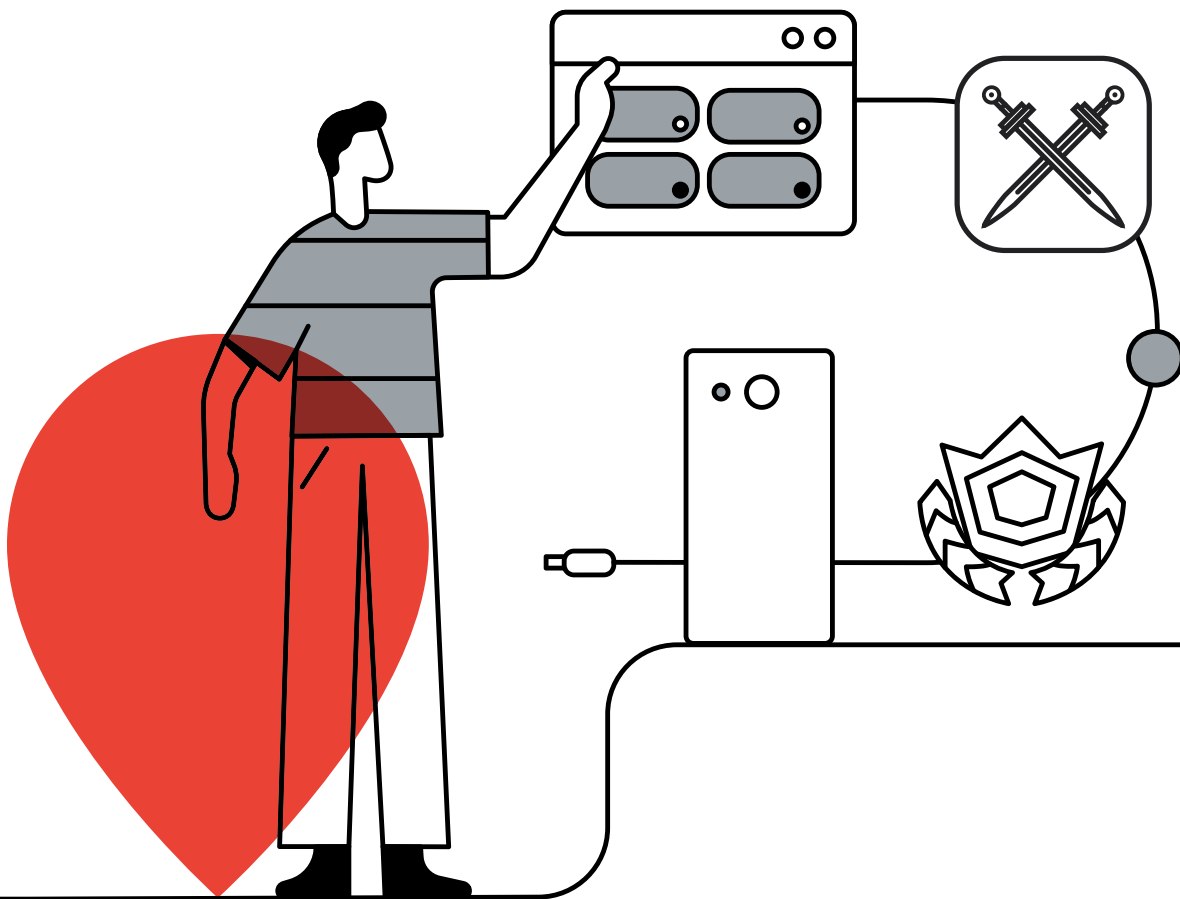


For the win: Breaking down the preferences of Asia's mobile gamers





No platform is more ripe with opportunity for game developers and publishers than mobile. That's especially true in Asia, where 1.21 billion mobile gamers – more than half of the world's mobile gaming population¹ – consistently drive the lion's share of global mobile games revenue.² More universally accessible and affordable than their PC and console predecessors, mobile games offer publishers a direct line to a wider audience of players than ever before, and empower developers with more freedom to experiment with a growing assortment of genres, monetization models, and styles of gameplay.

As mobile titles have evolved from simple control schemes to more complex and immersive experiences, they've also revealed even more nuances among Asia's growing audience of mobile gamers. Considering the rich diversity of local customs, traditions, and player preferences across the region, launching a successful mobile game can be a tricky science – and it starts with getting to know the local landscape.

In the final installment of our series of insights on Asia's gaming market, we'll take a look at the region's top-grossing mobile games and genres to explore how evolving player preferences, culture, and game developers have uniquely shaped the landscape of each country.

Let's start with Asia's most prominent hub for mobile gamers – China.

China

Leading the way from PC to mobile

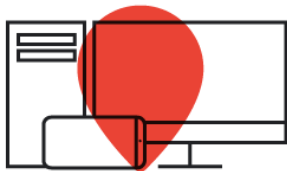
China is Asia's largest and arguably its most engaged mobile gaming community. In 2019, China's 637 million mobile gamers generated \$18.5 billion in revenue³ – nearly half (46.8%) of Asia's total mobile games revenue.⁴

Asia's No. 1 mobile games market in 2019

\$18.5B
in total revenue



PC games dominated the Chinese market for decades, exceeding mobile games' total revenue until 2018.⁵ As mobile gaming rose in popularity and more Chinese developers started building for the platform, China eventually became the first country to launch mobile adaptations of popular PC titles. Within a few years, China's mobile power users showed that PC and console titles can be just as, if not more, successful on mobile.



China was the **first country** to launch **mobile adaptations** of popular PC titles.

The popularity of well-known, locally developed PC games such as "Fantasy Westward Journey," "Perfect World," and "Peacekeeper Elite" skyrocketed after being adapted for mobile. The games were able to not only attract their original PC audience, but also acquire an entirely new group of mobile users that wanted to check out the hype and play with friends on a familiar title – not to mention at a lower user acquisition cost, as they'd already generated large followings. All three titles quickly rose to become a few of China's top-performing titles after they launched on mobile.⁶

Mobile gamers in China are also highly attentive to new developments in the market, with fellow players as well as popular streamers, influencers, and opinion leaders such as Liu “PDD” Mou, TuanZi, Xu “Fy God” Linsen, and Lu Han helping to promote exciting new titles as well as perennial favorites like “League of Legends” and “Dota 2.”

The importance of local partnerships

Development teams based in China have consistently dominated the country’s list of top-grossing mobile games by tapping into local art styles, heroes, and storylines. As of May 2020, four of China’s top 10 mobile games are based on legends from the Three Kingdoms era in Chinese history⁷ – a period from 220–280 AD where three factions fought for control of the country. The Three Kingdoms was widely popularized by Luo Guanzhong’s “Romance of the Three Kingdoms” novel, and the period has been the subject of Chinese movies, TV shows, and games for years.



4 of China’s top 10 mobile games are based on legends from the Three Kingdoms era in Chinese history.

For developers outside of China, launching a successful mobile game in the country can be challenging as every mobile game is required to have an international standard book number (ISBN, a publishing license used for content including games) issued by the government prior to being published or distributed. And while the ratio of ISBN granted to foreign games has remained somewhat constant over the years, the absolute value declined from 467 in 2017 to 185 in 2019.⁸ Because domestic partnerships are required by law to publish foreign games in China and only a small number of games are approved every year, finding the right domestic publisher is a must for overseas developers.

Tencent and NetEase are currently China’s largest and most well-known game publishers, accounting for nine of the country’s top 10 mobile games in 2019.⁹ Even though the number of foreign ISBN has dropped, publishers from outside of China – primarily from Japan – have recently risen to the top 10.¹⁰ In 2019, Japan accounted for one-third of China’s imported games.¹¹



1/3 of China’s imported games in 2019 were developed in Japan.

Anime's influence on art styles

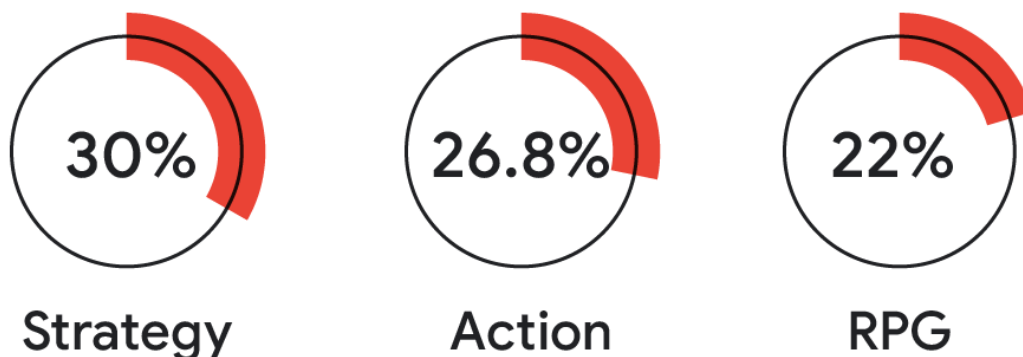
Anime, Comic, and Games (ACG) titles are a popular focal point for Chinese developers as many Chinese gamers (especially those born in the 1990s) grew up with Japanese TV anime like “Detective Conan,” “Slam Dunk,” and “One Piece.” Japanese developers have partnered with local publishers to launch new games inspired by those art styles, and similarly, Chinese developers including NetEase, Yostar, and Zlongame have worked with Japanese companies to localize popular Japanese games for a Chinese audience.

Take “Onmyoji,” a turn-based role-playing game (RPG) from NetEase, for example. The No. 7-ranked mobile game in China is based on Japanese mythology and features ACG art styles and Japanese voice actors that give the game an authentic feel. “Onmyoji” has grown to become one of NetEase’s key titles, spawning an assortment of spin-off games, movies, and comics.

A shift to competitive genres

While massively multiplayer online role-playing games (MMORPGs) – which dominated in the early days of PC gaming – are still popular in China, the country’s top mobile games in 2020 show how local developers are branching out into action-packed titles and immersive genres beyond MMORPGs to appeal to gamers’ evolving preferences.

China’s top mobile game genres¹²



Ratio of total iOS revenue in H1 2020

In 2016, seven of the top 10 biggest mobile hits were MMORPGs adapted from popular PC games,¹³ such as “Asktao” (G-Bits) and “New Ghost” (NetEase). But in the first half of 2020, three of those titles were replaced by multiplayer online battle arena (MOBA – “Honor of Kings”) and battle royale (“Peacekeeper Elite”) games with competitive elements.¹⁴

China’s top-grossing mobile games¹⁵

Rank	Title	Developer region	Genre
1	“Honor of Kings”	Local	MOBA
2	“Peacekeeper Elite”		Battle royale
3	“Romance of the Three Kingdoms: Strategy Edition”		Strategy
4	“AFK Arena”		Auto battler
5	“Fantasy Westward Journey”		RPG
6	“Immortal Conquests”		Strategy
7	“Onmyoji”		RPG
8	“New Swordsman M”		RPG
9	“Shenwu 4”		RPG
10	“QQ Speed”		Racing

Japan

Heavy anime and console history

Japan is currently Asia's second-largest mobile game market by revenue (\$11.6B in 2019),¹⁶ and third globally behind China and the U.S.¹⁷ As the home base for Nintendo and Sony, Japan's influence on gaming culture worldwide spans decades.

Asia's No. 2 mobile games market in 2019

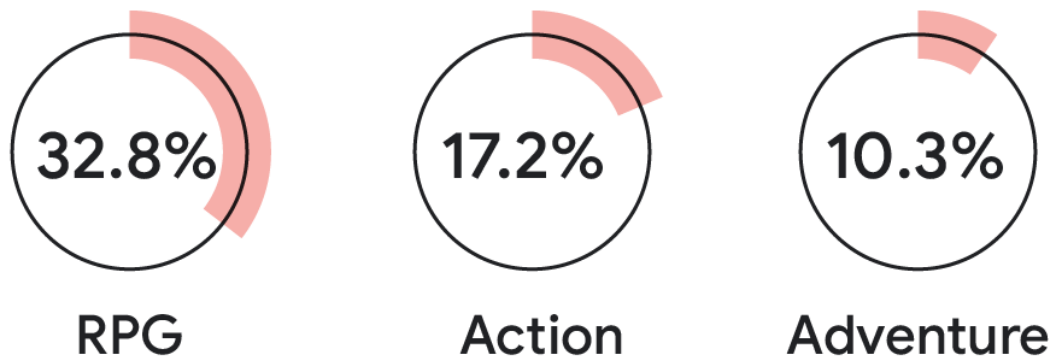
\$11.6B
in total revenue



One of Japan's most notable contributions to Asia's gaming industry – and the spread of Asian culture around the world – has been the export of Japanese comics (*manga*) and animations (*anime*). Considering most Japanese gamers grew up enjoying those parts of pop culture, it's no surprise that Japan's local developers continue to dominate by staying true to familiar ACG elements. Apart from "Pokémon GO" (U.S.), "Lineage II Revolution" (South Korea), and "Knives Out" (China), no games developed outside of Japan have cracked the country's annual top 10 list since 2016.¹⁸

Since 2019, approximately half of Japan's total mobile games revenue was generated by RPG titles,¹⁹ which can easily be monetized through items and gacha mechanics (e.g. rewarded items from "rolls" or spinning a wheel) as players progress. Moreover, at least five of the top 10 mobile games every year since 2016 have used ACG art styles, including mainstay titles like "Fate/Grand Order," "Monster Strike," and "Granblue Fantasy."²⁰

Japan's top mobile game genres²¹



Ratio of total iOS + Google Play revenue in H1 2020

While games developed outside of Japan don't necessarily need to feature ACG-inspired characters and art styles to succeed, they can be a valuable addition to special events and promotions that appeal to Japanese gamers. NetEase's "Knives Out," a popular action game from China near the top of Japan's top 10 list, is a notable example. While the game uses realistic art styles, NetEase has made an effort to attract local audiences through in-game events and themed collaborations featuring recognizable elements from *anime* and *manga* series like "Evangelion," "Attack on Titan," "Gintama," and "Tokyo Ghoul."

Capturing console gamers on mobile

Many of Japan's game development studios such as Square Enix, Konami, Bandai Namco, and SEGA are well-versed in launching hit PC and console games, and they've continued to build on that success by adapting popular titles for mobile. Several of Japan's top mobile games are based on existing console titles (e.g., "Professional Baseball Spirits A" and "Pokémon GO"), including a few from popular *anime* and *manga* series like "Dragon Ball" and "Fate/Grand Order."²² And as of June 2020, eight of the top 10 mobile games in Japan are based on licensed PC and console titles.²³



8 of the top 10 highest-grossing mobile games in Japan are **based on licensed PC and console titles.**

Japanese gamers' experience playing competitive PC and console games has also helped esports titles gain momentum on mobile. However, Japan's regulations on prize pool values make it more difficult to host and run esports events compared to in South Korea or China,²⁴ so there hasn't been a strong push from local developers to create new mobile esports games. But as mobile esports tournaments across Asia continue to rise in popularity and sponsorship value, expect to see more Japanese developers and publishers tapping into this promising growth opportunity.

Japan's top-grossing mobile games²⁵

Rank	Title	Developer region	Genre
1	"Monster Strike"	Local	Puzzle
2	"Fate/Grand Order"	Local	RPG
3	"Dragon Quest Walk"	Local	Augmented reality (AR)
4	"Knives Out"	China	Action
5	"Puzzle and Dragons"	Local	Puzzle
6	"Professional Baseball Spirits A"	Local	Sport
7	"Pokémon GO"	U.S.	AR
8	"Dragon Ball Z: Dokkan Battle"	Local	Action
9	"Princess Connect! Re:Dive"	Local	RPG
10	"Houchi Shojo - Hyakka Ryoran no Moehime Tachi"	Local	RPG

South Korea

Birthplace of esports and PC bang culture

Asia's No. 3 mobile games market by revenue (\$5.34B in 2019 – No. 4 globally),²⁶ South Korea's rich PC gaming history, robust mobile infrastructure, and widespread internet cafes (icafes, locally known as "PC bang") have made a lasting impact on the evolution of its mobile games market.

Asia's No. 3 mobile games market in 2019

\$5.34B
in total revenue



In May 2019, South Korea was one of the first countries to offer 5G mobile service to all consumers – drastically improving the mobile gaming experience – and the government recently announced a five-year plan to grow the local games industry. South Korea also developed the first-ever MMORPG on PC – “Lineage” – which, along with its sequel “Lineage II,” has remained one of South Korea's top titles, especially after they were later adapted for mobile.²⁷

This unique combination of social PC bang culture and widespread, high-speed mobile internet has contributed to the growing popularity of challenging, immersive mobile titles that allow gamers to play with or against other players – a motivation that's consistently reflected in South Korea's top games and genres.

South Korea's top mobile game genres²⁸



Ratio of total iOS + Google Play revenue in H1 2020

Foreign developers branching out beyond RPGs

With such a close connection to classic, competitive PC titles, South Korean gamers are still loyal fans of RPGs – a genre that drove approximately 58% of the country's total mobile games market revenue in the first half of 2020. RPGs notably feature both social and competitive elements that appeal to South Korean gamers, such as live online gameplay, team-based strategy, and sharing in-app purchases with other players. Since 2016, RPG has been South Korea's top-grossing genre and accounted for at least five of the top 10 games each year.³⁰



RPGs drove more than half (57.9%) of South Korea's total mobile games revenue in H1 2020.

Similar to China, South Korea's top mobile games have been dominated by local developers since 2016. Seven of the top 10 games in the first half of 2020 were developed locally, and every year since 2016, at least half of the top 10 games have been based on well-known PC titles.³¹

On the other hand, developers from outside South Korea have joined the rankings by bringing a wider range of genres into the market. For example, Lilith Games' strategy title "Rise of Kingdoms" and role-playing game (RPG) "AFK Arena" were both top-grossing titles in 2020, as was "FIFA ONLINE 4M by EA SPORTS™" from the U.S.³²

Competitive play spreads to mobile

As South Korean mobile gamers have become more skilled over time, they've shifted their attention toward more challenging, core titles that bode well for esports competition. That's even clearer looking at the top-10 grossing games in the first half of 2020 – none of which were casual titles.³³

However, despite the growing popularity of mobile esports games, South Korea's long history in PC gaming has meant that PC esports tournaments are still much more prevalent and lucrative overall.³⁴ While hit mobile titles such as "PlayerUnknown's Battlegrounds (PUBG) Mobile" and "FIFA ONLINE 4 M by EA SPORTS™" generate a lot of downloads and revenue, they've yet to spark a large esports scene – no doubt an opportunity for developers looking to stoke competition among mobile esports fans.

South Korea's top-grossing mobile games³⁵

Rank	Title	Developer region	Genre
1	"Lineage 2 M"	Local	RPG
2	"Lineage M"	Local	RPG
3	"Rise of Kingdoms: Lost Crusade"	China	Strategy
4	"AFK Arena"	China	Auto battler
5	"V4"	Local	RPG
6	"Miracle Sword"	Local	RPG
7	"Lineage 2 Revolution"	Local	RPG
8	"Blade and Soul Revolution"	Local	RPG
9	"A3: Still Alive"	Local	RPG
10	"FIFA ONLINE 4 M by EA SPORTS™"	U.S.	Sport

India

Open doors for local developers

With more than 400 million smartphone users (second only to China),³⁶ India is one of the world's fastest growing mobile games markets. The popularity of mobile games in India has exploded over the past few years, driven largely by widespread availability of low-cost smartphones, affordable 4G service, and F2P titles.³⁷ India's population is also overwhelmingly young – 65% of the population is under the age of 35³⁸ – making the country a prime location for capturing an increasingly savvy audience of teen and young adult gamers.



of India's population in 2019
was **under the age of 35.**

In September 2016, Indian telecommunications company Reliance Jio helped spark a boom in mobile gaming by offering to distribute free 4G service to all of its 52 million customers, immediately broadening the country's mobile user base and allowing game developers to reach a larger segment of the population.

Local developers starting to grab top spots

In stark contrast to established markets like China, South Korea, and Japan, India's local game developers are relatively new to the industry, so development teams from Asia and elsewhere around the world have had more recent success. Non-Indian developers have accounted for most of the country's top titles since 2016,⁴⁰ and in the first half of 2020, only two of India's top-grossing titles were developed locally.⁴¹

However, India's recent ban on apps and games from China presents an opportunity for local developers to cultivate homegrown talent and develop new titles for a domestic audience. Indian prime minister Narendra Modi has spoken out in support of the national games industry,⁴² encouraging the creation of games inspired by Indian culture and folk tales. Prior to the ban, Indian mobile gamers' preferences were noticeably shifting from casual games to more complex, core genres including MOBA and battle royale, leaving ample room for local developers to fill the gap. Leading up to June 2020, "Garena Free Fire" and "PUBG Mobile" were two of India's most popular and highest-grossing games.⁴³

Local game developers Octro and Moonfrog have started to establish a stronger presence with themed social casino games such as “Teen Patti – Indian Poker” and “Teen Patti Gold,” which are exclusively top-grossing games in India.⁴⁴

Keep it “lite”

In a region where mobile gamers are more likely to use lower-spec devices, “lite” versions of popular games are more likely to succeed as they’re compatible with a wider range of hardware. For instance, “Garena Free Fire” is able to deliver the same gameplay experience across low-end and high-spec smartphones, but “Fortnite Mobile” – which requires higher memory and processing power to run smoothly – hasn’t cracked India’s top 10 list.⁴⁵ In the first half of 2020, the lite version of Tencent’s “PUBG Mobile” drove 36 million downloads (66% of the game’s total downloads) compared to 1.2 million on “Fortnite Mobile.”⁴⁶

An early esports opportunity

The “PUBG Effect” in India – fast-rising adoption of high-performance gaming smartphones as people gravitate toward playing complex, core titles on mobile – has led to a rise of genres built for esports competition like action, battle royale, MOBA, and shooters. Furthermore, many of India’s top mobile games and genres have social, online, and competitive components that make them ideal for inclusion in esports – still a relatively undeveloped sector in the country.

India’s top mobile game genres⁴⁷



Ratio of total iOS + Google Play revenue in H1 2020

In 2020, the top-grossing games in India included two battle royale titles (“PUBG Mobile” and “Garena Free Fire”), one shooter game (“Call of Duty Mobile”), and a MOBA (“Mobile Legends”).⁴⁸ None of these genres appeared in the country’s top 10 prior to 2018,⁴⁹ indicating a trend of increasing player skill and demand for competitive titles.

To that end, top game publishers including Tencent and Garena have recently invested in creating professional esports leagues and tournaments in India based on hit titles, such as the “PUBG Mobile India Tour” and Garena’s “Free Fire Esports India” league.

India’s top-grossing mobile games⁵⁰

Rank	Title	Developer region	Genre
1	“PUBG Mobile“	China	Battle royale
2	“Garena Free Fire: Rampage“	Singapore	Battle royale
3	“Coin Master“	Israel	Casino
4	“Teen Patti - Indian Poker“	Local	Casino
5	“Candy Crush Saga“	Malta/U.S.	Casual
6	“Call of Duty®: Mobile“	U.S.	Shooter
7	“Clash of Clans“	Finland	Strategy
8	“Teen Patti Gold –3 Patti, Rummy, Poker Card Game“	Local	Casino
9	“Gardenscapes”	Russia	Casual
10	“Mobile Legends: Bang Bang”	China	MOBA

Southeast Asia

Connected by competition and community

Southeast Asia is an especially diverse region with a variety of cultures, communities, and characteristics. Southeast Asians are also among the most engaged mobile internet users in the world.⁵¹ In 2019, 90% of Southeast Asia's 360 million internet users (two-thirds of the region's population) accessed the internet via their mobile phones,⁵² and mobile games in the region outpaced PC and console in both revenue and downloads.⁵³



Mobile games in Southeast Asia outpaced PC and console in both **total revenue and downloads** in 2019.

In the last five years, non-Asian developers have been outranked by teams based in the region with a closer ear and eye on local preferences.⁵⁴ In Southeast Asia especially, appealing to a local audience is about much more than the language or art style – understanding and respecting local customs and beliefs is crucial. Compared with most countries around the world, religion is a particularly important part of people's daily lives,⁵⁵ which translates into what is culturally acceptable in some markets is not so in others. Developers should be mindful of respecting local norms and customs when promoting games in each market.

Take, for instance, how Facebook Gaming staged a multi-country Ramadan event that attracted gamers from Indonesia and Malaysia, or the 2020 "Mobile Legends" TET New Year event in Vietnam. Similarly, developers and publishers based outside of Southeast Asia have worked with local celebrities and public figures to promote games across the region, like when "Garena Free Fire" recently partnered with Indonesian actor Joe Taslim and Gravity Interactive tapped K-Pop star Lisa from Blackpink to promote "Ragnarok M: Eternal Love" in Thailand.

A booming esports universe

Another important commonality for developers to consider is the role of community. A 2019 survey by GameStart found that 60% of Southeast Asian gamers prefer to play with friends,⁵⁶ and many of the region's top-grossing titles and genres over the years feature social elements and team-based gameplay, such as "Free Fire," "Lineage," "Mobile Legends," and "Ragnarok Online."⁵⁷

Southeast Asia's top mobile game genres⁵⁸



Ratio of total iOS + Google Play revenue in H1 2020

Southeast Asian gamers' strong desire for community play – combined with policies and government support in Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam – has helped esports titles and tournaments thrive. Between 2018 and 2019, the total value of prize pools in local Southeast Asian tournaments grew 244%,⁵⁹ and the region progressed from only having two esports titles in the top 10 grossing chart in 2016 to five of them in 2019.⁶⁰



5 of Southeast Asia's top 10
highest-grossing mobile games
in 2019 were **esports titles**.

Garena’s “Free Fire” was the highest grossing mobile game in Q1 2020, reaching 80 million peak daily active users.⁶¹ To engage its growing user base in the wake of COVID-19, Garena organized more than double the number of online “Free Fire” esports tournaments in that quarter compared to the previous year, which accumulated more than 90 million total views.⁶²

Taking esports appeal beyond the game

“Mobile Legends” is a great example of how community-building and creating competition via live events and tournaments can significantly expand a game’s appeal. In April 2020, the grand finale of Indonesia’s Mobile Legends Premier League (MPL) Season 5 reached 1.1 million peak concurrent views,⁶³ and Indonesian streamer Jess No Limit, whose content focuses on “Mobile Legends,” became the first Asian YouTube game streamer to reach 15 million subscribers.⁶⁴ Similarly, Maharaja Soloz, a Malaysian “Mobile Legends” streamer, reached more than 1.2 million subscribers on Facebook Gaming – the highest of any game streamer in the country.⁶⁵

Southeast Asia's top-grossing mobile games⁶⁶

Rank	Title	Developer region	Genre
1	"Garena Free Fire: Rampage"	Singapore	Battle royale
2	"Mobile Legends: Bang Bang"	China	MOBA
3	"Rise of Kingdoms: Lost Crusade"	China	Strategy
4	"Lineage M"	Korea	RPG
5	"Honor of Kings/Arena of Valor"	China	MOBA
6	"PUBG Mobile"	China	Battle royale
7	"Call Me Emperor"	China	Strategy
8	"MU"	South Korea	RPG
9	"One Punch Man: The Strongest"	China	RPG
10	"AFK Arena"	China	Auto battler

Tips to entice a local audience

The dominance of Asia-based developers shows how important it is to learn from titles that tap into local interests, culture, aesthetics, and genre preferences. Looking at the top games across the region, it's clear that success in one country doesn't guarantee success in another. Appealing to local audiences requires keeping up with trends, preferences, and regulations in each country, learning from domestic publishers and influencers, and experimenting with new and popular genres to deliver experiences that entice the gamers you want to reach.

Here are a few things developers can do to break through with gamers in each country:

- **China**
Take your time to find an ideal publishing partner depending on your game's primary platform and genre, and the audience you're trying to reach. Striving for mass reach from dominant publishers isn't always the best solution.
- **Japan**
Incorporate pop culture elements from well-known movies, *manga*, and *anime*, and take note of historically successful PC and console titles to understand what kept gamers coming back and how those elements can translate to engaging mobile experiences.
- **South Korea**
Give gamers the opportunity to compete on titles that tap into the country's PC and esports history – especially on mobile, where tournaments are attracting serious attention and investment from advertisers.
- **India**
Take inspiration from Indian culture, traditions and folklore, make sure your game can run smoothly on low-spec devices, and explore opportunities to spark new competition in the country's blossoming esports universe.
- **Southeast Asia**
Promote new games in a way that respects local cultures, holidays, religions, and customs in each country, and incorporate gameplay elements that allow players to connect with friends or a wider community.

Methodology

Niko Partners combines data from game developers and publishers, publicly available data from other sources such as retailers and Chinese app markets, and our own assumptions and qualitative gamer survey results to calculate market estimates and generate lists of leading games. We also regularly interview executives at games and hardware companies as well as government officials. We leverage our own proprietary primary data combined with direct access to a panel of more than four million consumers in China, and millions more throughout Asia, to create deep qualitative and quantitative analysis, market models, and five-year forecasts. Our analysts regularly conduct gamer surveys, interviews, and focus groups throughout China as well as Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Chinese Taipei, Japan, South Korea, and India.



Sources

- 1 Statista, "Number of video gamers worldwide by region 2020," 2020.
- 2,16,17,26 Statista, "Global mobile games revenue by region 2019," 2019.
- 3–5 Niko Partners, 2019 Market Model.
- 6 Sensor Tower, Rankings by total iOS revenue, 2016–H1 2020.
- 7,9,10,15 Sensor Tower, Rankings by total iOS revenue, H1 2020.
- 8 National Press and Publication Administration (NPPA), 2019.
- 11 Niko Partners, "What's Behind Japan's #1 Share in China's Games Market," Feb. 2020.
- 12 Sensor Tower, Rankings by ratio of total iOS revenue, H1 2020.
- 13 Sensor Tower, Rankings by total iOS revenue, 2016.
- 18,20,30,31,40,45,54,57 Sensor Tower, Rankings by total iOS + Google Play revenue, 2016–H1 2020.
- 19 Sensor Tower, 2019.
- 21,28,47,58 Sensor Tower, Rankings by ratio of total iOS + Google Play revenue, H1 2020.
- 22,23,25,27,29,32,33,35,41,43,44,46,48,50,66 Sensor Tower, Rankings by total iOS + Google Play revenue, H1 2020.
- 24 Niko Partners, 2019 Esports Research.
- 34 Niko Partners Esports Tracker, 2019.
- 36 Statista, "Number of smartphone users in India in 2015 to 2020 with a forecast until 2025," 2020.
- 37 Niko Partners, "India snapshot: Battle royale games lead in fast growing market," Nov. 2019.
- 38 Times of India, "By 2020, India will have the largest young workforce," March 2016.
- 39 Niko Partners, "India snapshot: Battle royale games lead in fast growing market," Nov. 2019.
- 42 Narendra Modi, "PM convenes Meeting to discuss ways to boost Toy manufacturing in India," Aug. 2020.
- 49 Sensor Tower, Rankings by total iOS + Google Play revenue, 2016–2018.
- 51 Google/Temasek/Bain & Company, "e-Conomy SEA 2019 – Swipe up and to the right: Southeast Asia's \$100 billion Internet economy," 2019.
- 52,53 Niko Partners, "Southeast Asia + Chinese Taipei Mobile Games Report & Five Year Forecast," Nov. 2019.
- 55 Pew Research Center, "A Changing World: Global Views on Diversity, Gender Equality, Family Life and the Importance of Religion," Apr. 2019.
- 56 GameStart Asia, "Gamer survey highlights: A sneak peek into SEA gamer habits," 2019, n=1,897 respondents from Singapore, Indonesia, Malaysia, the Philippines, Thailand, Vietnam, and Brunei.
- 59 Niko Partners, "2019 Southeast Asia + Chinese Taipei Mobile Games Report."
- 60 Sensor Tower, Rankings by total iOS + Google Play revenue, 2016–2019.
- 61,62 Business Wire, "Sea Limited Reports First Quarter 2020 Results," May 2020.
- 63 One Esports, Apr. 2020.
- 64 Esportsgen, Jun. 2020.
- 65 Malaysia Book of Records, May 2020.

