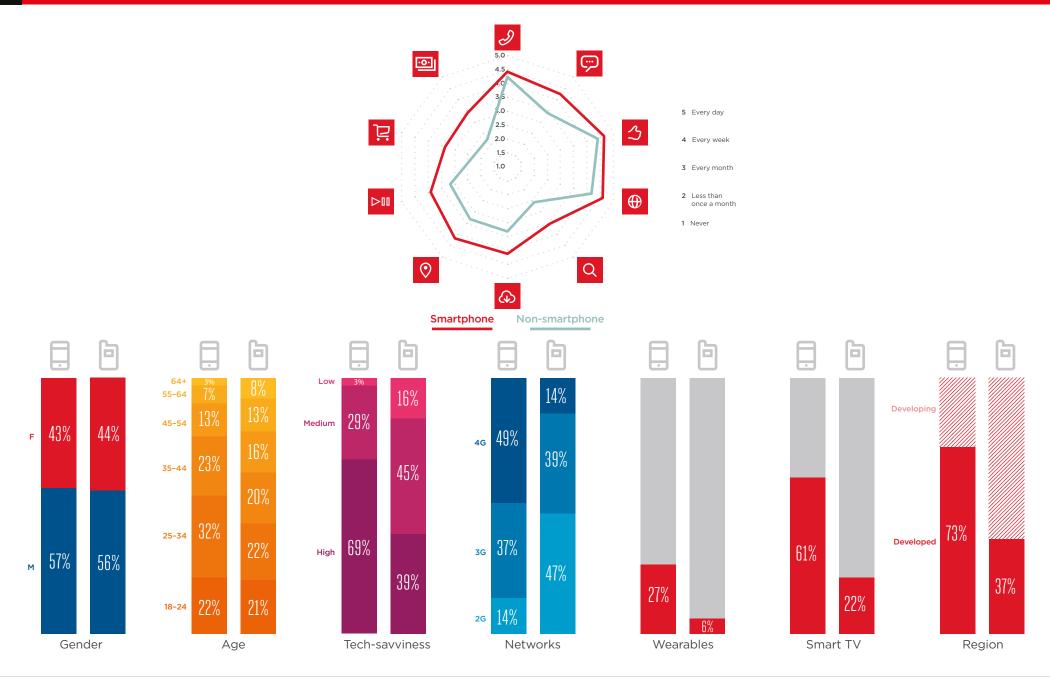


Mapping the dominant consumer segments by country



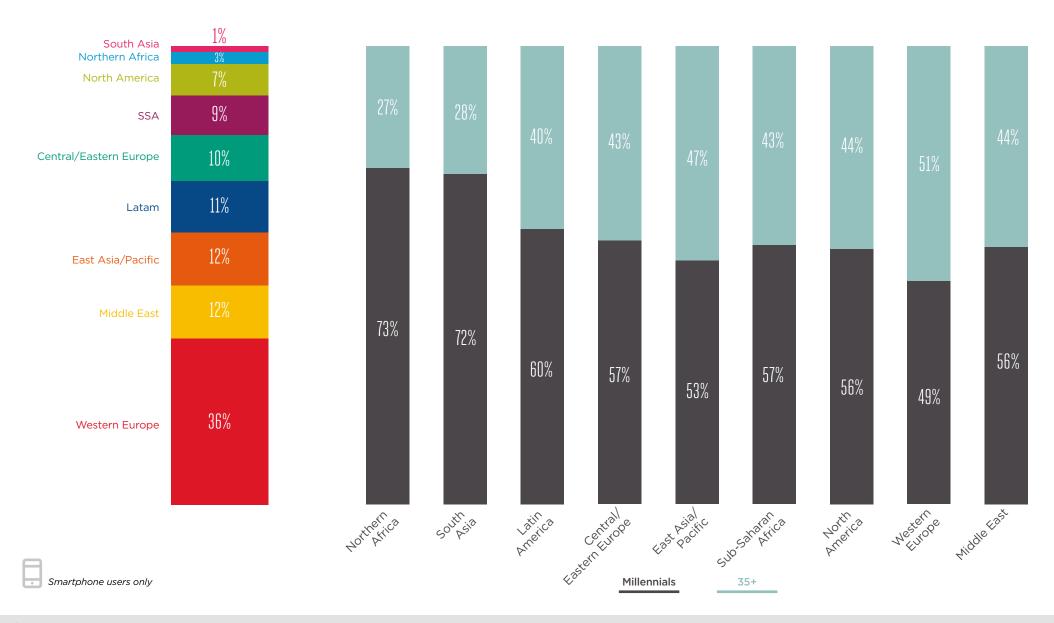


Aficionados - key characteristics



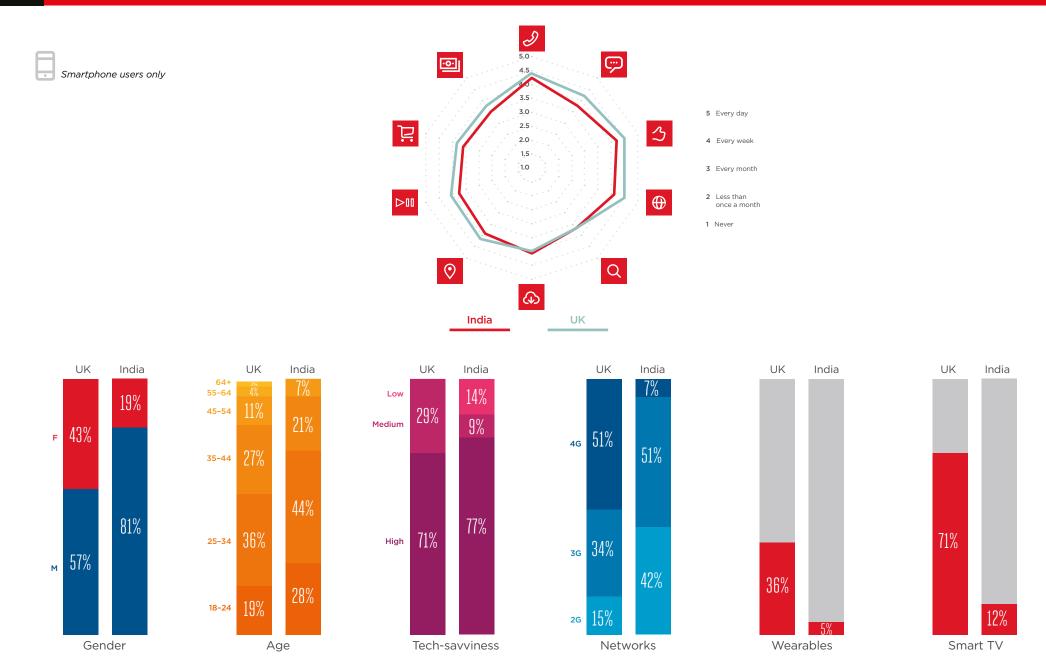


Aficionados - regional distribution



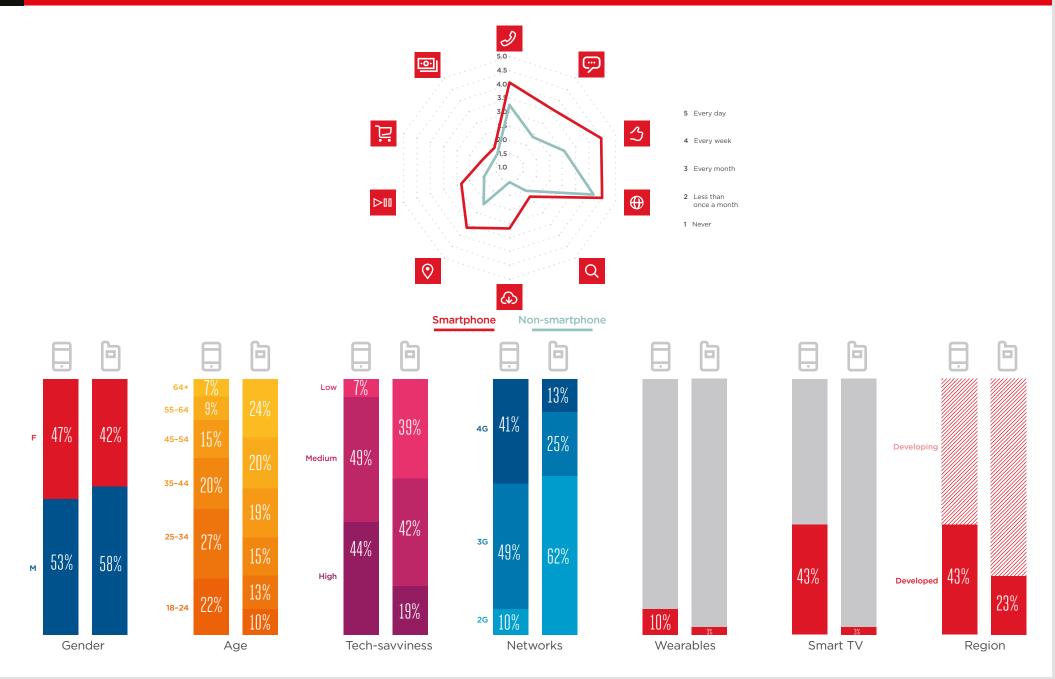


Aficionados - UK vs. India

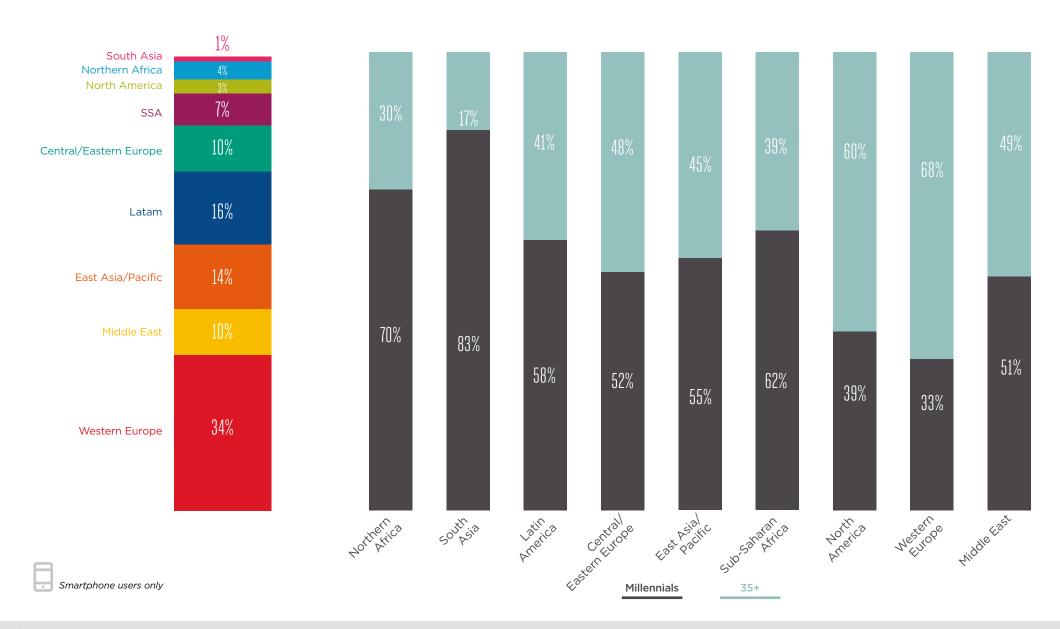




Pragmatists - key characteristics



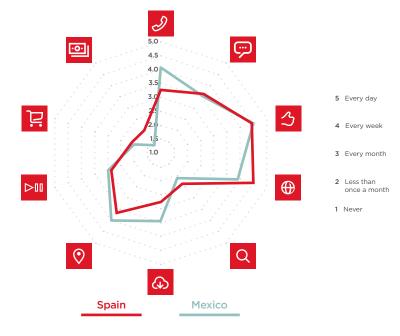
Pragmatists - regional distribution

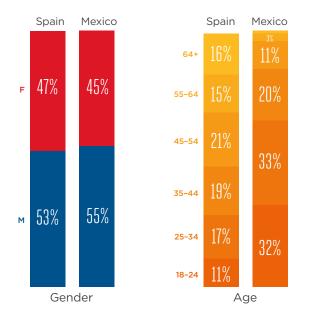


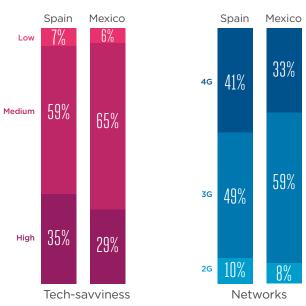


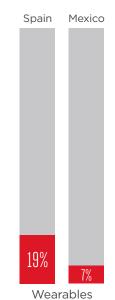
Pragmatists - Spain vs. Mexico

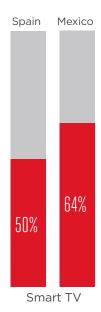






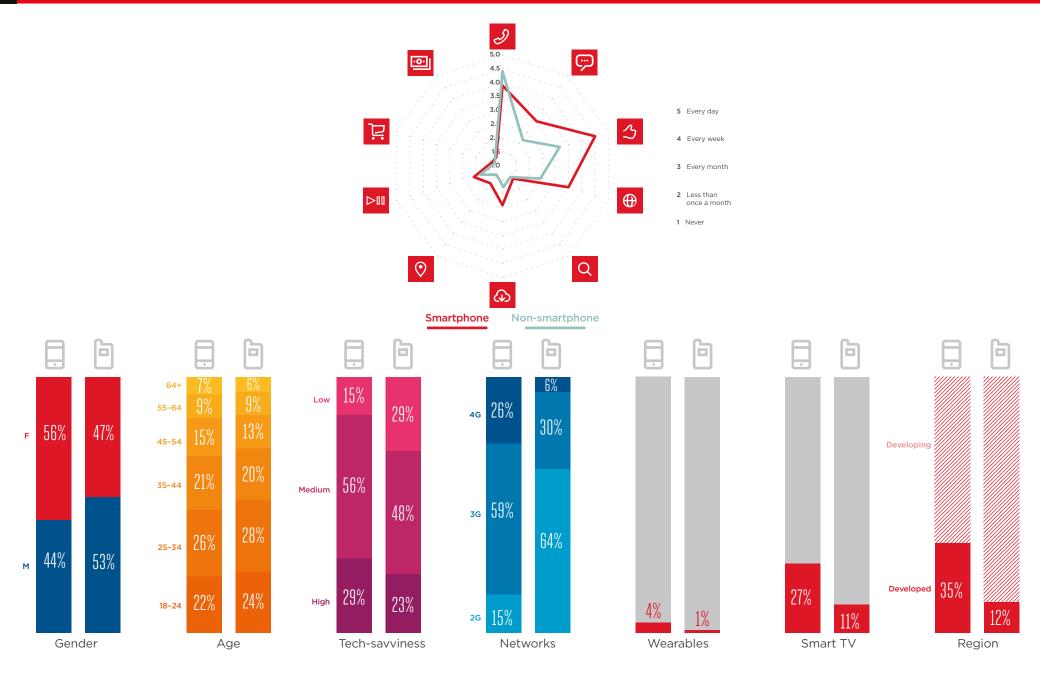




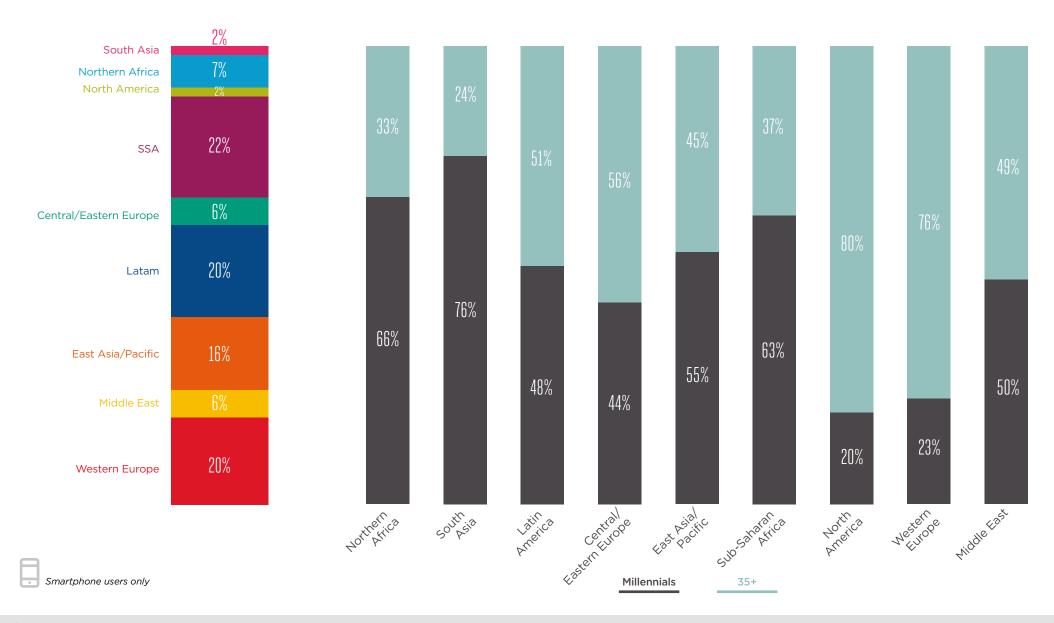




Networkers - key characteristics

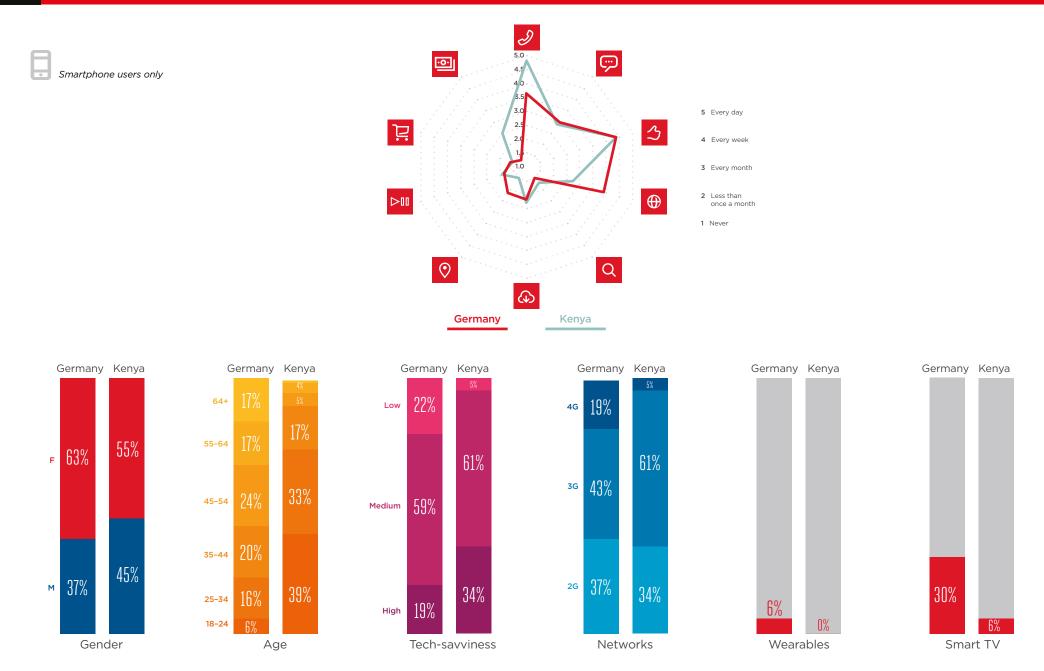


Networkers - regional distribution



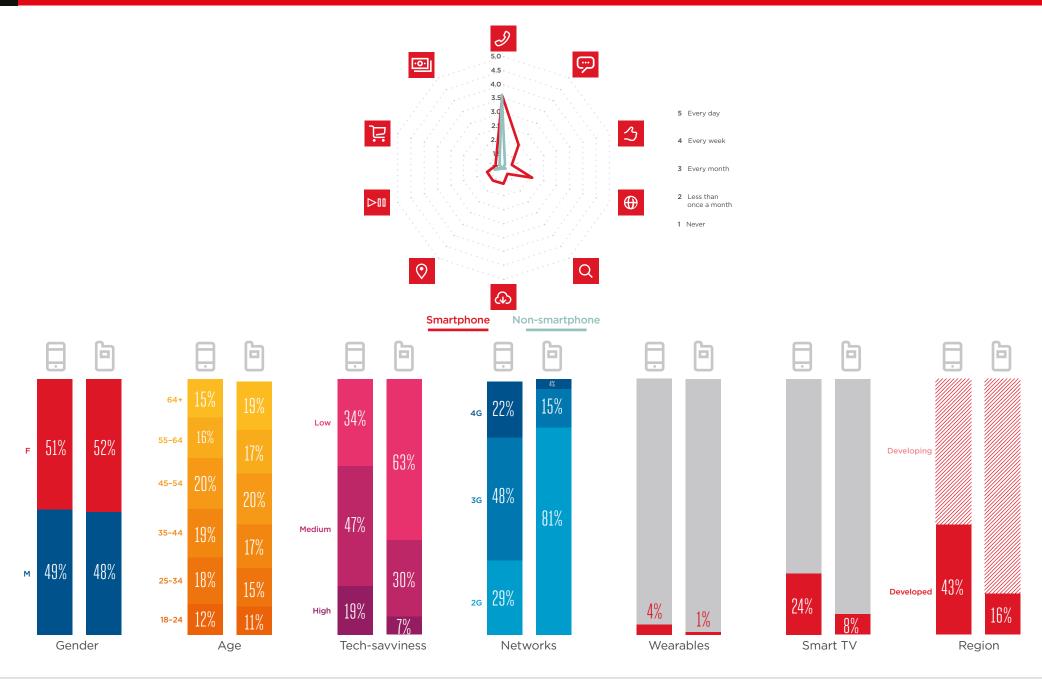


Networkers - Germany vs. Kenya

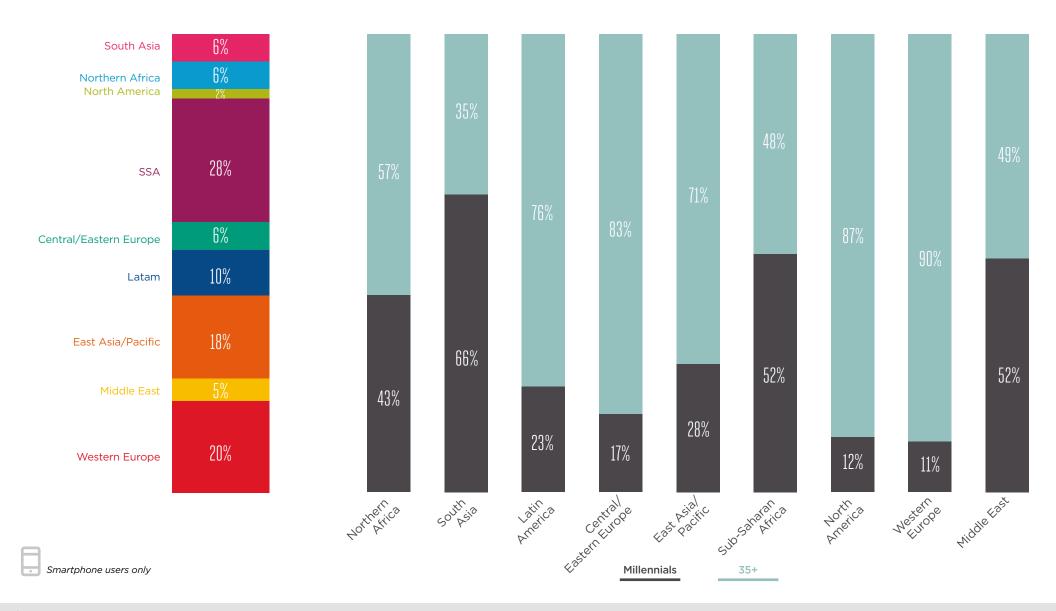




Talkers - key characteristics

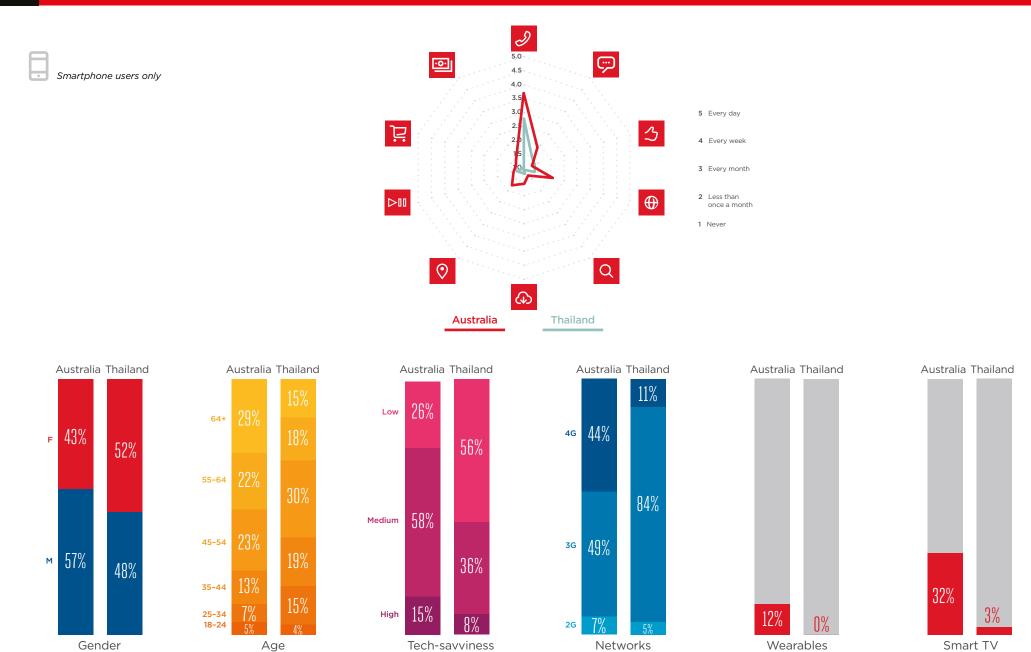


Talkers - regional distribution



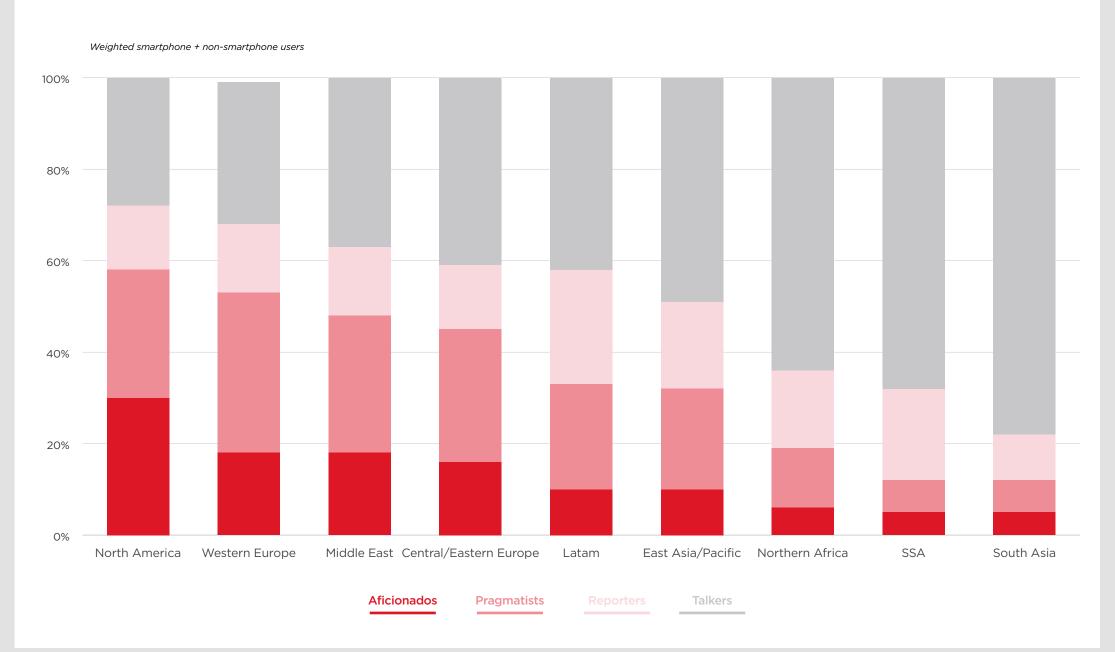


Talkers - Australia vs. Thailand



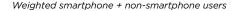


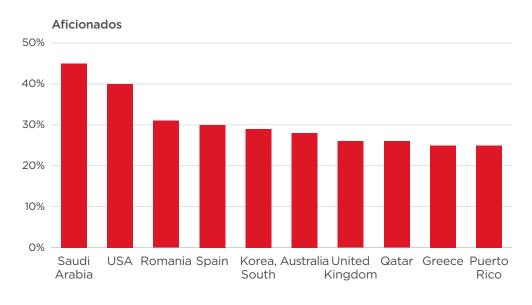
Segmentation - regional comparison

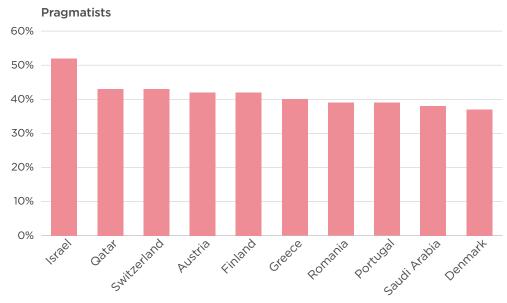


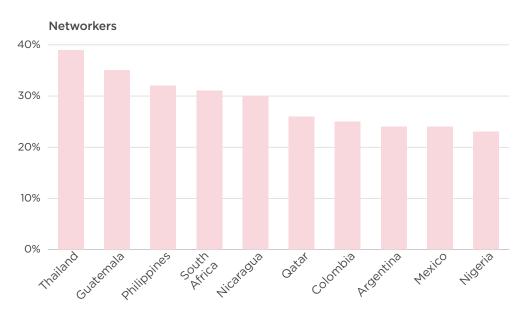


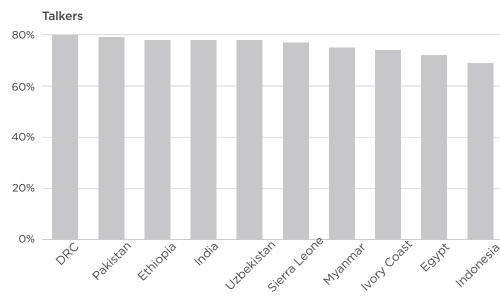
Segmentation - top countries by segment











About us





Joss Gillet Director, Data Products

Joss manages the GSMA Intelligence analyst team and is responsible for data products and partnerships. He joined ten years ago as a senior analyst, looking after mobile network technology migration and overall research and forecast accuracy. Before GSMA Intelligence, Joss worked at Ovum Ltd and for Motorola's Mobile Devices Division in the UK. He joined Motorola as a product analyst before managing its market intelligence activities in Europe. He holds an MA in International Business from Portsmouth Business School and a certificate in International Political Theory from the University of London.



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About GSMA Intelligence

GSMA Intelligence is the definitive source of mobile operator data, analysis and forecasts, delivering the most accurate and complete set of industry metrics available.

Relied on by a customer base of over 800 of the world's leading mobile operators, device vendors, equipment manufacturers and financial and consultancy firms, the data set is the most scrutinised in the industry.

With over 30 million individual data points (updated daily), the service provides coverage of the performance of all 1,400+ operators and 1,200+ MVNOs across 4,500+ networks, 77 groups and 239 countries and territories worldwide.

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