Insights Into App Engagement

Q1 2015



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1. Introduction

The mobile app economy continues to grow at a phenomenal pace. In 2014, revenue from app stores and in-app advertising were both around 70% higher than the previous year. For app publishers looking to make the most of the opportunities available in the app economy, understanding the way the users interact with apps on their devices is a key component of forming an effective app strategy.

App Annie is excited to offer insight into the way these apps are being used with our first spotlight on app usage. In this report, we dive into five key app markets around the world -- the United States, United Kingdom, Germany, Japan and South Korea -- to compare and contrast how apps are shaping the way people use their mobile devices. We focus on the categories and individual apps that dominated the use of iOS and Android mobile devices in Q1 2015.

App usage data, provided through *App Annie Usage Intelligence*, is sourced from the industry's largest iOS and Android datasets, providing unprecedented insights into app usage across millions of users in 60 countries. When combined with App Annie's industry-standard *Store Intelligence* and *Audience Intelligence*, it provides a 360-degree view of the mobile app economy.

For deeper insight into the use of apps around the globe, including additional markets, device breakdowns and usage metrics, request a <u>demo</u> of the *App Annie Intelligence* suite today.

2. Communication Forms the Core of Smartphone App Usage

Smartphones, as the name suggests, are primarily communication devices. Messaging apps remain the hot topic in the mobile world, and their position as the center of mobile life is highlighted by recent developments such as *Facebook Messenger*'s transition to a <u>full</u> messaging platform.



Top App Categories* by Sessions Per Active User Android Smartphones, Q1 2015**

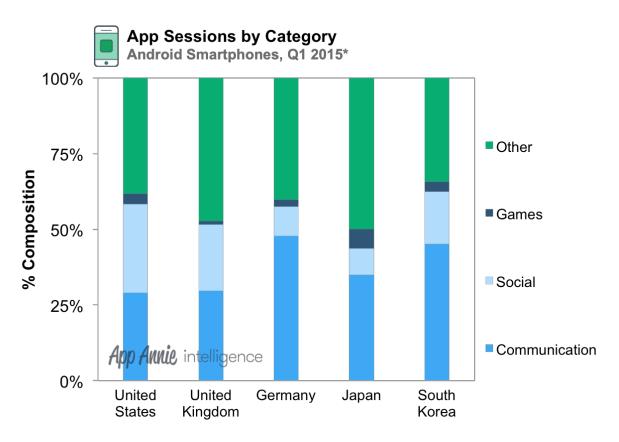
Rank	United States	United Kingdom	Germany	Japan	South Korea
1	Social	Communication	Communication	Communication	Communication
2	Communication	Social	News & Magazines	Productivity	Social
3	News & Magazines	News & Magazines	Productivity	Personalization	Personalization
4	Tools	Productivity	Social	Tools	Books & Reference
5	Personalization	Tools	Tools	Social	Games

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The Communication and Social categories played a key role in app engagement across all five major markets. In South Korea, the Communication and Social categories accounted for around 60% of all Android smartphone app sessions in Q1 2015, while Germany and the United States were not far behind this level.

^{*} App categories were determined by publisher-selected categories on Google Play

^{**} Q1 2015 data calculated as a straight average of January, February, and March 2015 sessions per active user.



* Q1 2015 data calculated as a straight average of January, February, and March 2015 % compositions.

Similarly, time spent in apps by Android smartphone users was also dominated by the Social and Communication categories. In the United States and Germany, these two categories combined accounted for approximately 60% of time spent in apps on Android smartphones. In South Korea and Japan, the proportion of time spent in Social and Communication apps is slightly lower, but still accounted for 45% of total time spent in apps on Android smartphones in Q1 2015.

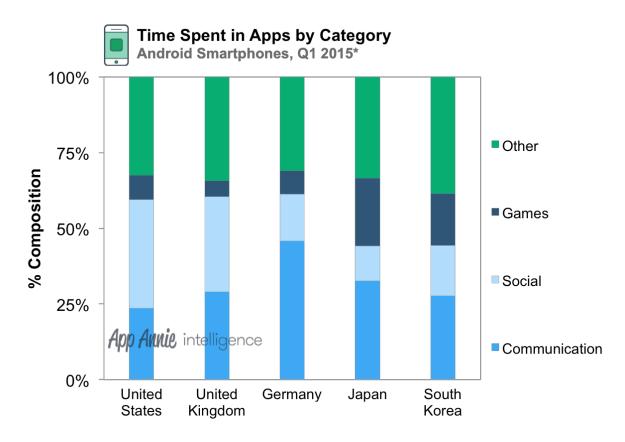


Top App Categories* by Time Spent Per Active User Android Smartphones, Q1 2015**

Rank	United States	United Kingdom	Germany	Japan	South Korea
1	Social	Social	Communication	Communication	Communication
2	Communication	Communication	Social	Games	Games
3	Media & Video	Media & Video	Media & Video	Social	Social
4	Games	News & Magazines	Games	Media & Video	Media & Video
5	Entertainment	Games	News & Magazines	News & Magazines	Books & Reference

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^{**} Q1 2015 data calculated as a straight average of January, February, and March 2015 time spent per active user.



^{*} Q1 2015 data calculated as a straight average of January, February, and March 2015 % composition.

^{*} App categories were determined by publisher-selected categories on Google Play

As publishers select the categories in which their apps are listed, there can be considerable overlap in functionality between the Social and Communication categories, especially among the top apps where social networks and messaging apps dominate. However, the top apps across these categories reveal some small but key differences in app use between different countries.

Top Apps by Sessions Per Active User Combined Social and Communication Categories, Android Smartphones, Q1 2015*								
Rank	United States	United Kingdom	Germany	Japan	South Korea			
1	f Facebook	WhatsApp Messenger	WhatsApp Messenger	₩ LINE	KakaoTalk			
2	Chrome Browser	Facebook	Facebook	Chrome Browser	cash Cash Slide			
3	Snapchat	Chrome Browser	Chrome Browser	Twitter	Facebook			
App Annie in	ntelligence							

^{*} Q1 2015 data calculated as a straight average of January, February, and March 2015 sessions per active user.

All markets saw strong influence from large social networks such as *Facebook* and *Twitter*, messaging apps such as *WhatsApp Messenger*, *LINE* and *KakaoTalk*, and web browsers such as *Chrome Browser* and *Daum*. However, it is notable that the United States saw *Facebook* dominate Android smartphone sessions, whereas the other markets all saw more sessions from messaging apps. Likewise, by time spent in apps, the social networks *Facebook* and *Instagram* led in the United States whereas messaging apps were more prominent in other markets.



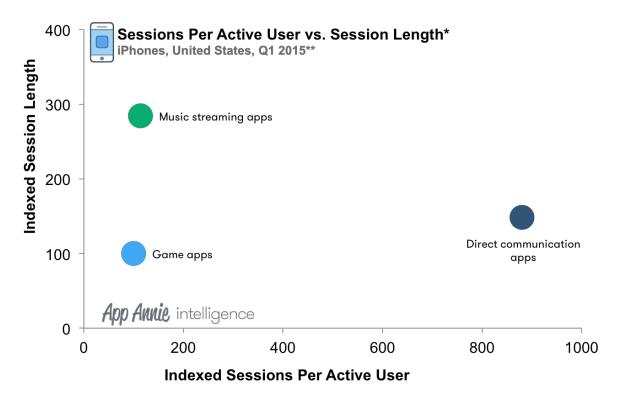
Top Apps by Time Spent Per Active User Combined Social and Communication Categories, Android Smartphones, Q1 2015*

Rank	United States	United Kingdom	Germany	Japan	South Korea
1	f Facebook	f Facebook	WhatsApp Messenger	LINE	KakaoTalk
2	Chrome Browser	WhatsApp Messenger	f Facebook	Chrome Browser	Facebook
3	lnstagram	Chrome Browser	Chrome Browser	Twitter	™ Daum
App Annie i	ntelligence				

^{*} Q1 2015 data calculated as a straight average of January, February, and March 2015 time spent per active user.

It appears that US Android smartphone users lean more towards one-to-many communication through social networks, whereas app usage in other markets (particularly Germany, Japan and South Korea) is weighted slightly more towards direct one-to-one (or one-to-few) communication.

The prominence of apps for direct person-to-person communication is also reflected in the top iPhone apps by active users (Appendix A). Messaging apps took the top spot among iOS users in South Korea (*KakaoTalk*), Japan (*LINE*) and Germany (*WhatsApp Messenger*). That is not to say that messaging apps were not popular in the United States. However, it is interesting to note that US Android smartphone users appear to have a preference for the image-focused messaging of *Snapchat*.



* Categories were defined by App Annie, and do not necessarily reflect iOS App Store categories. Pre-installed Apple apps were not included. Games were defined by their iOS App Store primary category. Communication apps were considered those whose primary purpose is one-to-one communication, including text, voice, image and video communication. Music streaming apps were considered as those offering on-demand or radio streaming of audio, and have a primary category of Music on the iOS App Store. This chart shows the average of the top 5 apps in each category; the top 5 apps were selected based on a straight average of January, February, and March 2015 MAUs.

On iPhones in the United States, direct communication apps (messaging and calls) also featured among the most heavily used apps. The top five person-to-person communication apps by average monthly active US iPhone users in Q1 2015 saw over 7x as many average monthly sessions per active user as the leading game apps and the leading music streaming apps. However, session length tended to be shorter for communication apps than music streaming apps, as music streaming app sessions often run in the background while consumer engagement apps for communication tends to be more active.

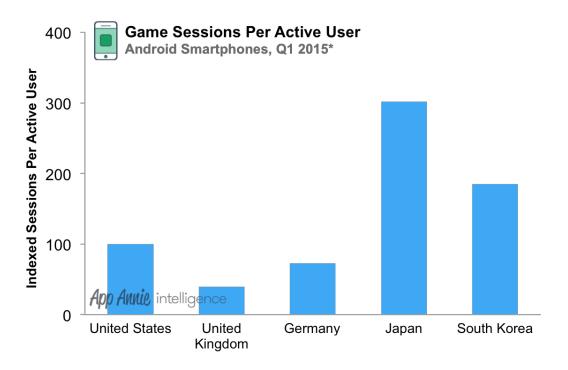
^{**} Q1 2015 data calculated as straight averages of January, February, and March 2015 sessions per active user and session lengths.

It will be interesting to see how app usage changes as messaging apps continue to add <u>more services</u> and <u>communication media</u>, further blurring the lines between social networks and messaging.

3. Asia Dominates Mobile Gaming

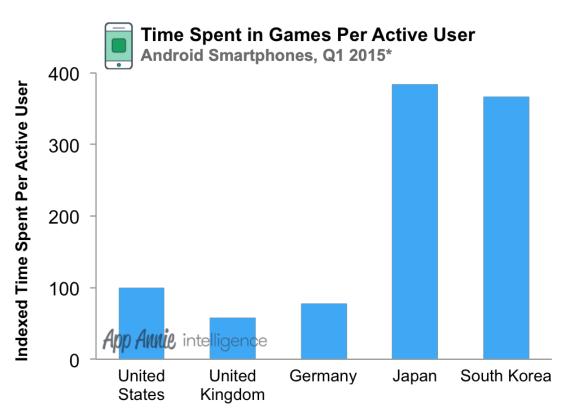
Beyond the ubiquity of messaging, social networking and other apps for communication, there were some significant differences in app usage habits among the five markets in this study. One of the key differences between markets in Asia and those in Europe and the United States was the extent of game usage on mobile devices.

Japan Saw 4x More Game Time Per User Than the US



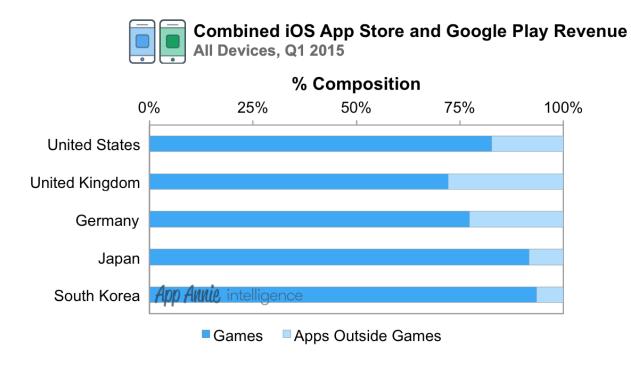
^{*} Q1 2015 data calculated as a straight average of January, February, and March 2015 sessions per active user.

On average, Android smartphone users in Japan activated around 3x more gaming sessions per month than their counterparts in the United States, and around 7.5x more than those in the United Kingdom. This significant difference between Western and Asian markets is also reflected in the amount of time that users spent in games. Games ranked as the second highest category by time spent per Android smartphone users in Japan and South Korea in Q1 2015, behind only the Communication category. In Japan, Android smartphone users spent around 4x as much time per month as users in the United States playing mobile games in Q1 2015. In contrast, Android smartphone users in Europe and the United States tended to spend more time in apps from the Social and Media & Video categories than in games.



^{*} Q1 2015 data calculated as a straight average of January, February, and March 2015 time spent in games per active user.

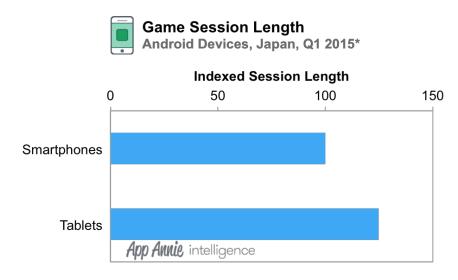
All app usage metrics point to a clear conclusion -- mobile gaming in Asian markets is huge. Although games provide the majority of app store revenue in all markets, the extent of the dominance reflected time spent in games per user. In Japan and South Korea, over 90% of iOS and Google Play app store revenue comes from games, whereas games accounted for approximately 70% of app store revenue in the United Kingdom and around 80% in the United States in Q1 2015.



It is interesting to note that while there were over 50% more game sessions per active Android user in Japan than South Korea, there was little difference in the time spent in games per user per month. The top 10 games by active users on both iOS and Android (Appendix B) indicate that the market in South Korea may lean slightly more towards mid-core gaming than that in Japan, with titles such as <u>Seven Knights</u> and <u>Hero for Kakao</u> featuring in the top 10 by MAUs. While more casual games such as <u>Candy Crush Saga</u>, <u>LINE Disney Tsum Tsum</u> and <u>Anipang</u> 2 also see high usage in Japan and Korea, they dominate the top 10 to a lesser extent than similar titles in Europe and the United States.

Tablets Inspire 25% Longer Game Sessions in Japan

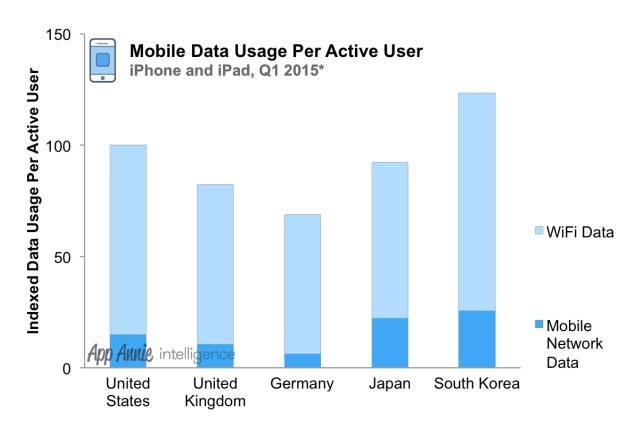
The majority of mobile gaming in Japan occurred on smartphones. Average monthly game time spent per active Android user was more than twice as high on smartphones than on tablets; game session lengths, however, were 25% longer on tablets. This indicates that game publishers are likely to see fewer sessions from tablet users, but those who successfully attract tablet users may be rewarded with higher levels of engagement.



^{*} Q1 2015 data calculated as a straight average of January, February, and March 2015 game session lengths.

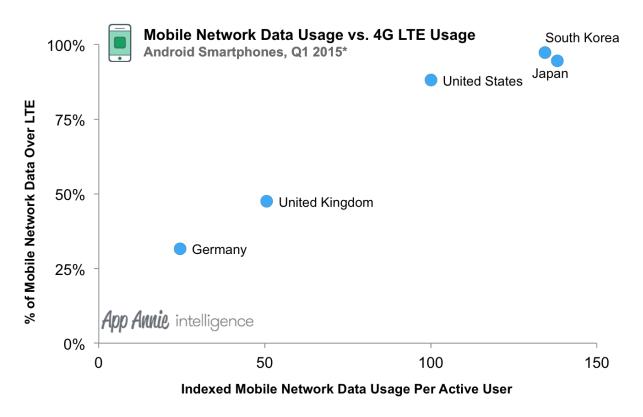
4. South Korea Leads Mobile Data Use

With its extensively developed telecommunications infrastructure combined with high app engagement, it is little surprise that South Korea led data consumption per active user on mobile devices. Although communication services and games led app engagement in South Korea, the highest data usage during Q1 2015 came from Media & Video apps, with *YouTube* leading the way as it did across all five markets in this study. However, given the recent emphasis on Facebook video plays on mobile devices, it was interesting to note that Facebook was the 2nd highest consumer of data on Android smartphones in the United States, United Kingdom and Germany in Q1 2015, and ranked 3rd in South Korea.



* Q1 2015 data calculated as a straight average of January, February, and March 2015 data usage per active user.

It is interesting to note that mobile data usage per active user showed a strong correlation with the proportion of mobile data transferred over 4G LTE networks. Mobile data use per user on Android smartphones in South Korea and Japan, where LTE data is approaching 100% of mobile data, is around 35% higher than in the United States. Conversely, Germany's LTE use lags behind and saw, on average, 75% less mobile data use per active Android smartphone user than the United States. Offline capabilities or minimizing mobile data use may, therefore, be an important consideration for publishers targeting markets where 4G infrastructure is less well-developed.



* Q1 2015 data calculated as straight averages of January, February, and March 2015 mobile network data usage per active user and % of mobile network data over LTE.

5. Summary

- Apps for communication and social networking remain at the forefront of iOS and Android mobile device usage across the United States, United Kingdom, Germany, Japan and South Korea. On Android smartphones, the Communication and Social categories generally accounted for the majority of time spent in apps in Q1 2015.
- Use of apps from the Communication and Social categories was particularly strong in the United States and Europe, comprising around 60% of time spent in apps on Android smartphones.

- The five markets we studied showed subtle but important variations in preferred apps for communication and social interaction. Messaging apps were particularly strong in Japan, South Korea and Germany. The United States, and to a lesser extent the United Kingdom, showed a slight lean towards broader one-to-many communication through social networks such as Facebook and Instagram.
- Users in Asia and Western markets showed significant differences in their engagement with mobile games in Q1 2015. Android smartphone users in Japan spent, on average, around 4x as much time in games per month than their United States counterparts. The United Kingdom trailed the other four markets in this study for game time spent per active user on Android smartphones.
- While smartphones accounted for the majority of game time spent in Japan, session lengths on tablets were approximately 25% longer for Android.
- With its extensive 4G LTE infrastructure, it was little surprise to see South Korea and
 Japan lead mobile and overall data usage in Q1 2015. YouTube generally led data
 usage in the five major markets we studied, with Facebook coming in just behind in the
 United States, United Kingdom and Germany.

About App Annie

App Annie is the largest mobile app intelligence platform, providing developers and publishers with a full 360-degree view of what they need to know to build, market and invest in their apps, including data about their own apps as well as a granular understanding of their competition and relevant industries. Today, more than 90 percent of the top 100 publishers and over 400,000 mobile app professionals at 100,000 companies rely on App Annie, including Electronic Arts, Google, LinkedIn, Line, Microsoft, Nexon, Nestle, Samsung, Tencent, Bandai Namco, Universal Studios and Dow Jones. App Annie is a privately held global company headquartered in San Francisco. For more information, please visit: www.appannie.com or follow App Annie on Twitter: @appannie.

Report methodology and updates are available here.

Appendix A: App Usage Top Charts



Top Apps* Outside Games by Active Users iPhone, Q1 2015**

	United States	United Kingdom	Germany	Japan	South Korea	China
1	f	f	WhatsApp	LINE	TALK	%
	Facebook	Facebook	Messenger	LINE	KakaoTalk	WeChat
2	8	~ Facebook	f	8	N	
	Skype for iPhone	Messenger	Facebook	Google Maps	네이버 - NAVER	QQ
3	Facebook	W hatsApp		f	f	Taobao for
	Messenger	Messenger 	YouTube	Facebook 	Facebook	iPhone
4			Facebook		7	支
	YouTube	YouTube	Messenger	YouTube	KakaoStory	Alipay
5			8	Y		6
	Instagram	Instagram	Google Maps	Twitter	YouTube	Weibo
6	P		ebay	Pacebook	네이버 지도 - Naver	
	Pandora Radio	Snapchat	eBay	Messenger	Map	Baidu
7	S	y	amazon	8	Facebook	du
	Snapchat	Twitter	Amazon	Google	Messenger	Baidu Map
8	8	8	8	M	BAND	5
	Google	Google Maps	Google	Gmail	BAND	QQ Music
9	NETFLIX	ebay	DB ©		O'	美团
	Netflix	eBay	DB Navigator	SmartNews	멜론(MelOn)	Meituan
10	Y	NEWS	6	amazon		youku 优酷
	Twitter	BBC News	Shazam	Amazon	Instagram	Youku

^{*} Excludes pre-installed iPhone apps

^{**} Q1 2015 data calculated as a straight average of January, February, and March 2015 active user penetration.



Top Apps* Outside Games by Active Users iPad, Q1 2015**

	United States	United Kingdom	Japan	China
1	8	f		%
	Skype for iPad	Facebook	YouTube	WeChat
2	f		8	
	Facebook	YouTube	Google Maps	QQ HD 2015
3			f	淘
	YouTube	Facebook Messenger	Facebook	Taobao for iPad
ц		8	M	youku 优酷
	Facebook Messenger	Google Map	Gmail	Youku HD
5	NETFLIX	BBIG iPlayer	8	QY
	Netflix	BBC iPlayer	Google	iQIYI HD
6	P	ebay	LINE	du
	Pandora Radio	eBay for iPad	LINE for iPad	Baidu Map HD
7		BBC NEWS	0	支
	Instagram	BBC News	Chrome	Alipay
8	T	©		du
	Tango	Chrome	SmartNews	Baidu HD
9	p	8	Y !	
	Pinterest	Google	Yahoo! JAPAN	Weibo HD
10	©	Y	LINE	JD.COM
	Chrome	Twitter	LINE	Jingdong HD



^{*} Excludes pre-installed iPad apps

^{**} Q1 2015 data calculated as a straight average of January, February, and March 2015 active user penetration.



Top Apps Outside Games by Active Users* Android Smartphones, Q1 2015**

	United States	United Kingdom	Germany	Japan	South Korea	India
1	Google	G oogle	WhatsApp Messenger	Google	KakaoTalk	WhatsApp Messenger
2	YouTube	8 Maps	S Google	LINE	YouTube	g Google
3	8	Mups	8 8	E INC	N	M
	Maps	YouTube	Maps	YouTube	네이버 - NAVER	Gmail
4	Facebook	Facebook	YouTube	Maps	Google	YouTube
5	M	0	© Ol	M	7	f
	Gmail	Chrome Browser	Chrome Browser	Gmail	KakaoStory	Facebook
6	0	WhatsApp	f	ST.	BAND	O
	Chrome Browser	Messenger	Facebook	spモードメール	BAND	Chrome Browser
7		M		•	f	8
	Messenger	Gmail	Gmail	Chrome Browser	Facebook	Maps
8	8+		g_+	g_{+}	8+	8+
	Google+	Messenger	Google+	Google+	Google+	Google+
9		8 +		f	네이버 지도 - Naver	true
	Drive	Google+	Messenger	Facebook	Map	Truecaller
10		ebay		y	•	
	Instagram	eBay	Clean Master	Twitter	Chrome Browser	MX Player



 $^{^{\}star}$ Includes pre-installed apps because of variation in pre-installed apps between devices and manufacturers.

^{**} Q1 2015 data calculated as a straight average of January, February, and March 2015 active user penetration.



Top Apps Outside Games by Active Users* Android Tablets, Q1 2015**

	United States	Japan	South Korea	India
1	[g]	[g]	TALK	[g]
	Google	Google	KakaoTalk	Google
2				
	YouTube	YouTube	YouTube	WhatsApp Messenger
3	O	3	[8]	
	Chrome Browser	Maps	Google	YouTube
4	M	•	N	M
	Gmail	Chrome Browser	네이버 - NAVER	Gmail
5	f	M	7	f
	Facebook	Gmail	KakaoStory	Facebook
6	8	LINE	BAND	O
	Maps	LINE	BAND	Chrome Browser
7	g_+	[8+]	•	8
	Google+	Google+	Chrome Browser	Maps
8	NETFLIX		f	g_{+}
	Netflix	spモードメール	Facebook	Google+
9		Y ?	M	~
	Messenger	Yahoo! Japan	Gmail	Messenger
10		(F) ₃	Dd/m	
	Google Drive	ES File Explorer	Daum	MX Player



^{*} Includes pre-installed apps because of variation in pre-installed apps between devices and manufacturers.

^{**} Q1 2015 data calculated as a straight average of January, February, and March 2015 active user penetration.

Appendix B: Game Usage Top Charts



Top Games by Active Users iPhone, Q1 2015*

	United States	United Kingdom	Germany	Japan	South Korea	China
1			Q	LINE: Disney Tsum	8	
	Trivia Crack	Crossy Road	Quizduell	Tsum	Clash of Clans	Landlord Poker
2	Candy Crush Saga	Candy Crush Saga	Candy Crush Saga	Puzzle & Dragons	Everybody's Marble	Happy Elements
3	Candy Crush				OvenBreak for	
	Soda Saga	Clash of Clans	Clash of Clans	Monster Strike	Kakao	WeChat Dash
4		SOUR	SOUR	Q		C C
	Clash of Clans	Candy Crush Soda Saga	Candy Crush Soda Saga	Q	Crossy Road	Craz3 Match
5	Modern Combat	3	2048			S C
	5: Blackout	8 Ball Pool™	2048	LINE PokoPoko	Anipang 2	WeFire
6	THE HOS		Quizduell im		sidem	
	UNO™ & Friends	ZigZag	Ersten	Clash of Clans	SimCity BuildIt	Clash of Clans
7		2048	The Simpsons TM :	Candy Crush	Candy Crush for	A CONTRACTOR OF THE CONTRACTOR
	Crossy Road	2048	Tapped Out	Saga	Kakao	We Fly
8			WORT	Recel Empe		2048
	Subway Surfers	Subway Surfers	4 Bilder 1 Wort	FINAL FANTASY Record Keeper	Seven Knights for Kakao	2048
9	W Words With	1	•	Candy Crush		
	Friends	Stick Hero	Crossy Road	Soda Saga	Hero for Kakao	Boom Beach
10	Game of War -				(Corporato)	Candy Crush
	Fire Age	Boom Beach	Hay Day	Ingress	Monster Taming	Saga (WeChat)



	United States	Japan	China
1			
	Candy Crush Saga	LINE: Disney Tsum Tsum	Clash of Clans
2	6002		
	Candy Crush Soda Saga	Puzzle & Dragons	Boom Beach
3			
	Modern Combat 5: Blackout	Monster Strike	Happy Elements
4	a recins		3
	UNO™ & Friends	Clash of Clans	Asphalt 8: Airborne
5			
	Clash of Clans	Candy Crush Saga	Landlord Poker
6		SIMETTY	
	Trivia Crack	SimCity Buildit	Hearthstone
7			
	Game of War – Fire Age	Hay Day	Plants vs. Zombies 2
8		SOD	Sincery
	Subway Surfers	Candy Crush Soda Saga	SimCity BuildIt
9			
	Crossy Road	Taiko no Tatsujin	Carrot Fantasy 2
10		Q	
	Farm Heroes Saga	Q	WeChat Dash





Top Games by Active Users Android Smartphones, Q1 2015*

	United States	United Kingdom	Germany	Japan	South Korea	India
1	Trivia Crack	Candy Crush Saga	Quizduell	LINE: Disney Tsum Tsum	Everybody's Marble	Candy Crush Saga
2	Candy Crush Saga	Candy Crush Soda Saga	Candy Crush Saga	Puzzle & Dragons	Anipang 2 for Kakao	Subway Surfers
3	Clash of Clans	Crossy Donal	Clash of Clans	Monator Strike	OvenBreak for Kakao	Tample Dun 2
4	Clash of Clans Candy Crush Soda Saga	Crossy Road Clash of Clans	Clash of Clans Candy Crush Soda Saga	Monster Strike Q Q	Clash of Clans	Temple Run 2 Candy Crush Soda Saga
5	Words Words With Friends	Solitaire	Crossy Road	LINE Pokopang	Crossy Road	Hill Climb Racing
6	Crossy Road	8 Ball Pool	Quizduell PREMIUM	LINE PokoPoko	Candy Crush Kakao	Clash of Clans
7	Solitaire	Farm Heroes Saga	Hill Climb Racing	Candy Crush Saga	Seven Knights for Kakao	Teen Patti
8	Subway Surfers	Don't Tap The White Tile	Subway Surfers	The World of Mystic Wiz	Anipang for Kakao	My Talking Tom
9	Farm Heroes		Wo RI			
10	Saga Hill Climb Racing	Subway Surfers Temple Run 2	4 Bilder 1 Wort Farm Heroes Saga	Clash of Clans FINAL FANTASY Record Keeper	Monster Taming Minecraft – Pocket Edition	Dr. Driving Chess Free



Top Games by Active Users Android Tablets, Q1 2015*

	United States	Japan	South Korea	India
1				
	Candy Crush Saga	Puzzle & Dragons	Clash of Clans	Candy Crush Saga
2	SOUN		netmorbie	
	Candy Crush Soda Saga	LINE: Disney Tsum Tsum	Everybody's Marble	Subway Surfers
3				
	Clash of Clans	Monster Strike	Anipang 2 for Kakao	Temple Run 2
4	(b)			SODN
	Trivia Crack	Candy Crush Saga	OvenBreak for Kakao	Candy Crush Soda Saga
5				
	Subway Surfers	Clash of Clans	Crossy Road	Clash of Clans
6	House Rep		Minecraft - Pocket	
	Solitaire	Yokai Taisou	Edition	Hill Climb Racing
7			• •	
	Farm Heroes Saga	LINE Pokopang	Anipang for Kakao	My Talking Tom
8	W			
	Words With Friends	The World of Mystic Wiz	Anipang Mahjong	Angry Birds
9			netmorble	
	Pet Rescue Saga	LINE PokoPoko	Seven Knights for Kakao	Temple Run
10	9	SODA	Cartinochie.	
	Crossy Road	Candy Crush Soda Saga	Monster Taming	Hay Day