

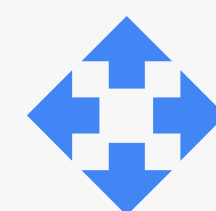


Think Games

2020 Go Global Mobile Gaming New Insights



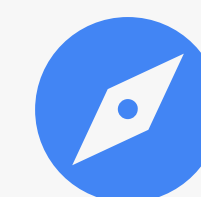
Global
Market Size &
Growth Trends



Genre
Opportunities
for China Games



Global
Mobile Games
Marketing Trends



Conclusion &
Implication



Methodology &
Definition

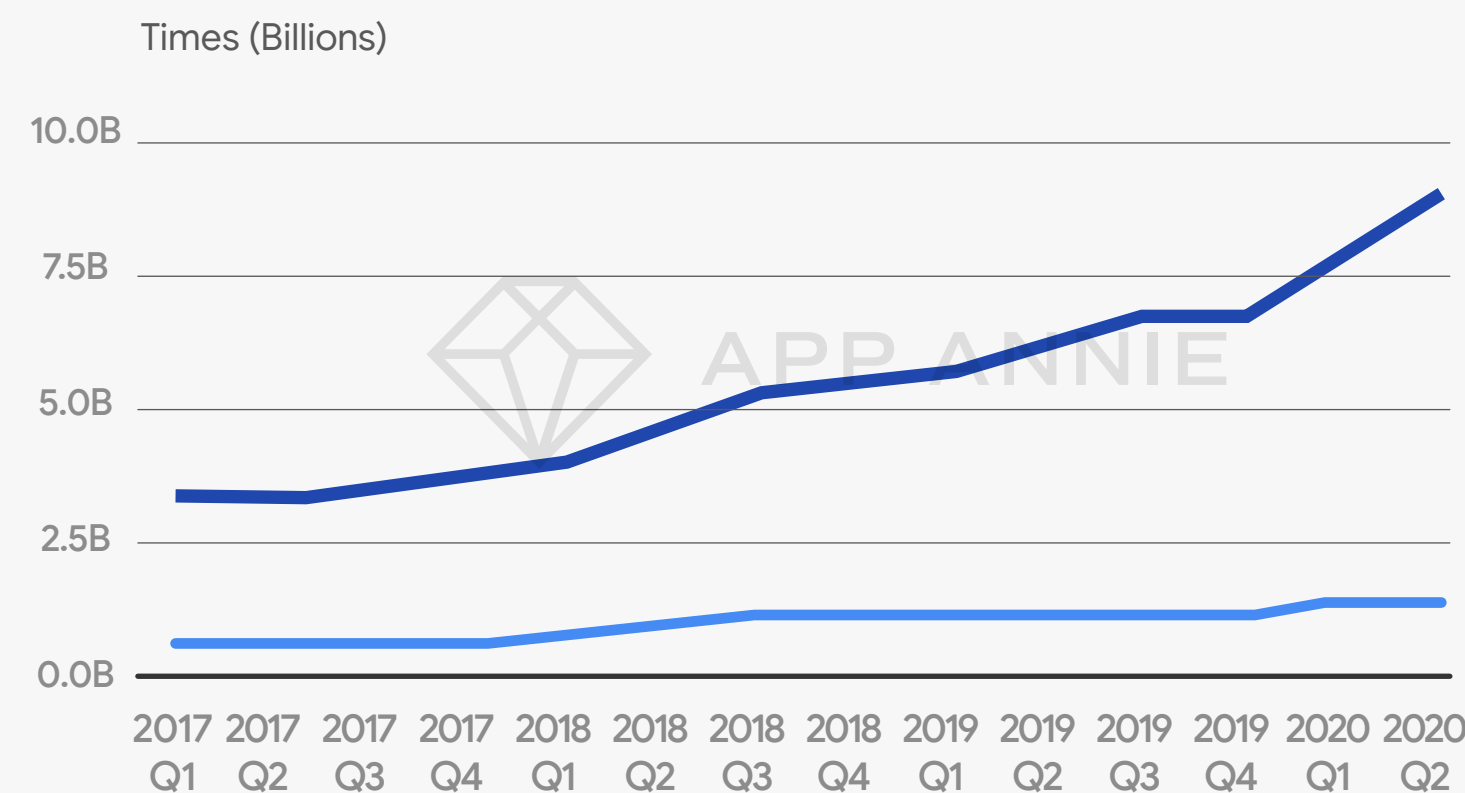




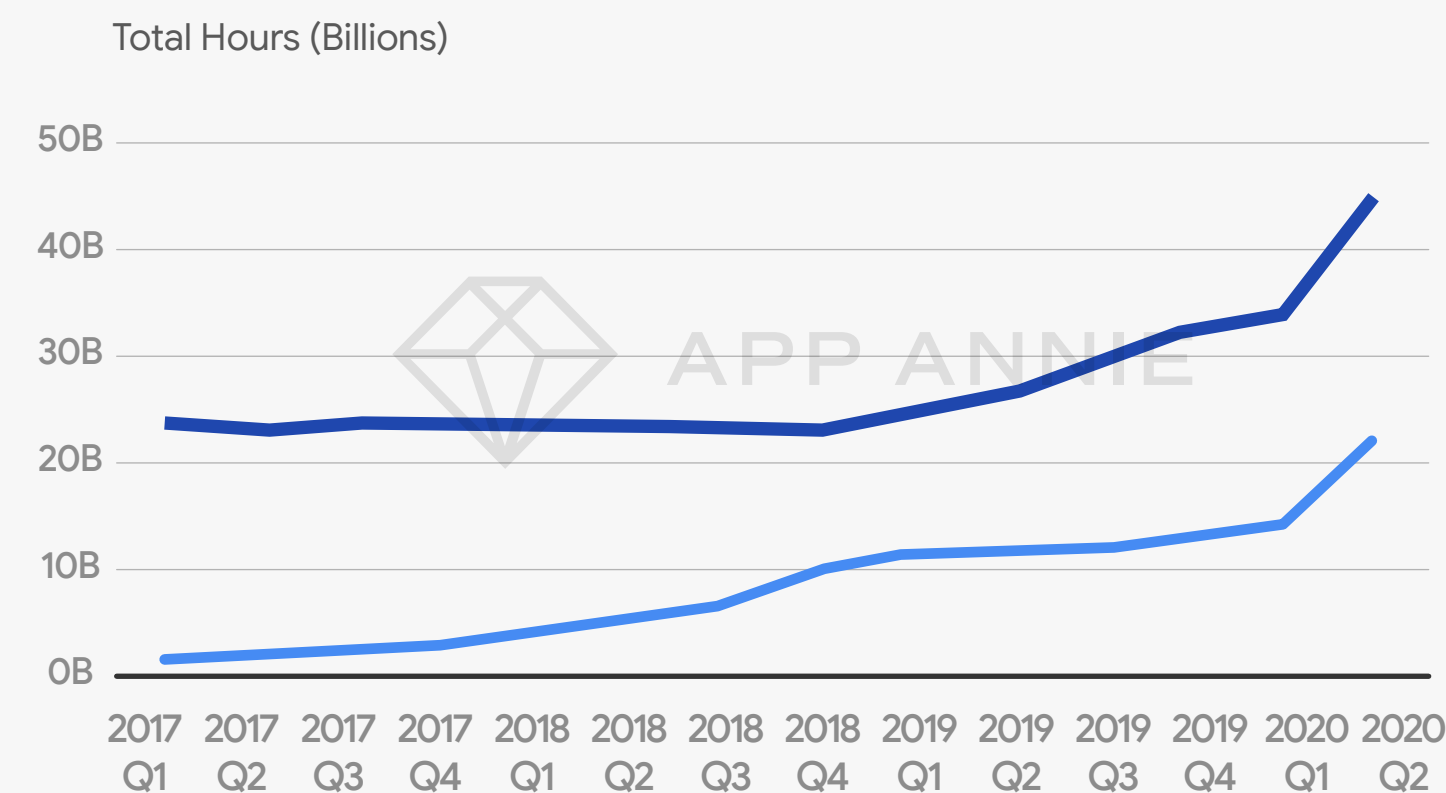
Global Market Size & Growth Trends

China HQ-ed Game Publishers Continues to Expand, Experiencing Above Average Growth in Time Spent and Capturing Consumer Spend in H1 2020

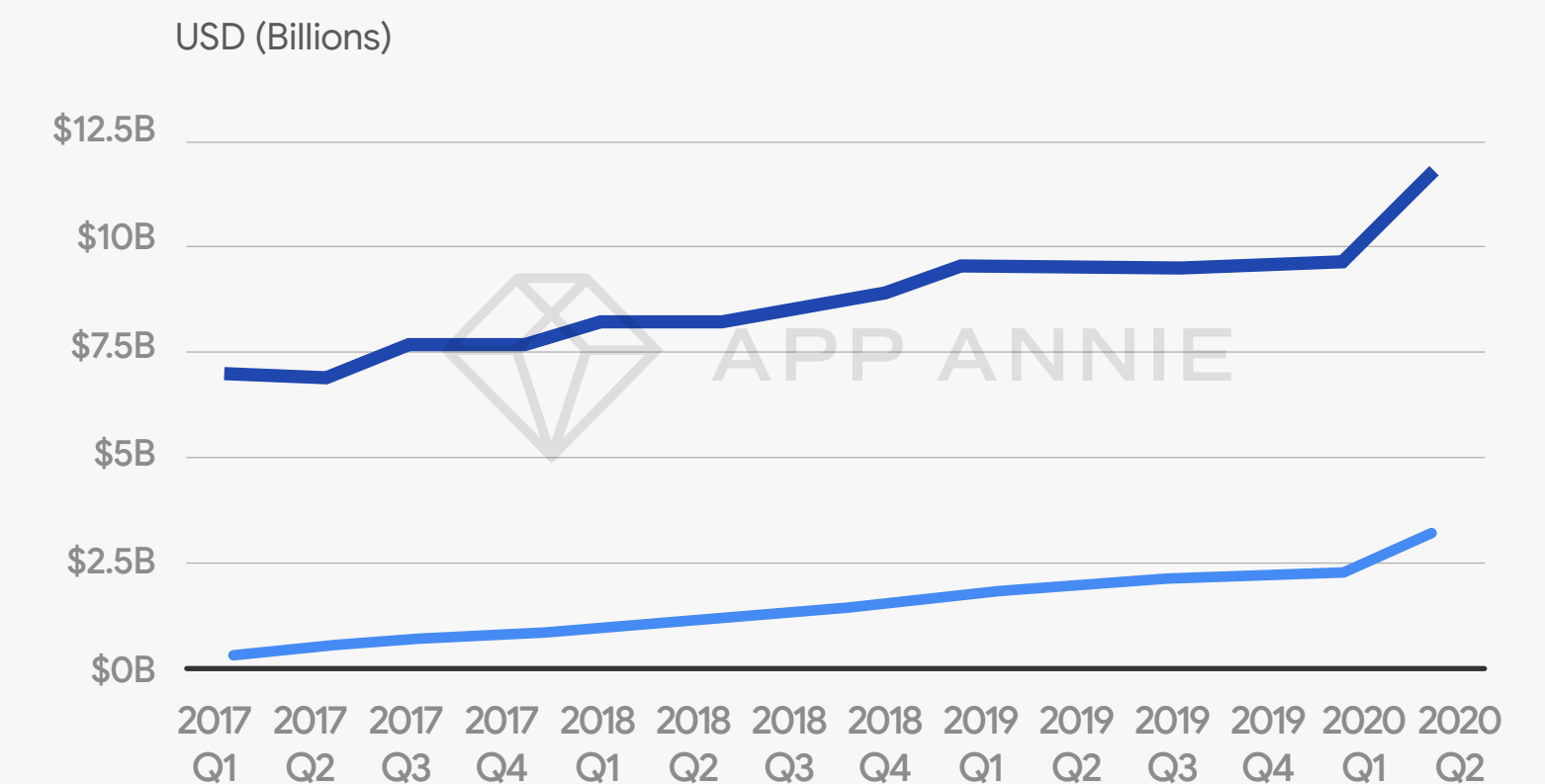
Overseas Games Downloads



Overseas Games Total Time Spent (Hours)



Overseas Games Consumer Spend



● Mainland China HQ-ed Publishers ● Other Publishers

Data source: App Annie

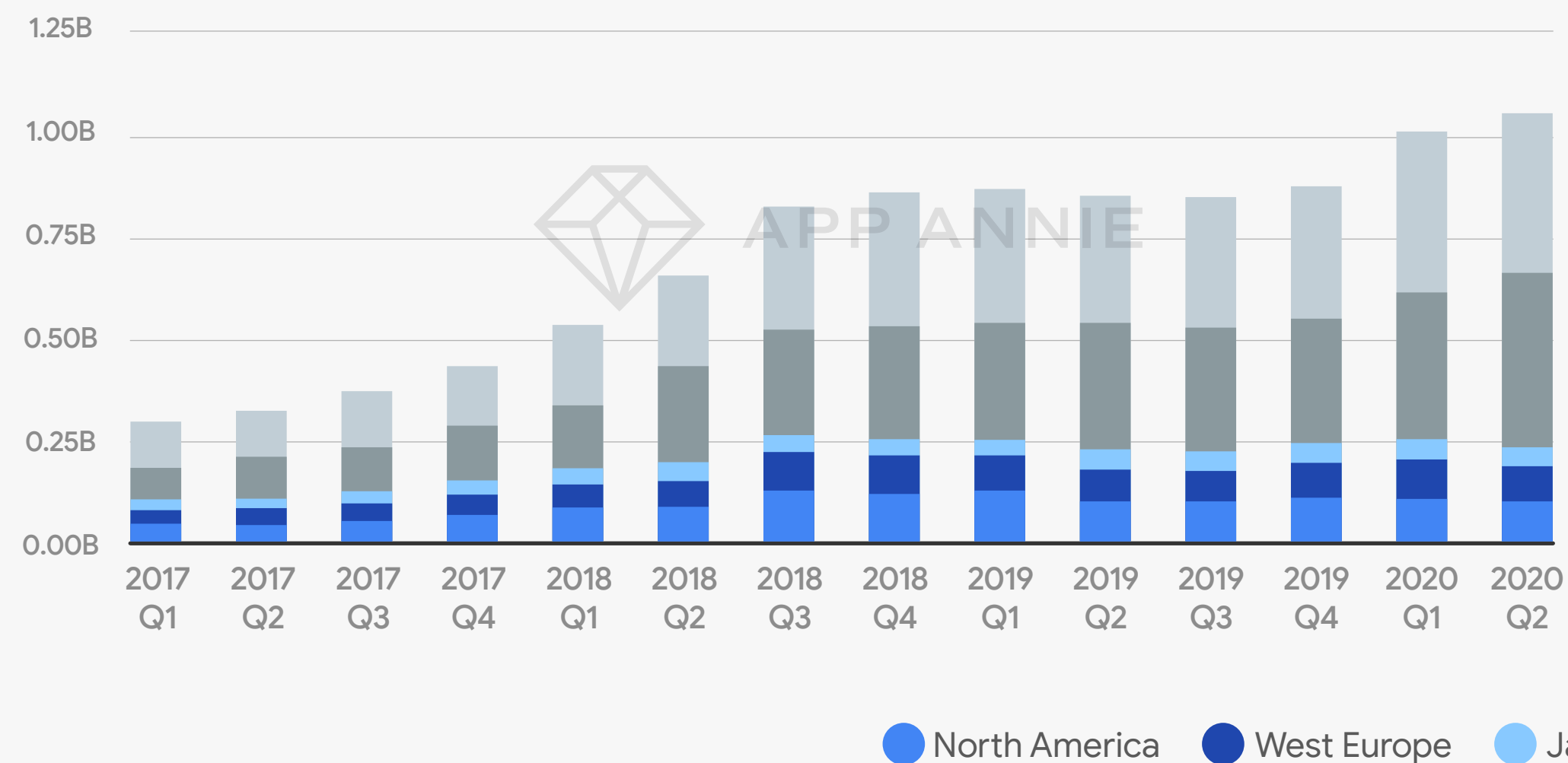
Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.

Time spent: Android phone only (exclude Mainland China)

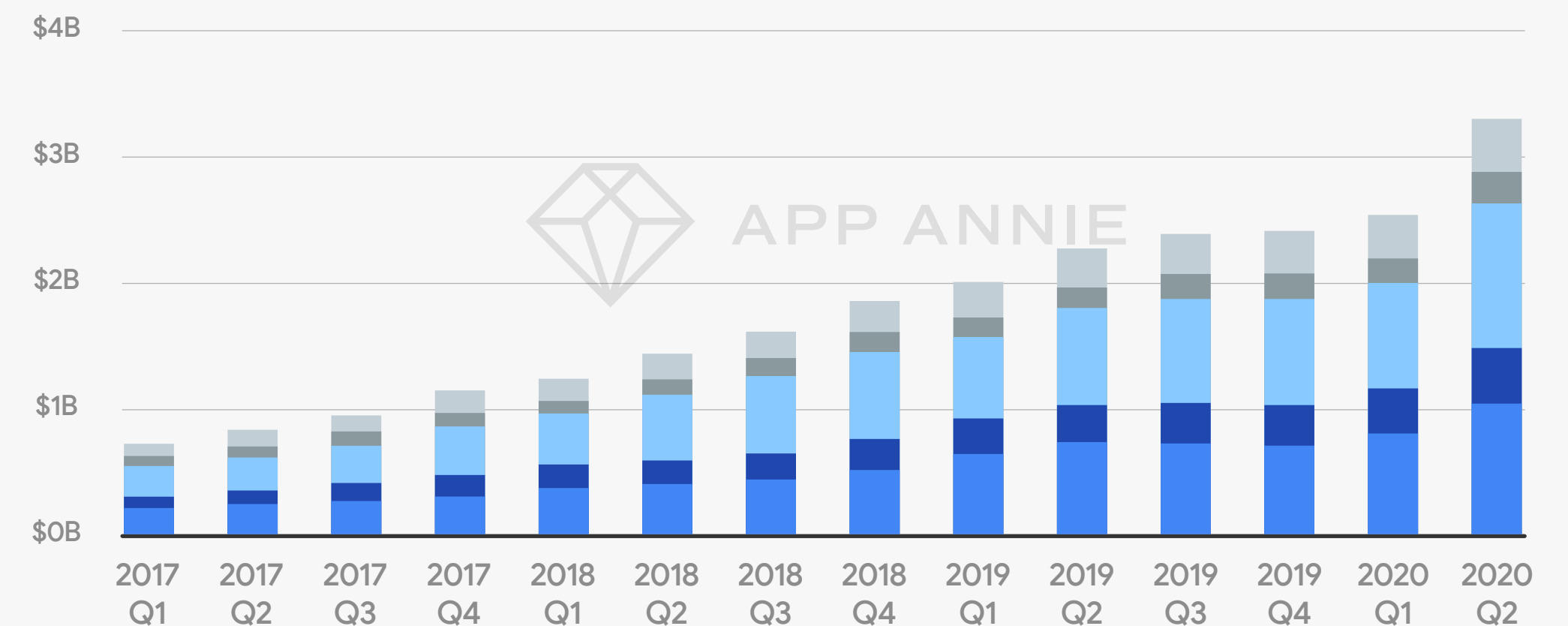


Downloads Grew Fastest in Multiple Markets Across Asia, US, Japan & Korea Continue to Be Largest Source of Overseas Consumer Spend for Mainland Chinese Gaming Publishers

Downloads in Overseas Markets by China HQ-ed Publishers

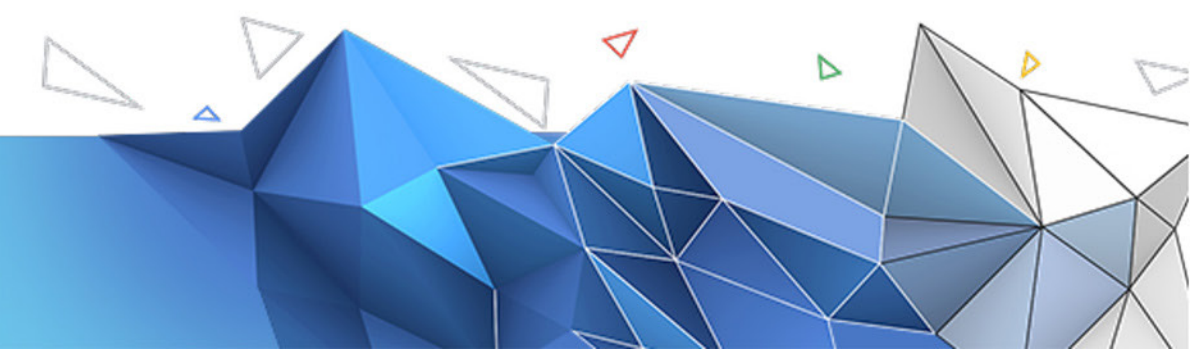


Consumer Spend in Overseas Markets by China HQ-ed Publishers



Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.





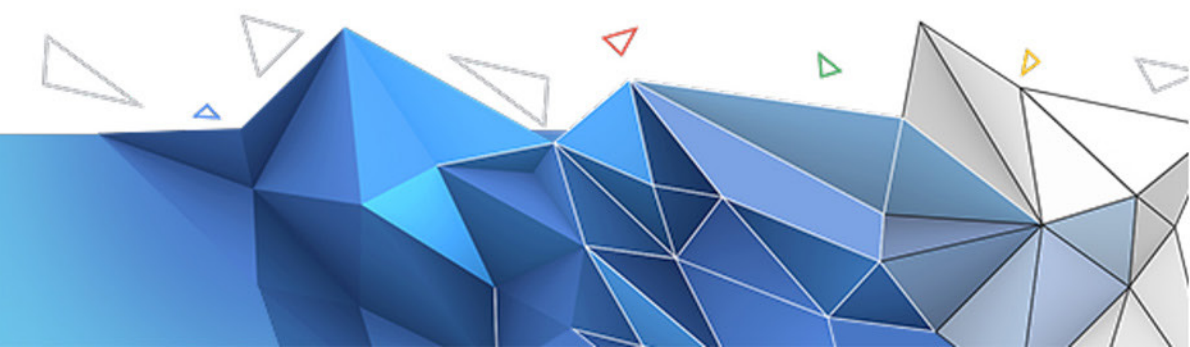
China HQ Publishers Share of Overseas Consumer Spend Has Further Increased in H1 2020

Share of China HQ Consumer Spend
in Overseas Gaming Market



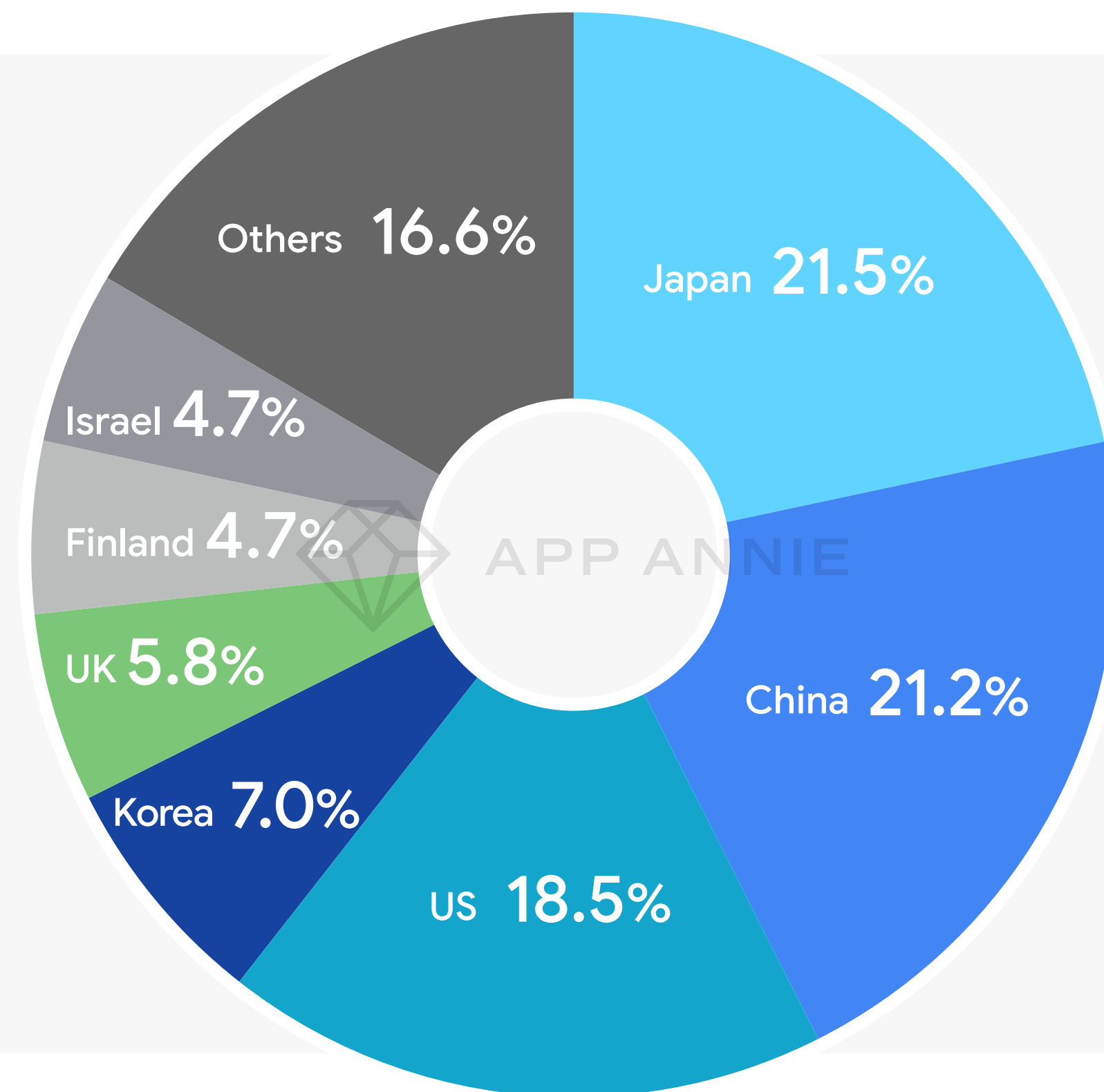
Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



With Strong Momentum in Overseas Markets, China HQ Publishers Are Tier 1 Publishers on Par With Japan, US, and Korea

Share of
HQ Consumer Spend
in Overseas Top 1000 Games
H1 2020

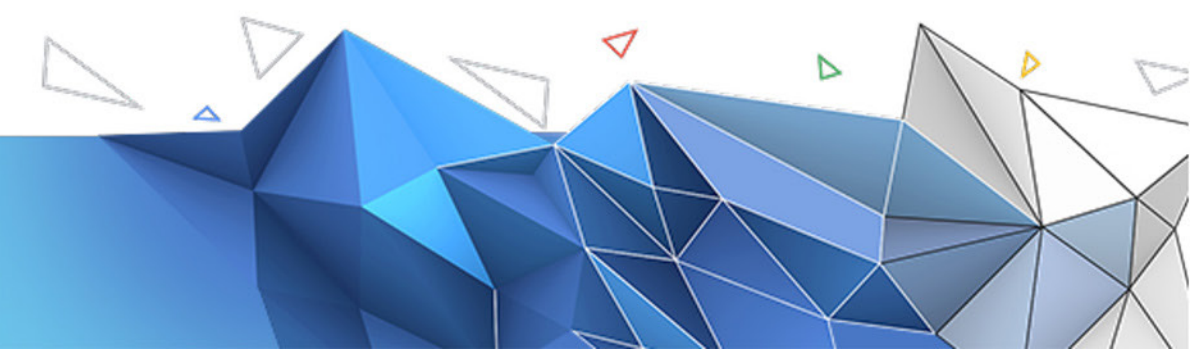


Market share YoY percentage
point (pp) vs H1 2019

China	+2.9pp
Israel	+0.9pp
US	+0.6pp
UK	-1.0pp
Korea	-1.1pp
Finland	-1.2pp
Japan	-4.3pp

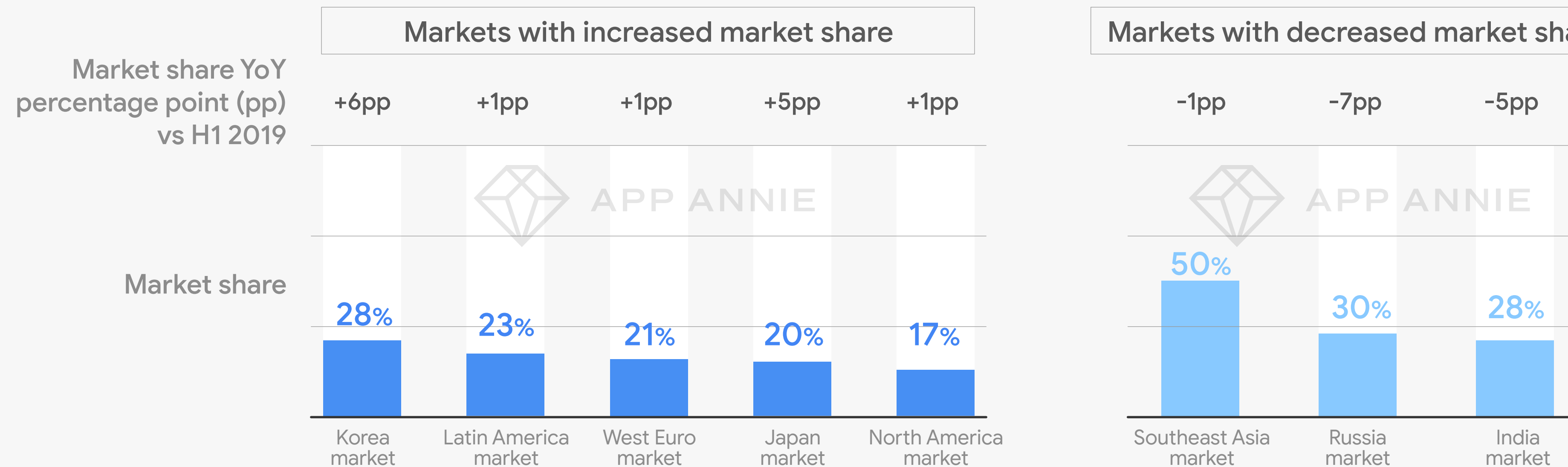
Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



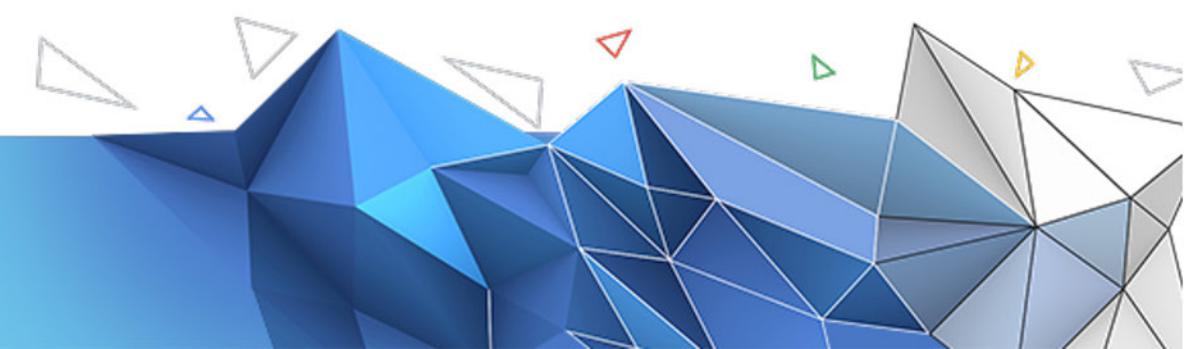
China HQ Publishers Gained Market Share in Korea and Japan, While Its Market Share Dropped in SEA, Russia and India

Share of Top 250 Games Consumer Spend in Key Markets [by Mainland China HQ](#) (H1 2020)



Data source: App Annie

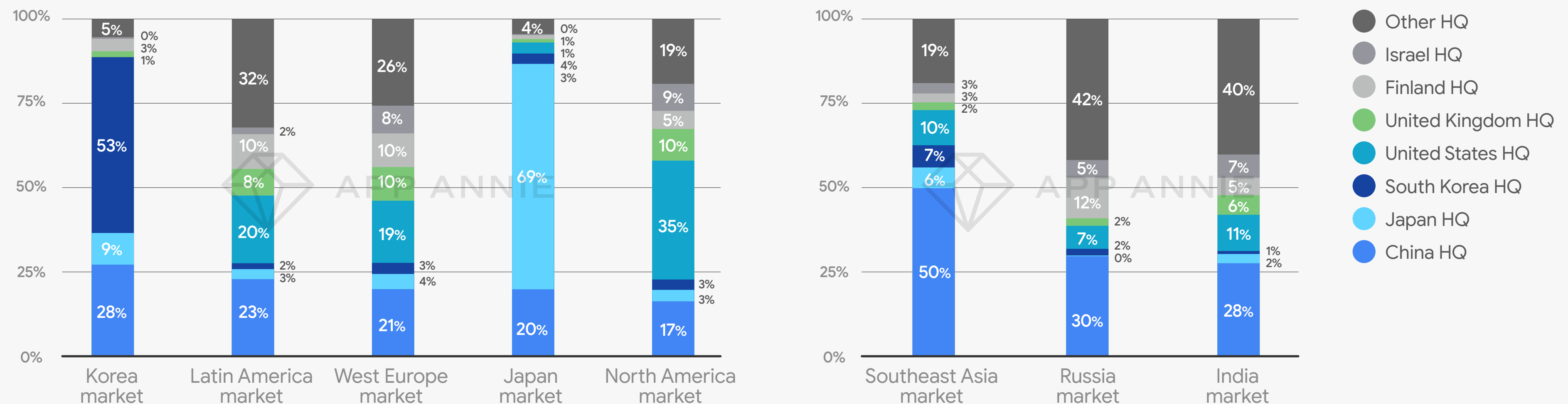
Note: Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.





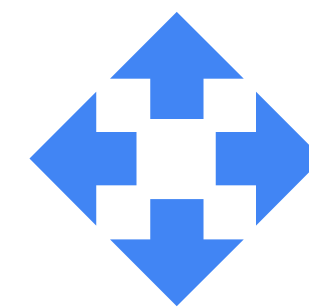
China HQ Publishers Should Keep An Eye on Dometic Publishers in Korea, Japan and US, and Pay Attention to US and Europe HQ Publishers in West Europe and LATAM Markets

Share of HQ Consumer Spend Among Top 250 Games in Key Markets, H1 2020



Data source: App Annie

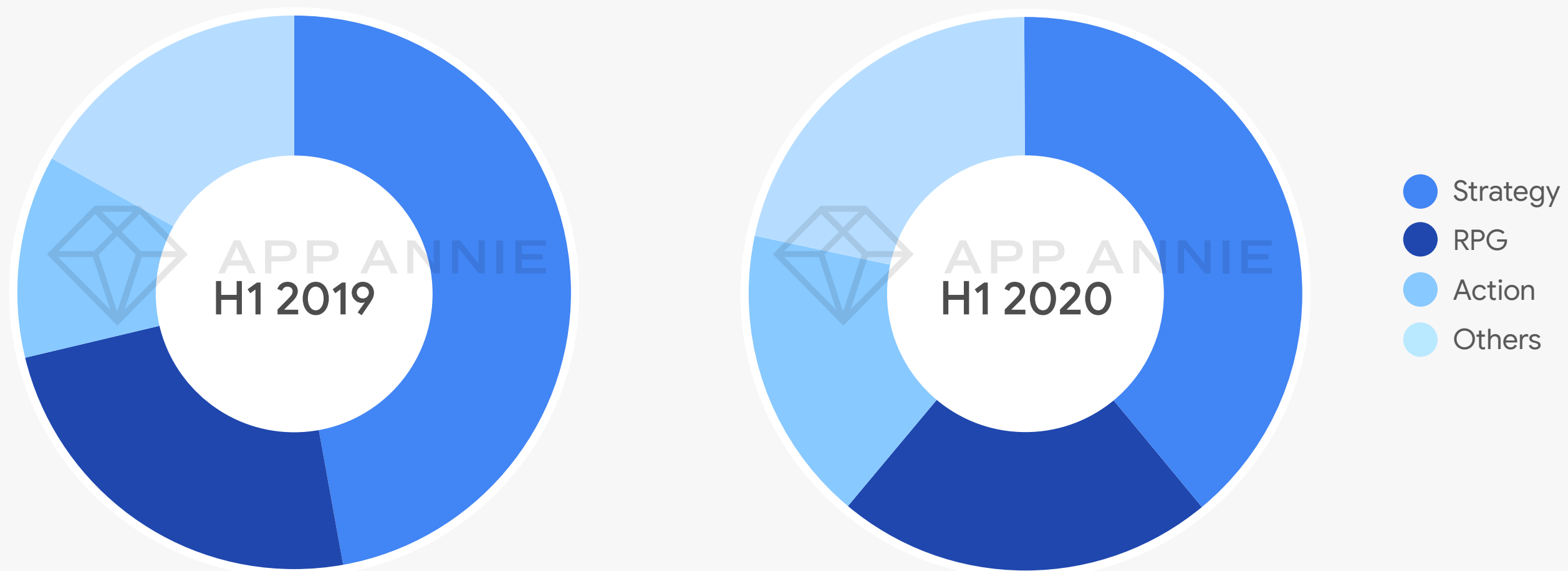
Note: Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



Genre Opportunities for China Games

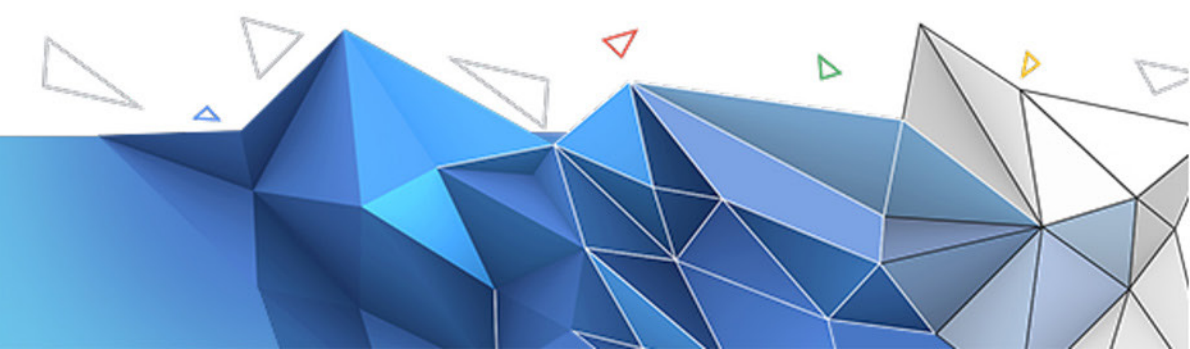
Top Genres of China HQ Games in Overseas Markets Remain the Same, Asking for Next Level Details in Game Innovation

Overseas Consumer Spend by Genre of CN Games in Overseas Top 1000 Games



Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.





Across Global Publishers, by downloads, Other Puzzle and Hyper Casual Showed Largest Growth Rate, Whereas Match + Build and Team Battle Grew Strongly by Consumer Spend

Top 10 Sub-Genres by Overseas Downloads,
Top 1000 Games, H1 2020

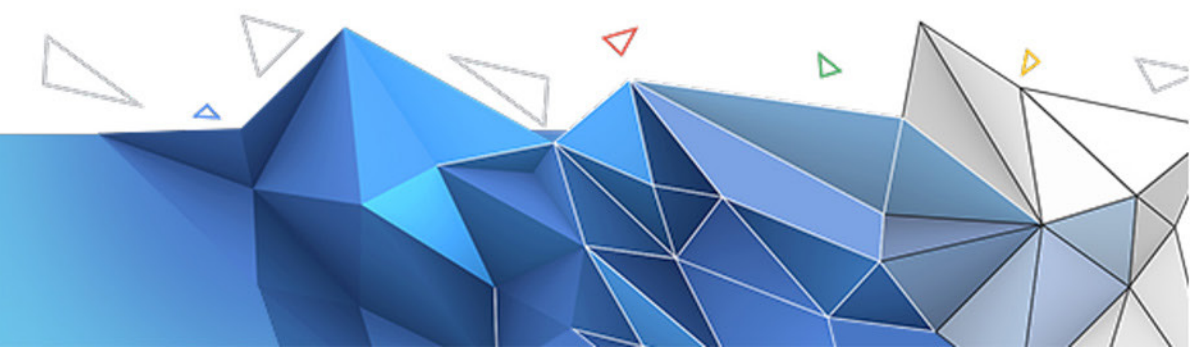
RANK	Sub-genres	Downloads YoY vs H1 2019
01	Hyper Casual	+78%
02	Other Puzzle	+92%
03	First Person Shooter	+45%
04	Runner (Arcade)	+23%
05	Other Simulation	+54%
06	Card / Board (Puzzle)	+65%
07	Sports Simulation	+9%
08	Tamagotchi (Simulation)	+52%
09	Rhythm & Music (Arcade)	+22%
10	Battle Royale (Action)	+3%

Top 10 Sub-Genres by Overseas Consumer Spend,
Top 1000 Games, H1 2020

RANK	Sub-genres	Consumer Spend YoY vs H1 2019
01	Turn Based (RPG)	+4%
02	City Battle (Strategy)	+21%
03	Action RPG	0%
04	Match 3 (Puzzle)	-3%
05	Slots (Casino)	+26%
06	Match + Build (Puzzle)	+46%
07	Battle Royale (Action)	+21%
08	Team Battle (RPG)	+31%
09	Puzzle Battle (RPG)	-21%
10	Sports Simulation	+22%

Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



China HQ Publishers Perform Strongly on Battle Royale, MOBA, and City Battle. They Are at Burgeoning Stage in Terms of Casual Games

Top 10 Sub-Genres by Overseas [Downloads](#),
Top 250 China HQ Games, H1 2020

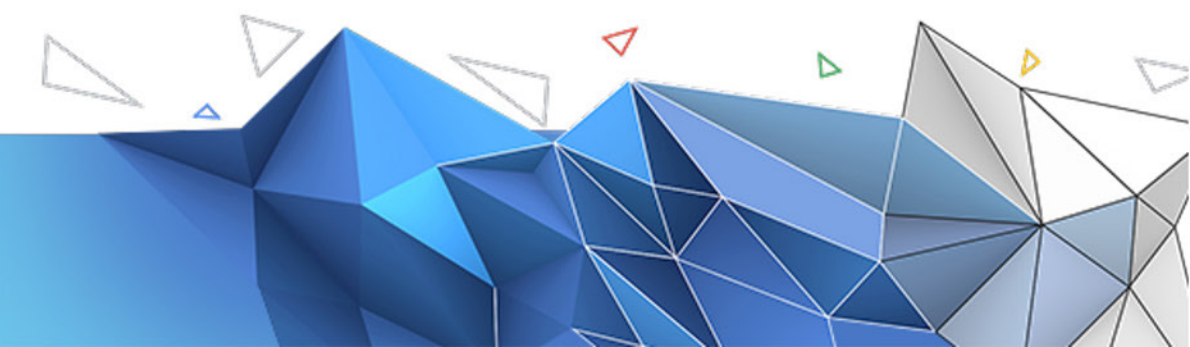
RANK	Sub-genres	Downloads YoY vs H1 2019
01	Other Puzzle	+111%
02	Battle Royale (Action)	+3%
03	City Battle (Strategy)	+10%
04	Hyper Casual	+227%
05	Other Kids	+74%
06	Sports Simulation	+79%
07	Card / Board (Puzzle)	+166%
08	MOBA / ARTS (Action)	+35%
09	Educational (KIds)	+36%
10	Match + Build (Puzzle)	-9%

Top 10 Sub-Genres by Overseas [Consumer Spend](#),
Top 250 China HQ Games, H1 2020

RANK	Sub-genres	Consumer Spend YoY vs H1 2019
01	City Battle (Strategy)	+35%
02	Battle Royale (Action)	+29%
03	Action RPG	+24%
04	Other RPG	+27%
05	Idle RPG	+84%
06	Slots (Casino)	+130%
07	Turn Based (RPG)	+4%
08	Tower Defense (Strategy)	+183%
09	Team Battle (RPG)	+5%
10	MOBA / ARTS (Action)	+43%

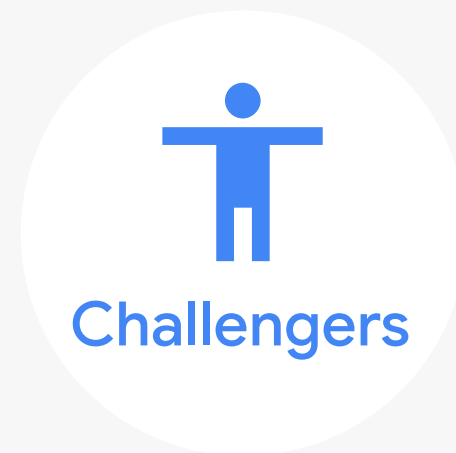
Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.





According to Chinese Publishers' Performances and Market Trends, Genre Opportunities Have Been Segmented into Three Stages



Challengers

The overseas market is large but China HQ publishers only have a small share, such as

- Match 3
- Hyper Casual
- First Person Shooter



Contenders

China HQ publishers are among the top yet have potential to grow, such as

- Turn Based RPG
- Match + Build
- Team Battle



Leaders

China HQ publishers perform strongly in overseas markets, such as

- Idle RPG
- Action RPG
- City Battle
- Tower Defense

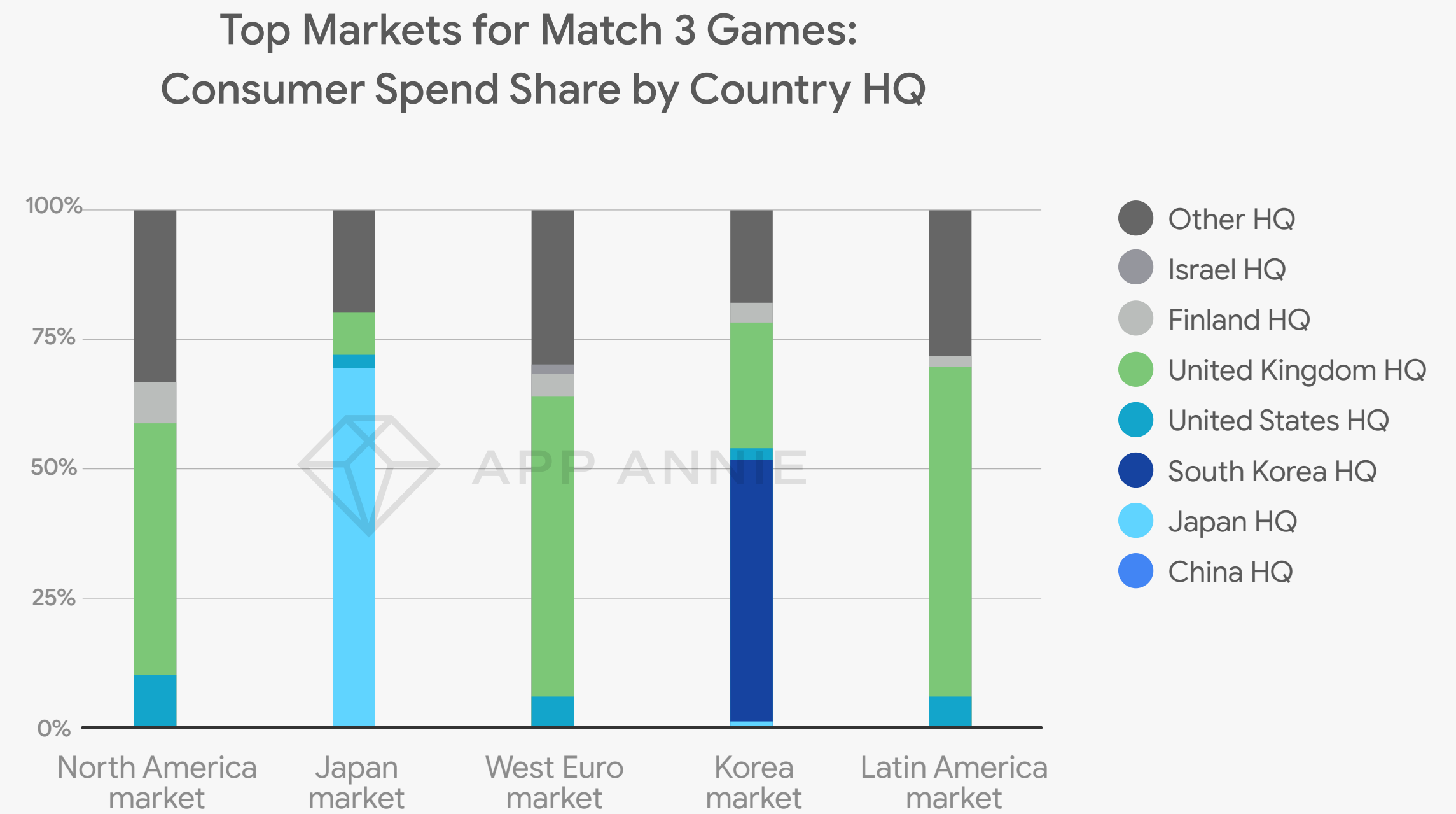
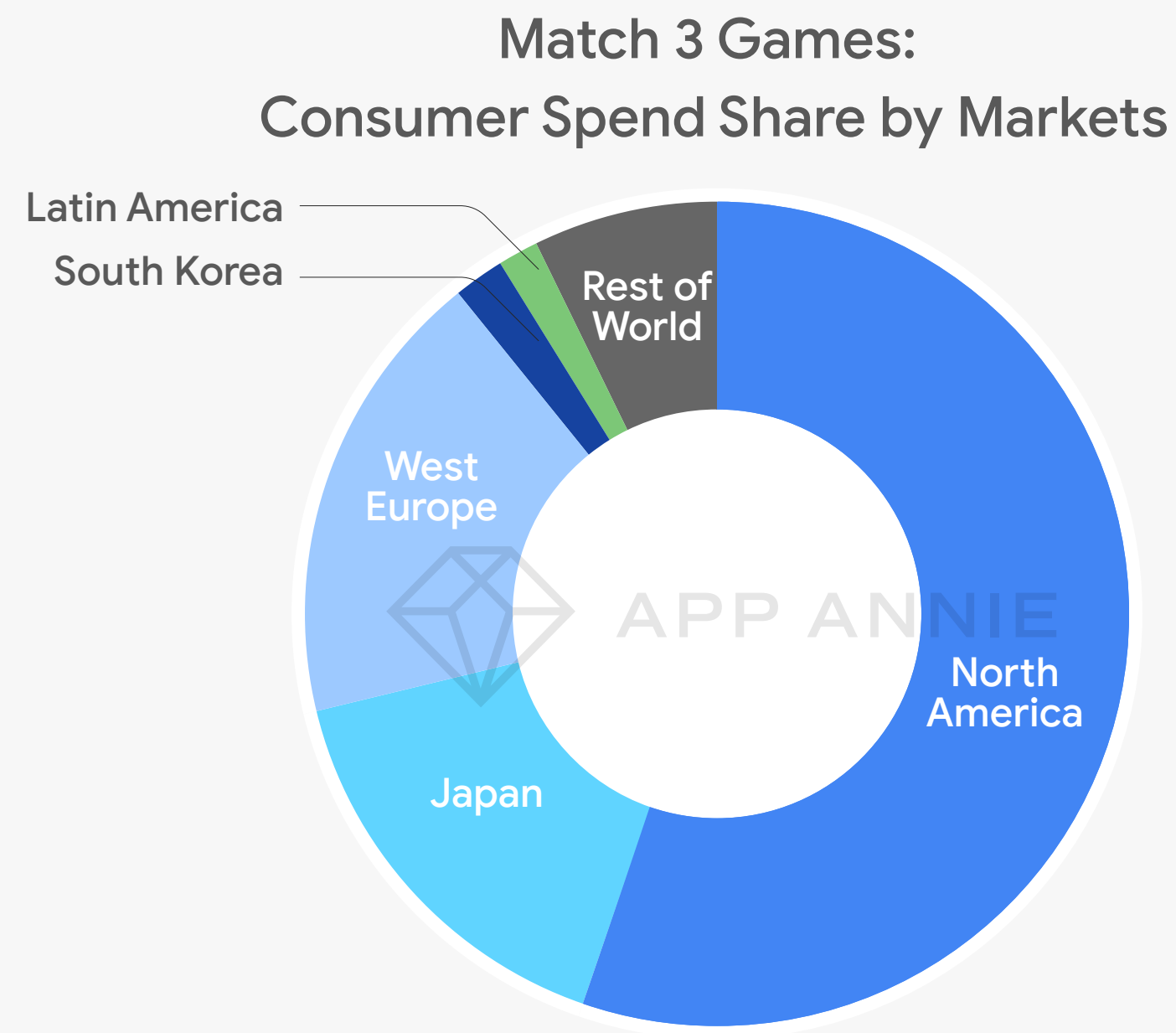
Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.





Match 3 | Top Overseas Markets for Match 3 are North America, Japan, and West Europe, Led by UK HQ Publishers



Data source: App Annie

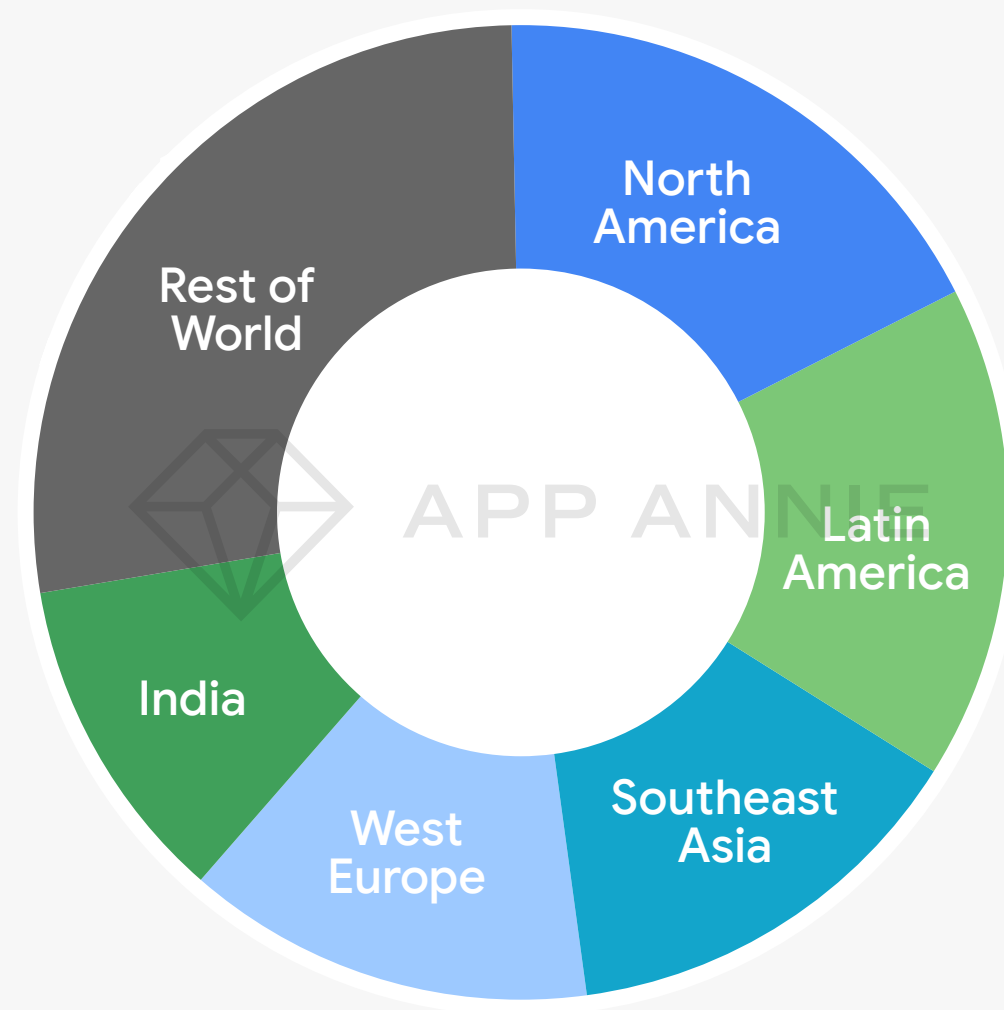
Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



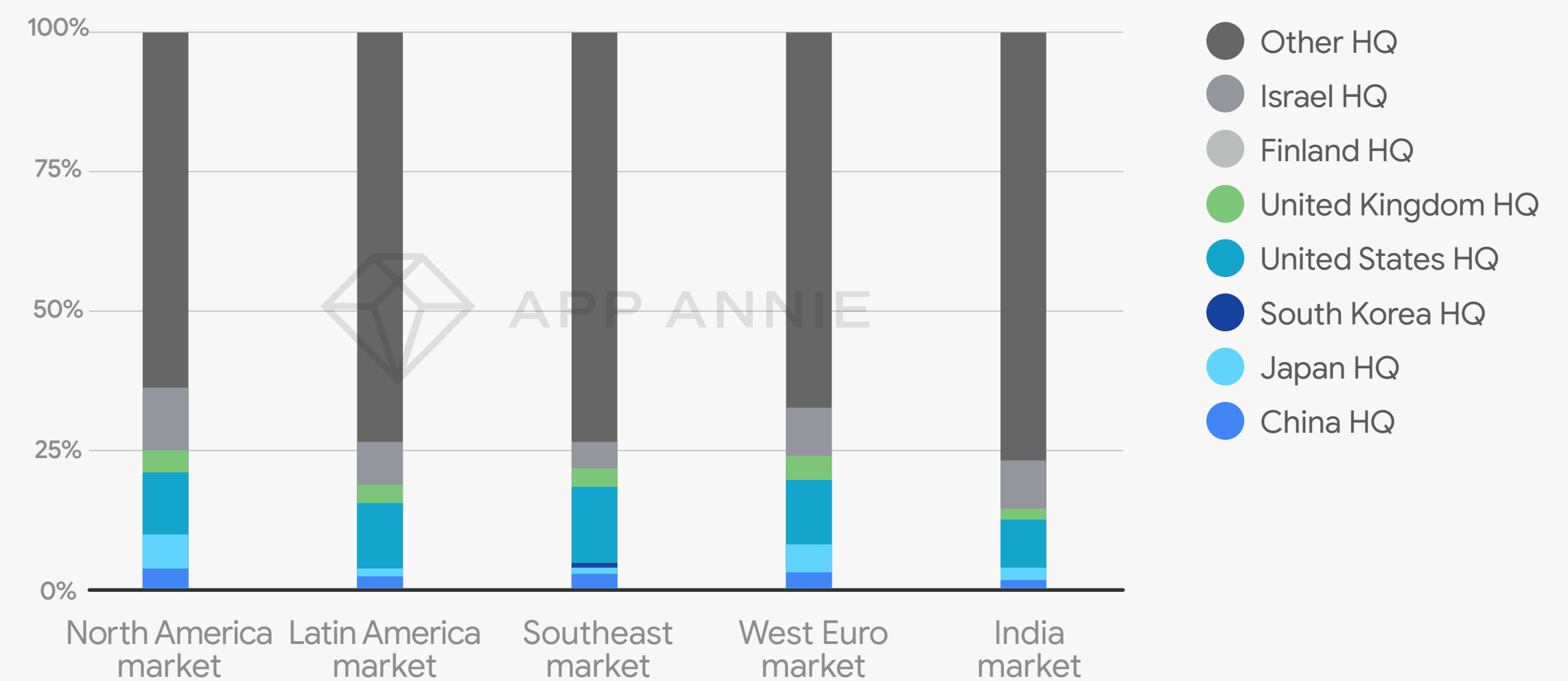


Hyper Casual | North America, Latin America, Southeast Asia, West Europe, and India Contribute Most Downloads. In Terms of Publishers, Europe HQ Publishers Have Advantages

Hyper Casual Games:
Downloads Share by Markets



Top Markets for Hyper Casual Games:
Downloads Share by Country HQ



Data source: App Annie

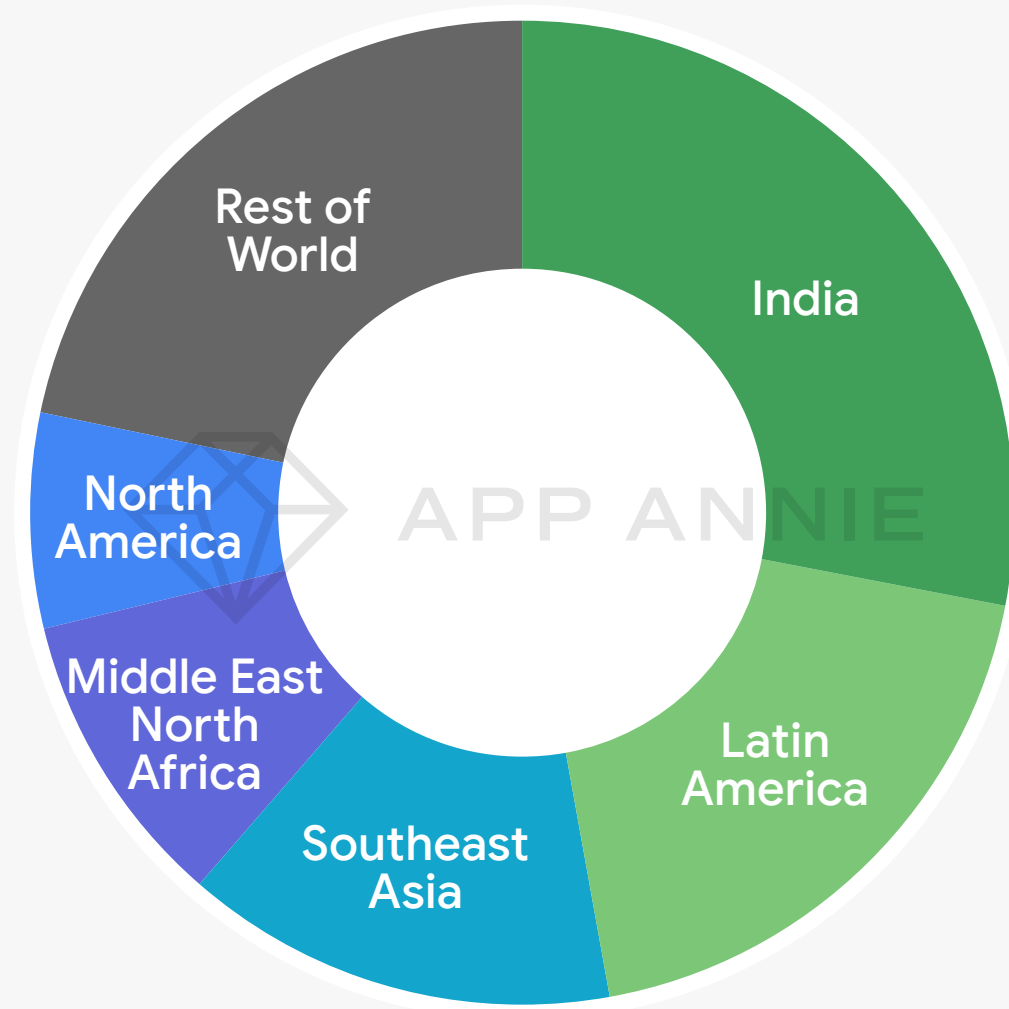
Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



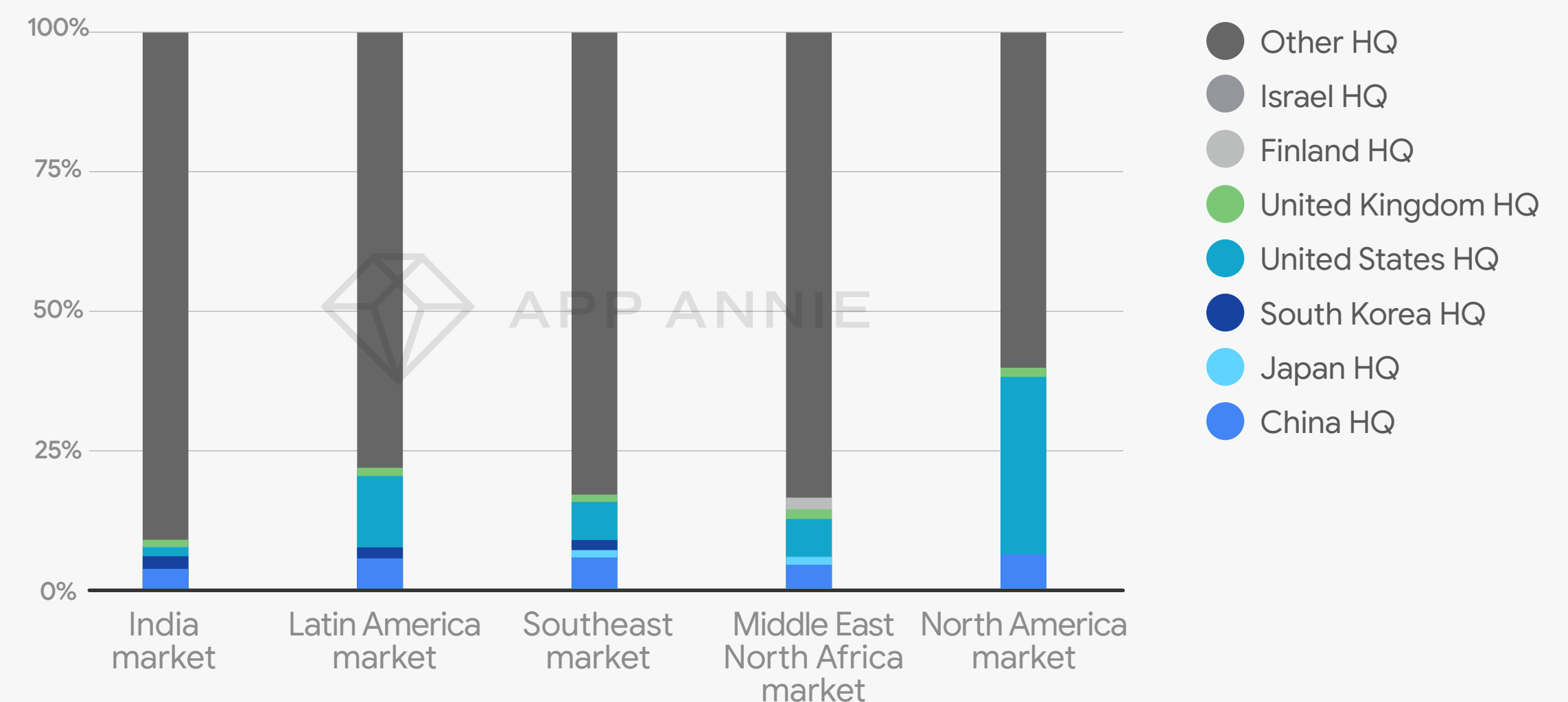
Challengers

First Person Shooter | India, Latin America and Southeast Asia Are Top Sources of Download, China HQ Publishers' Revenue Share Are Less Than 10% in These Markets

First Person Shooter Games:
Downloads Share by Markets



Top Markets for First Person Shooter Games:
Downloads Share by Country HQ



Data source: App Annie

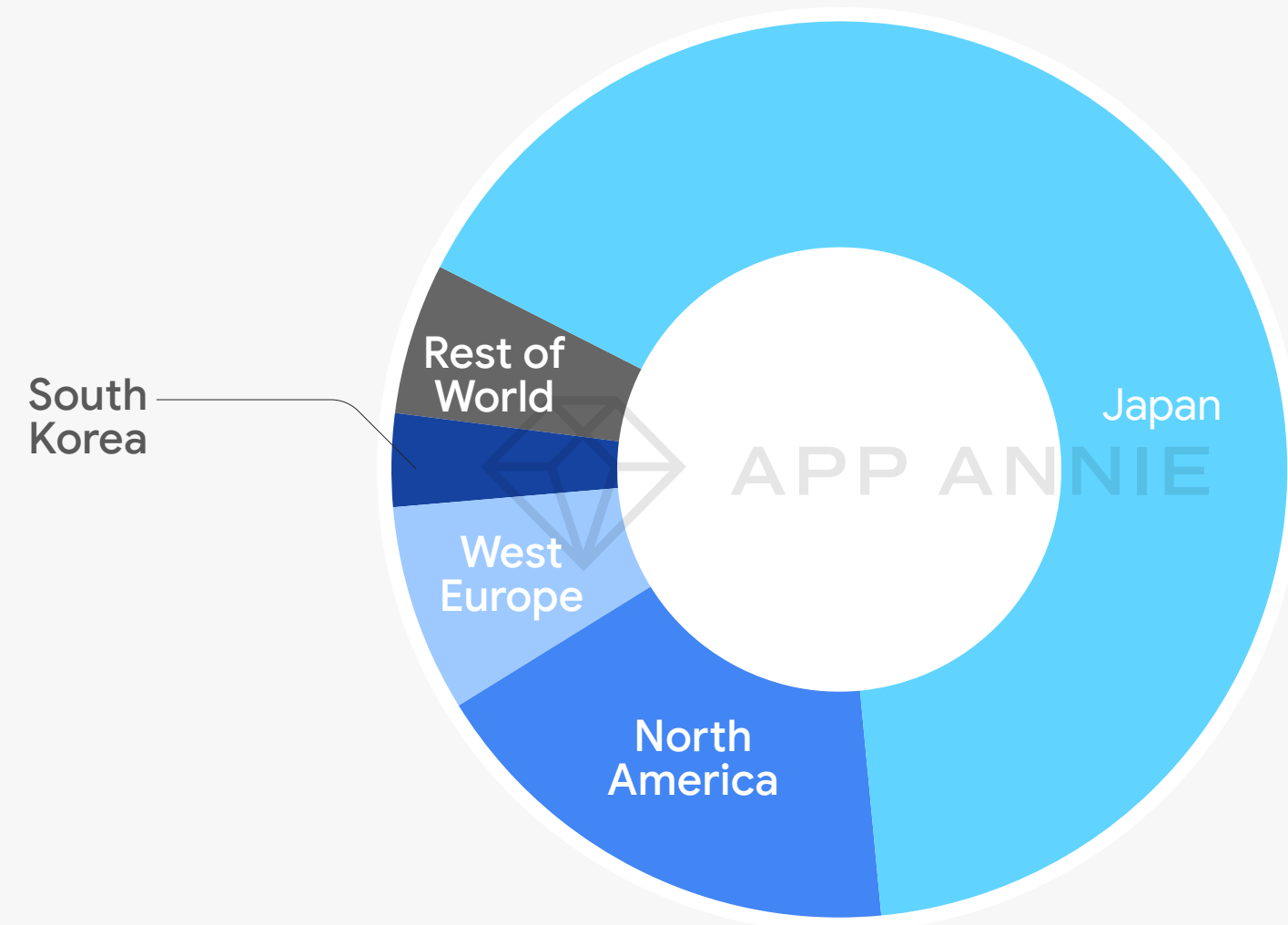
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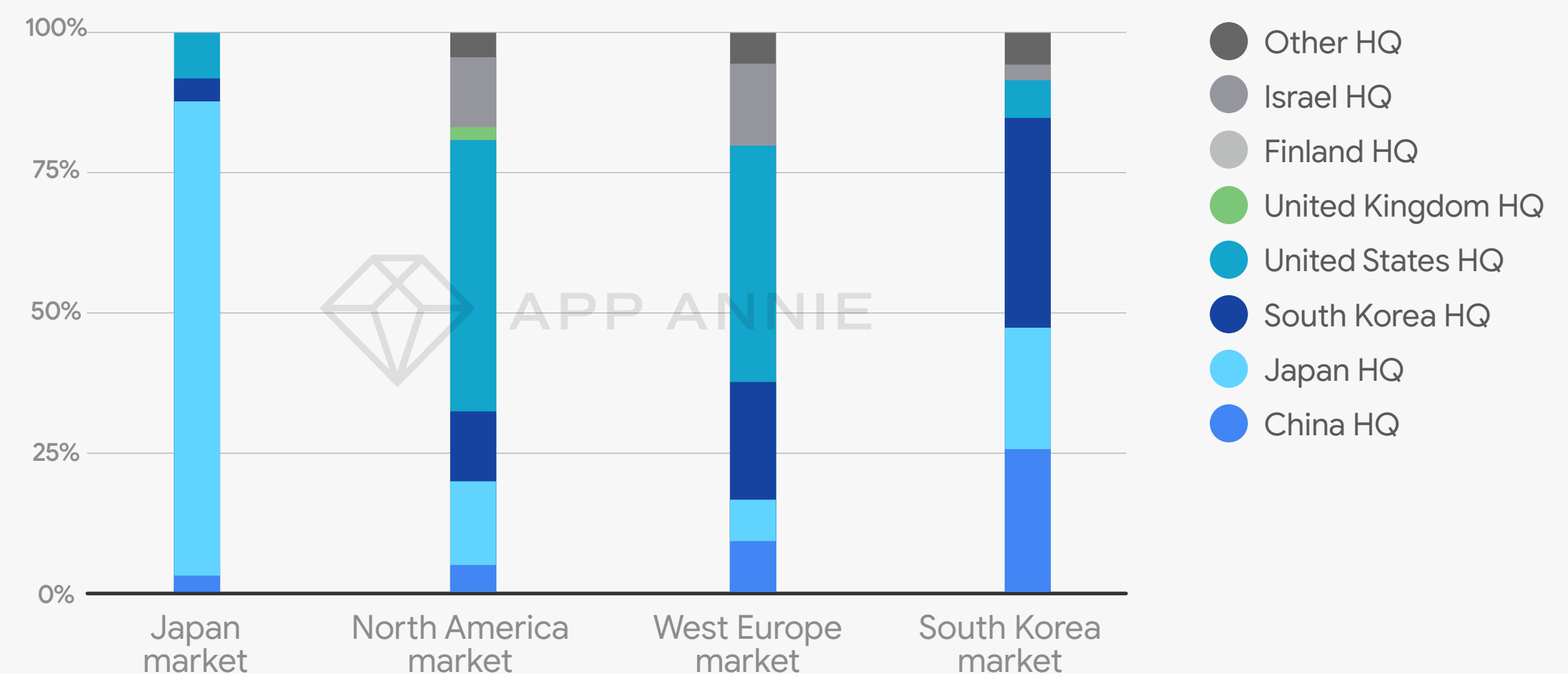
Contenders

Turn Based RPG | Japan, the Biggest Turn Based RPG Market, Is Led by Domestic Publishers, Followed by North America and West Europe Markets

Turn Based RPG Games:
Consumer Spend Share by Markets



Top Markets for Turn Based RPG Games:
Consumer Spend Share by Country HQ



Data source: App Annie

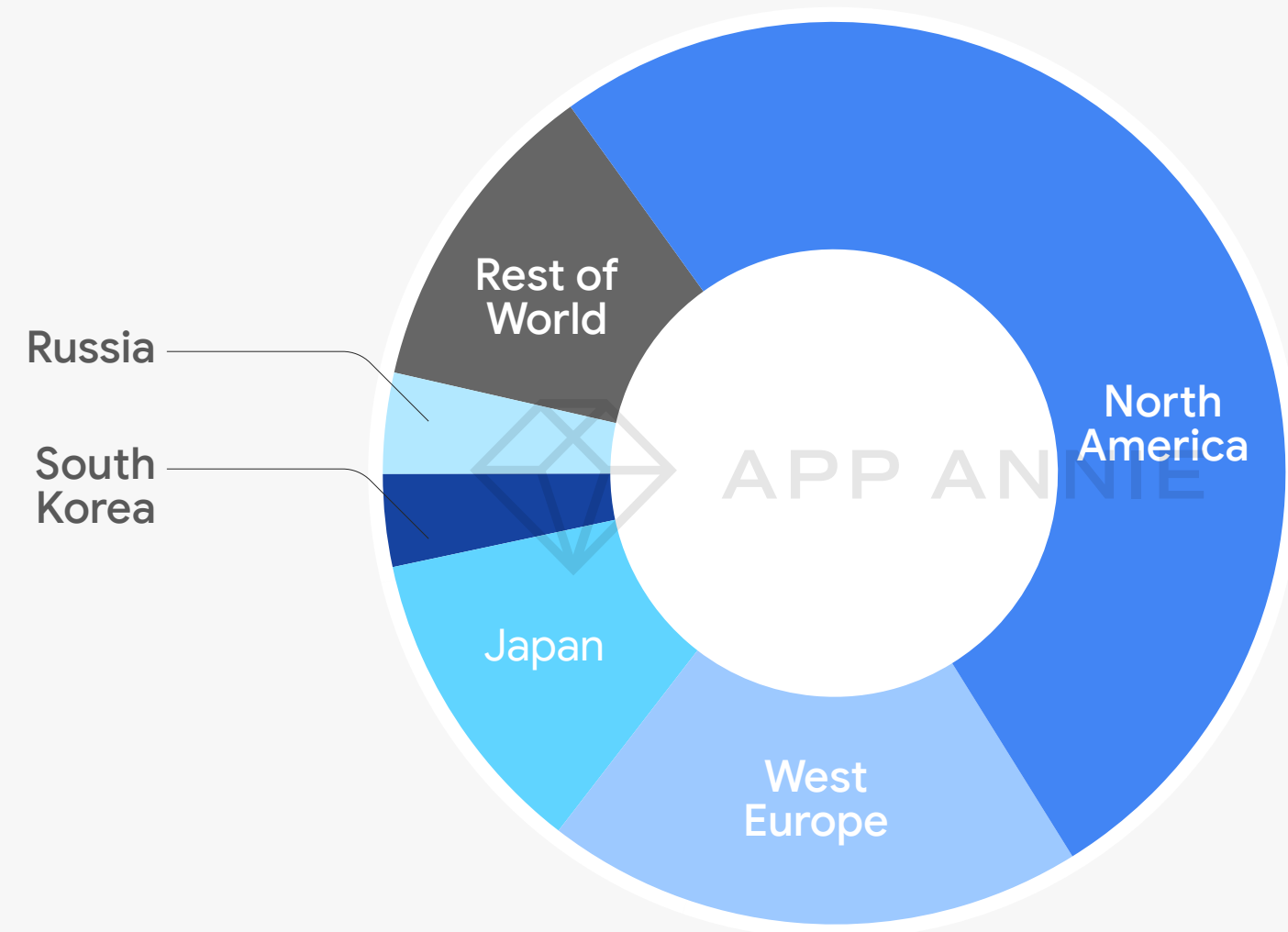
Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



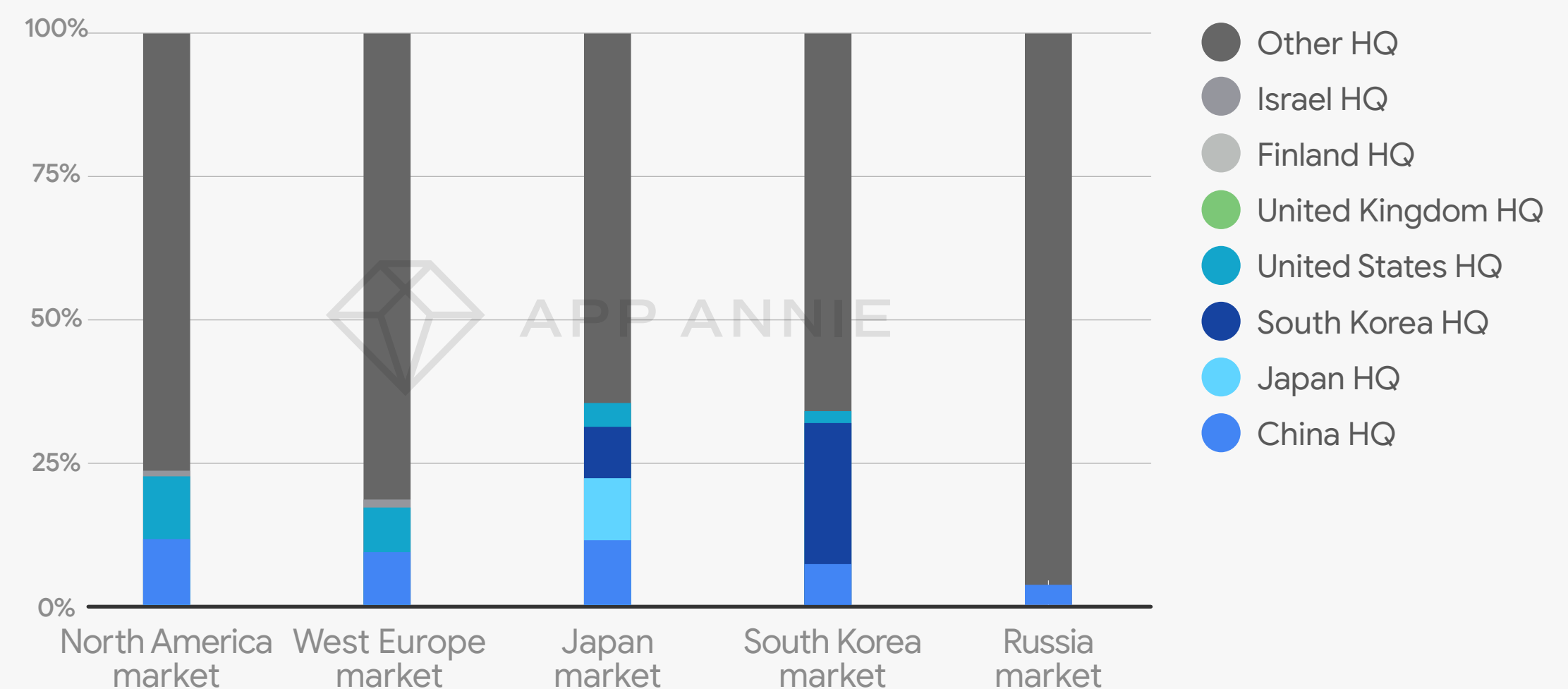
Contenders

Match + Build | Led by Ireland HQ Publishers, Top Markets for Match + Build Are in North America, Where China HQ and US HQ Publishers Are Evenly Matched. Opportunities Can Be Explored in Other Markets Such as South Korea

Match + Build Games:
Consumer Spend Share by Markets



Top Markets for Match + Build Games:
Consumer Spend Share by Country HQ



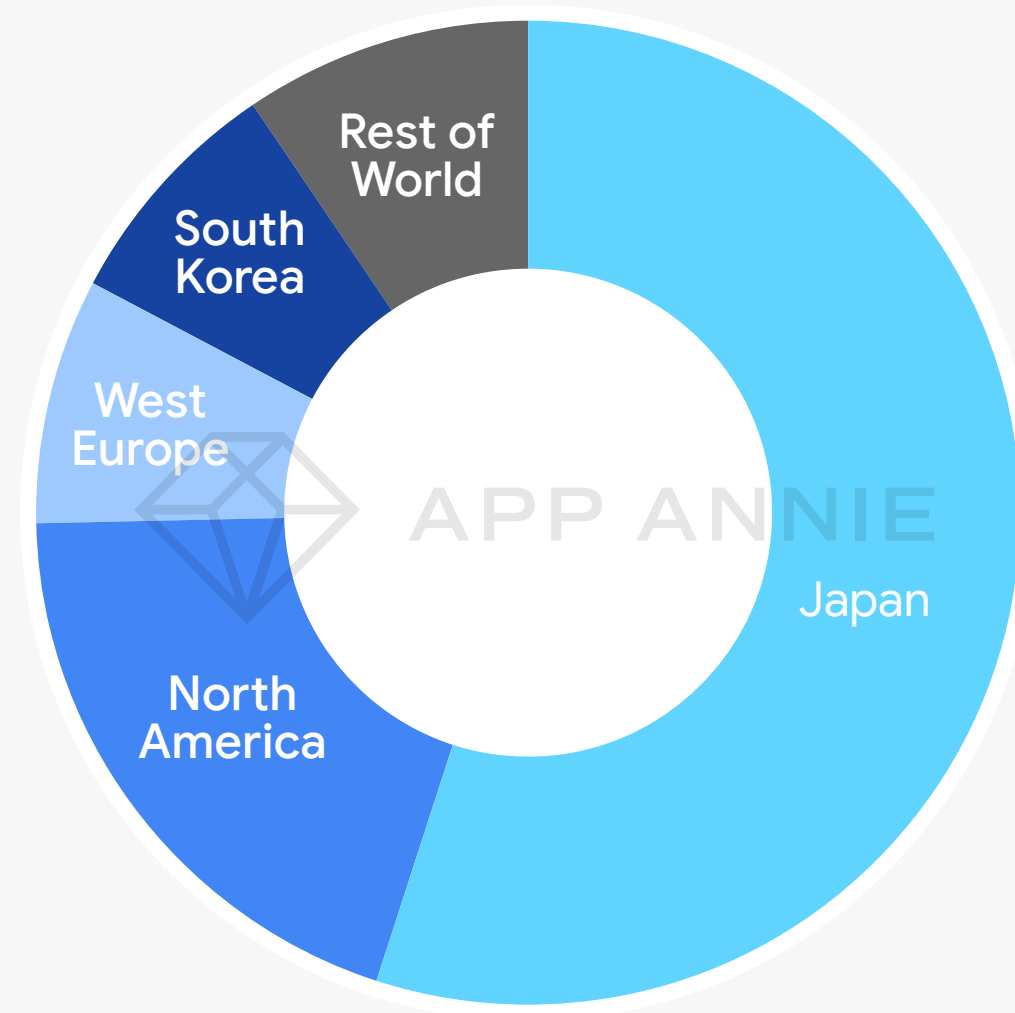
Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.

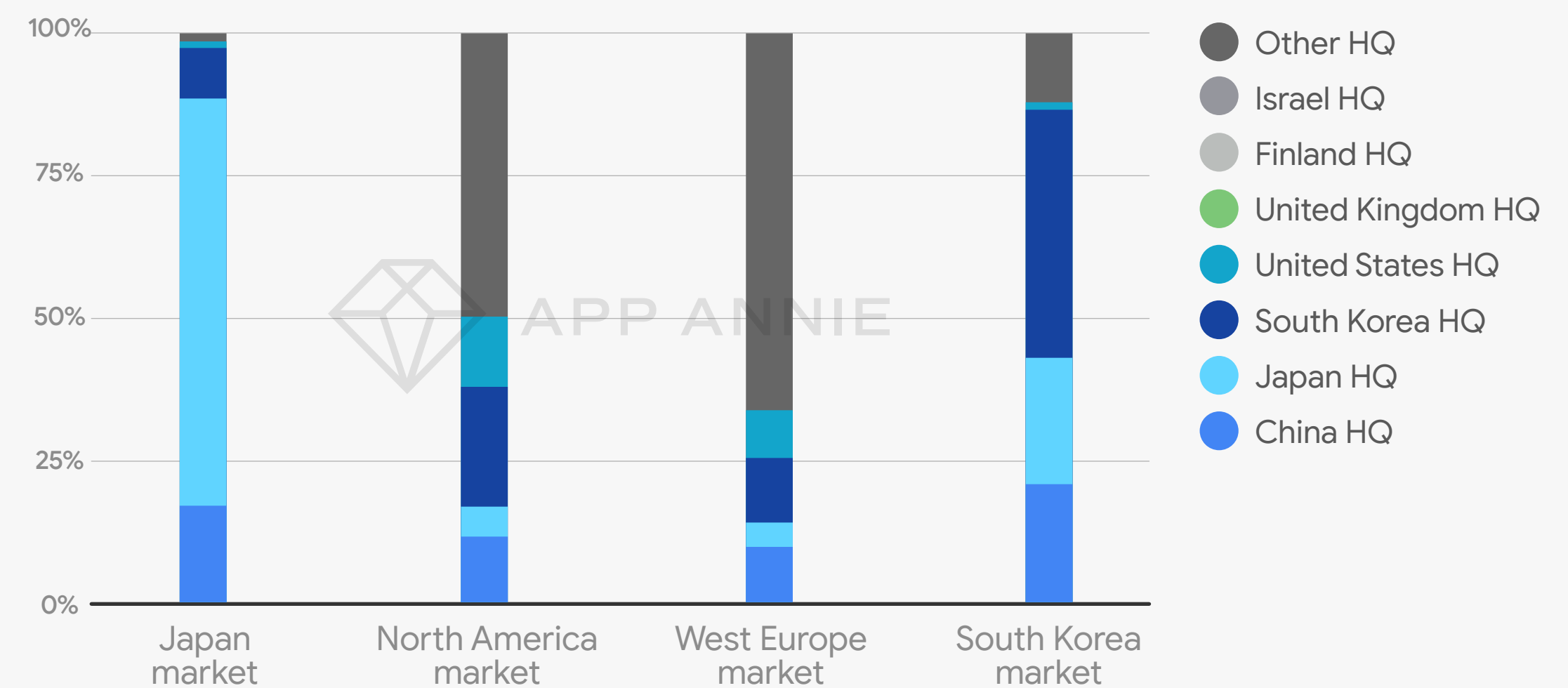


Team Battle RPG | Japan HQ and South Korea HQ Publishers Lead Their Domestic Market in Team Battle

Team Battle RPG Games:
Consumer Spend Share by Markets

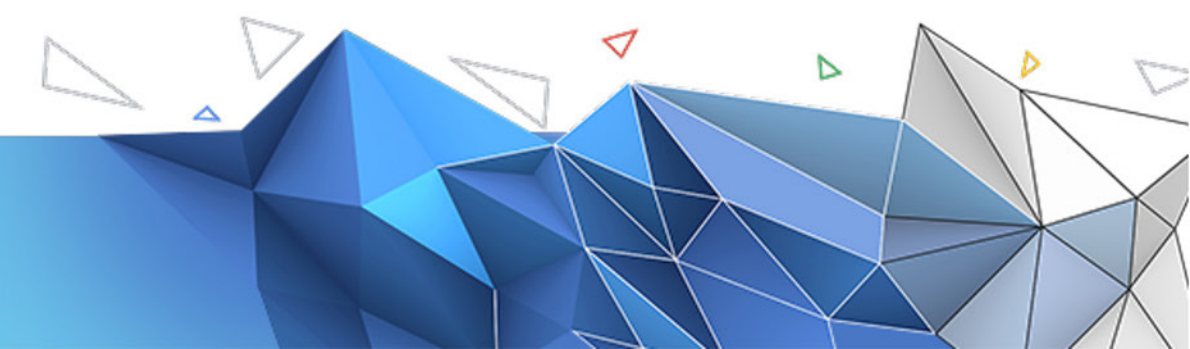


Top Markets for Team Battle RPG Games:
Consumer Spend Share by Country HQ



Data source: App Annie

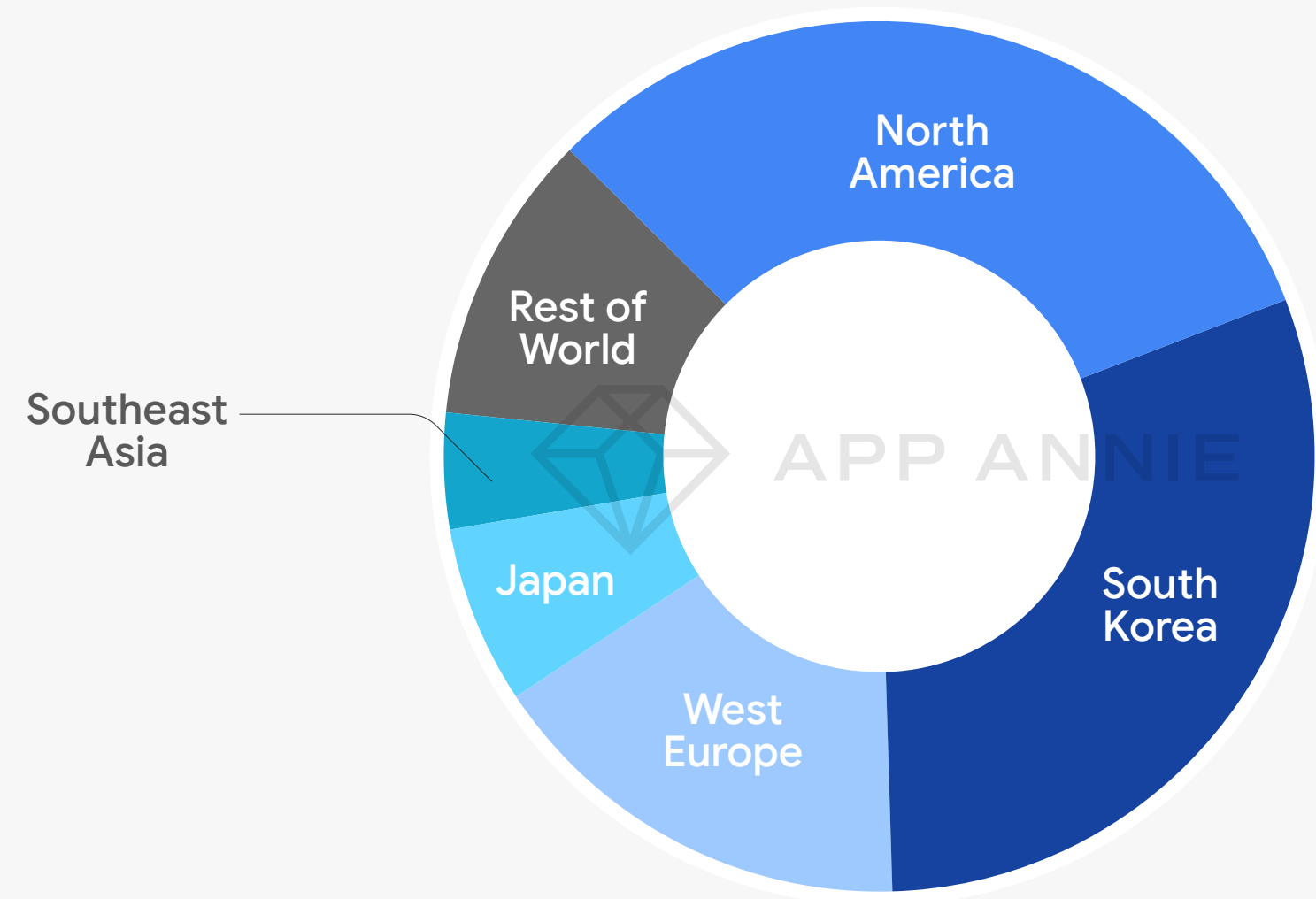
Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



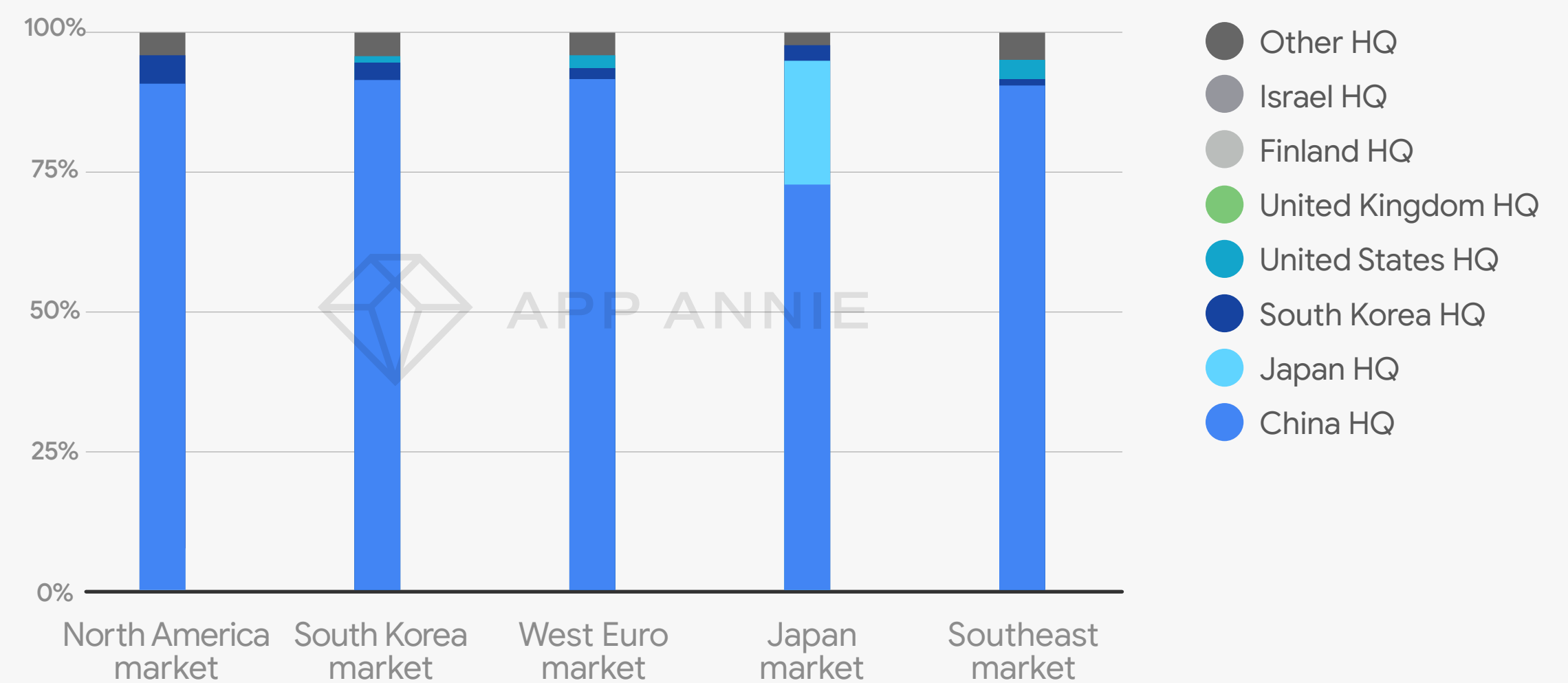


Idle RPG | China HQ Publishers Lead the Top 5 Market in Idle RPG, Need to Have A Closer Look on Domestic Publishers in Japan

Idle RPG Games:
Consumer Spend Share by Markets

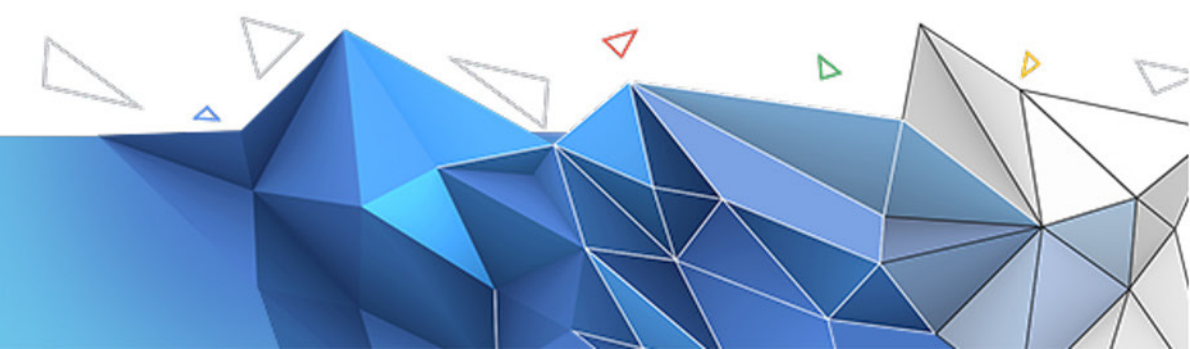


Top Markets for Idle RPG Games:
Consumer Spend Share by Country HQ



Data source: App Annie

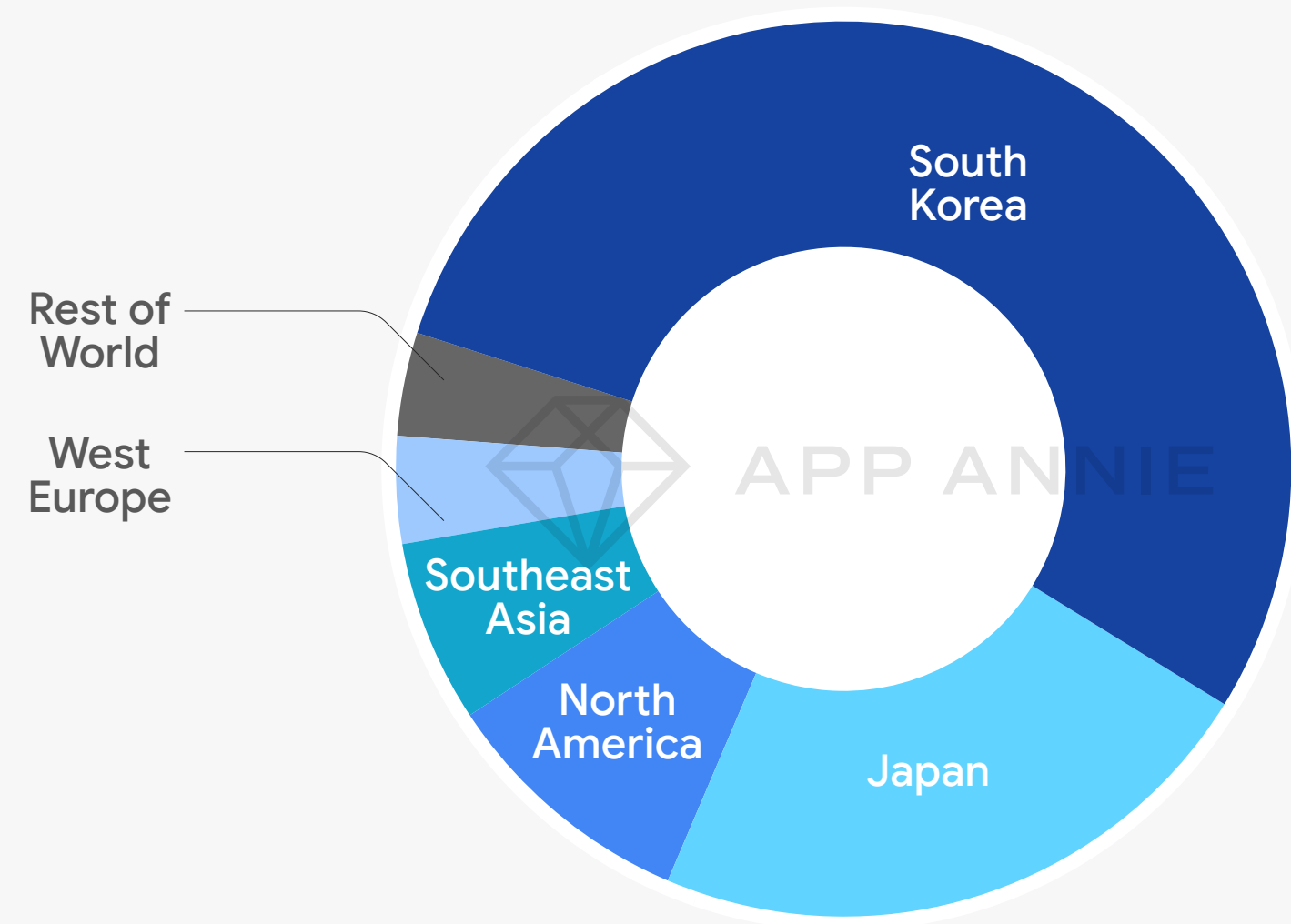
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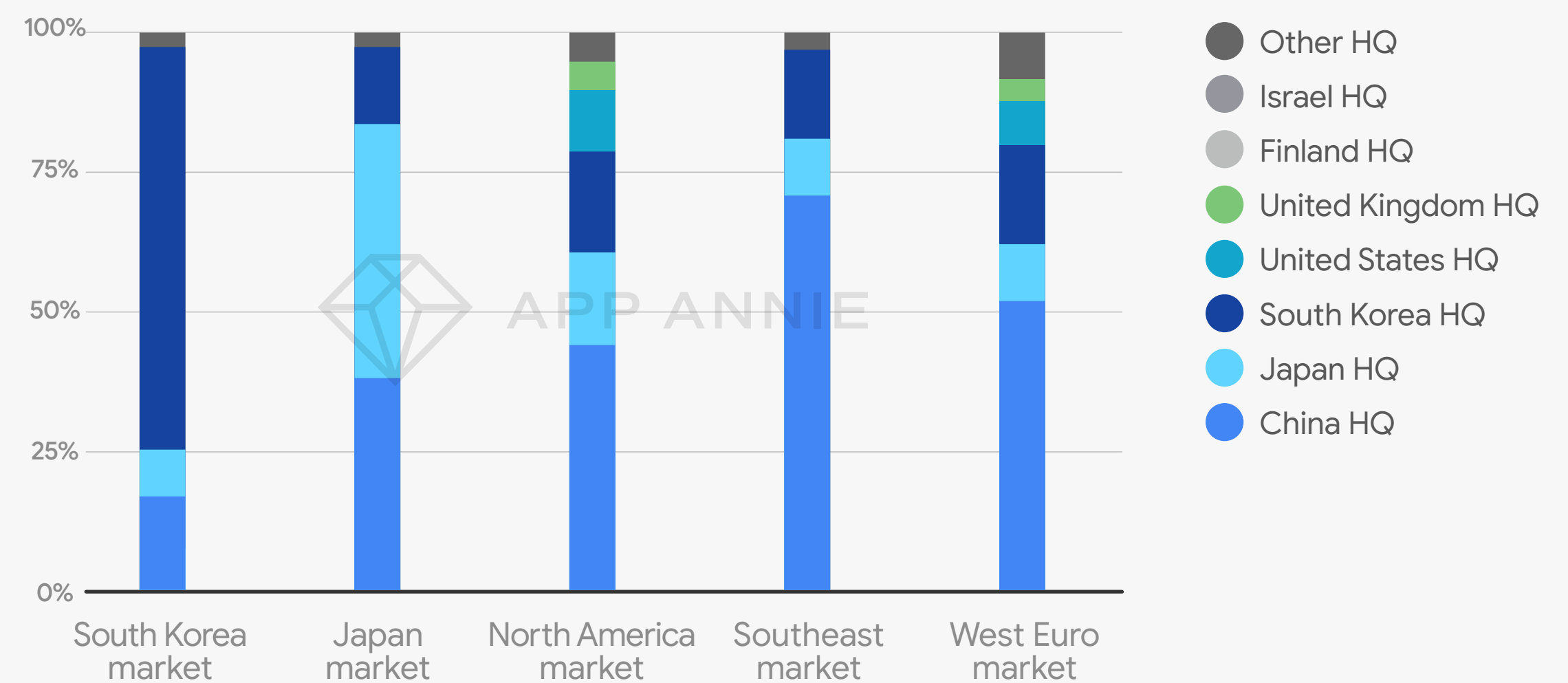


Action RPG | Action RPG Is Popular Among South Korea, Japan, North America and Southeast Asia. The Biggest Market South Korea Is Led by Domestic Publishers

Action RPG Games:
Consumer Spend Share by Markets



Top Markets for Action RPG Games:
Consumer Spend Share by Country HQ



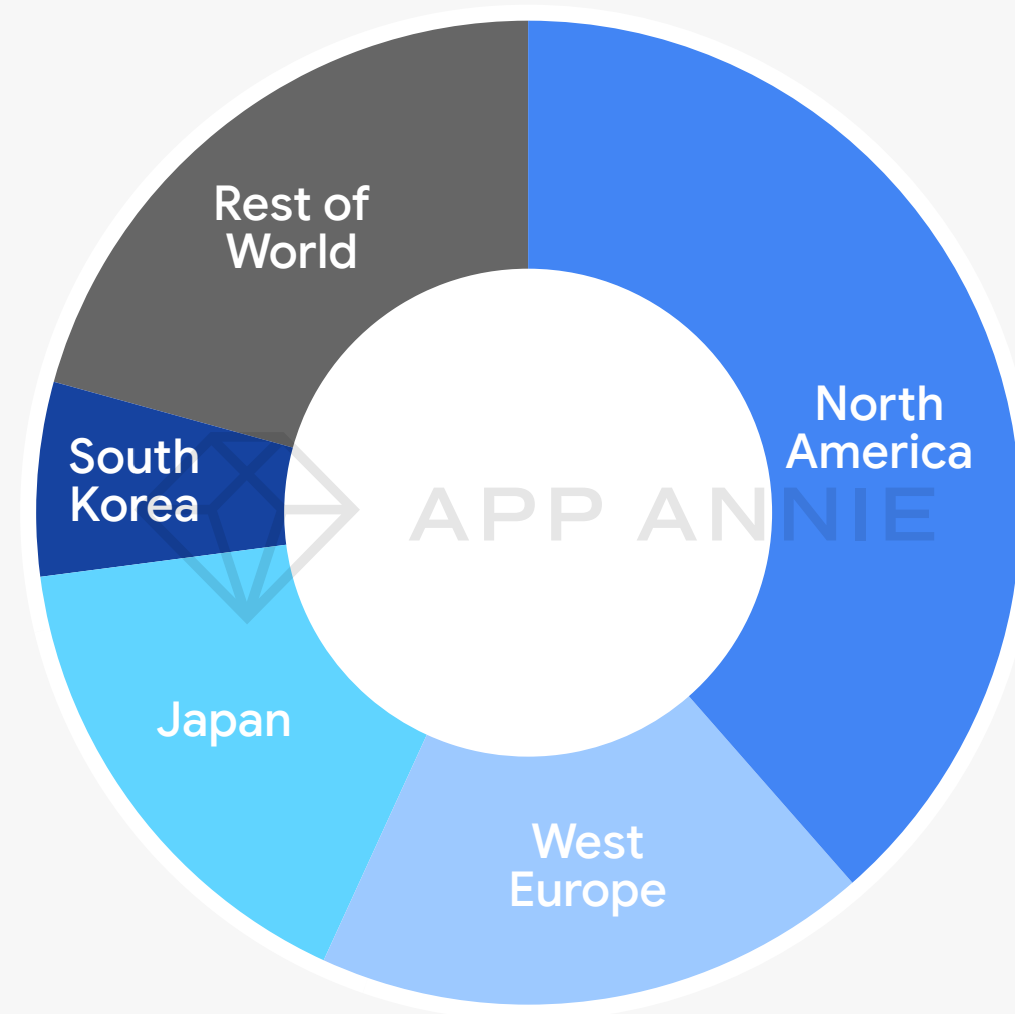
Data source: App Annie

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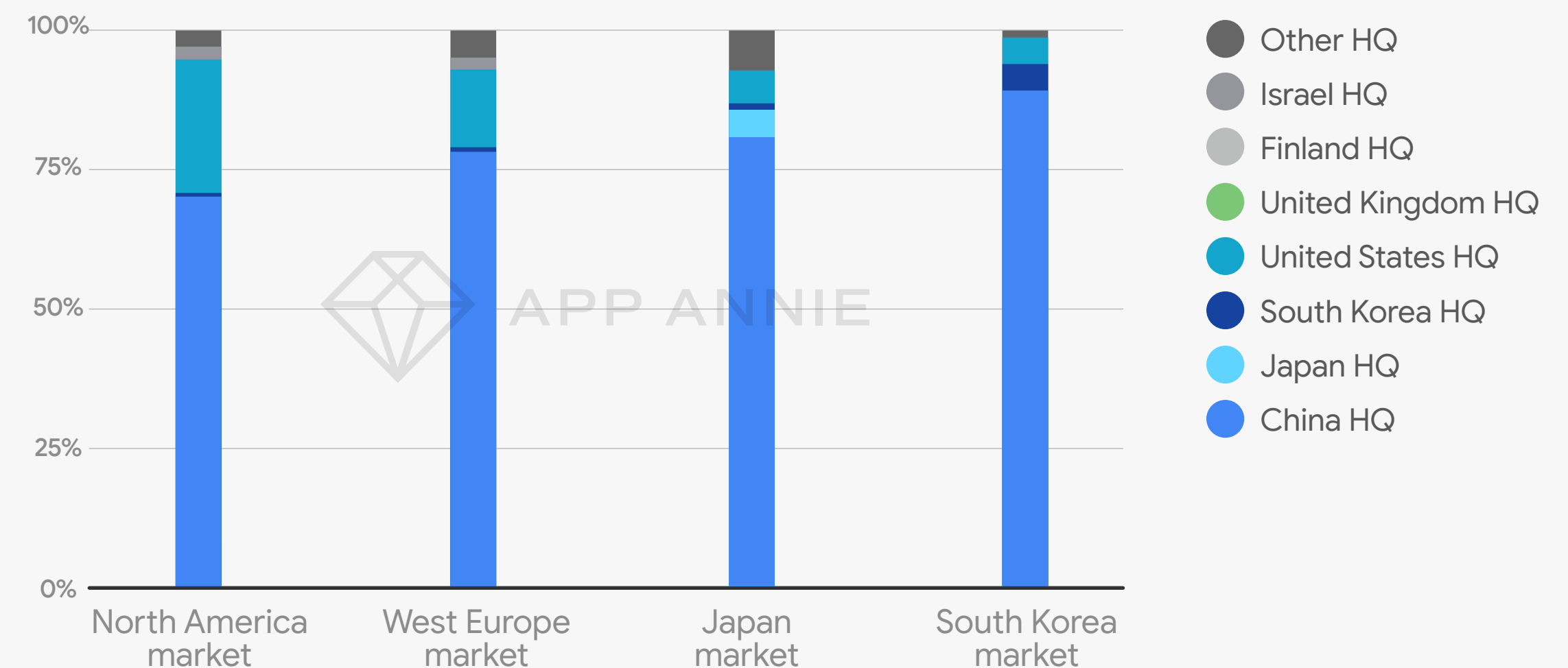


City Battle | China HQ Publishers Lead in Top 4 Markets: North America, West Europe, Japan and South Korea. US HQ Publishers Have A Presence in Its Domestic Market

City Battle Games:
Consumer Spend Share by Markets

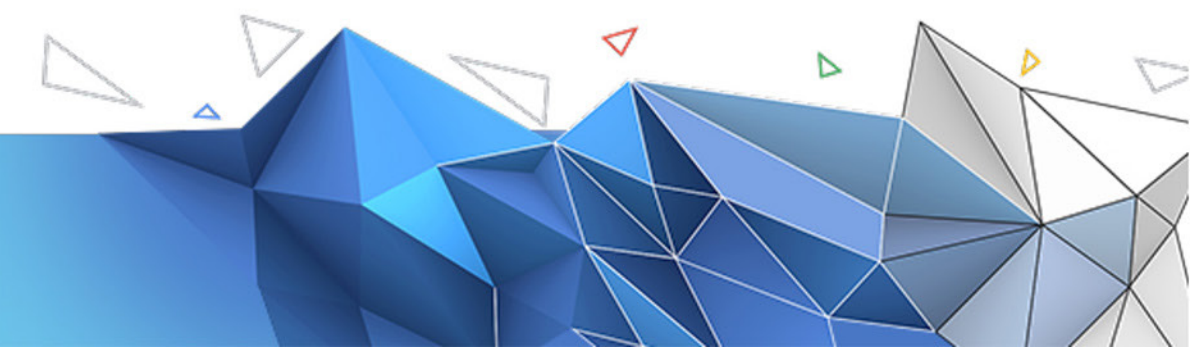


Top Markets for City Battle Games:
Consumer Spend Share by Country HQ



Data source: App Annie

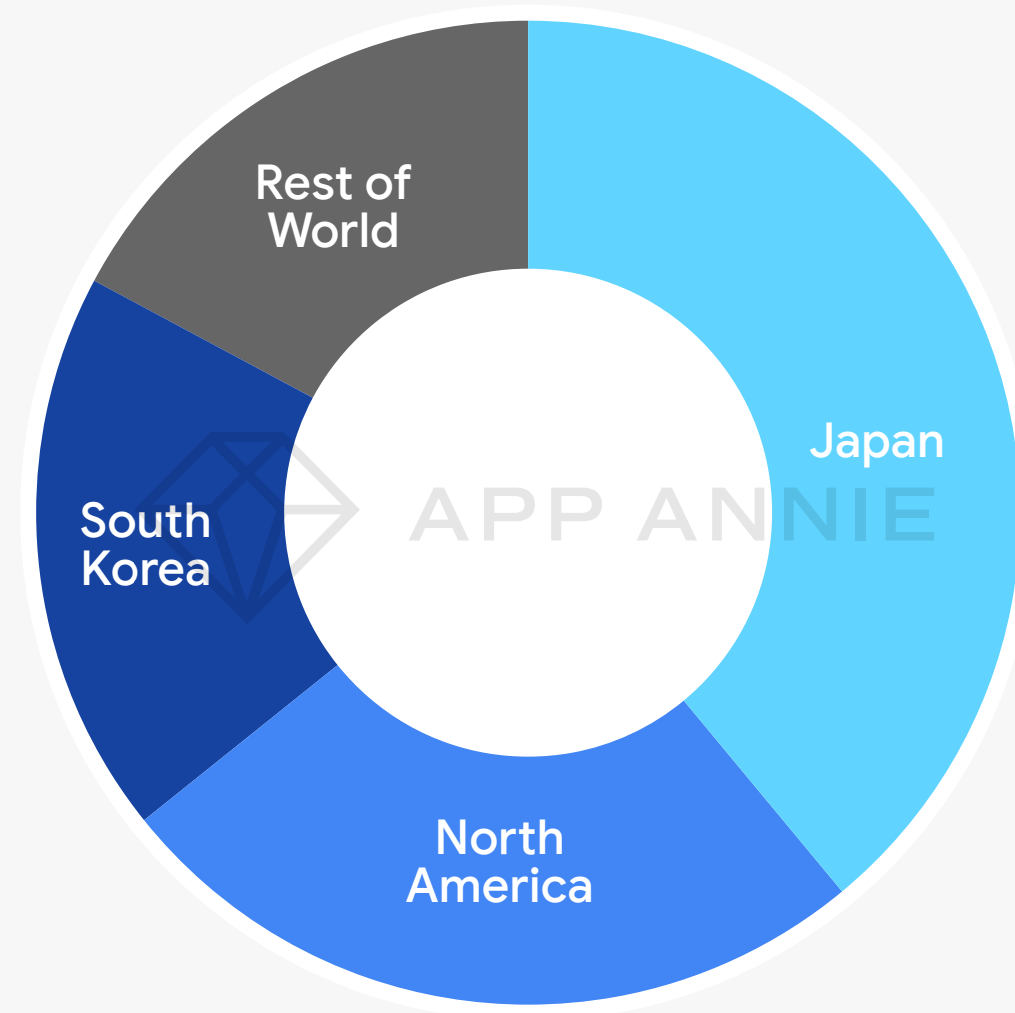
Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



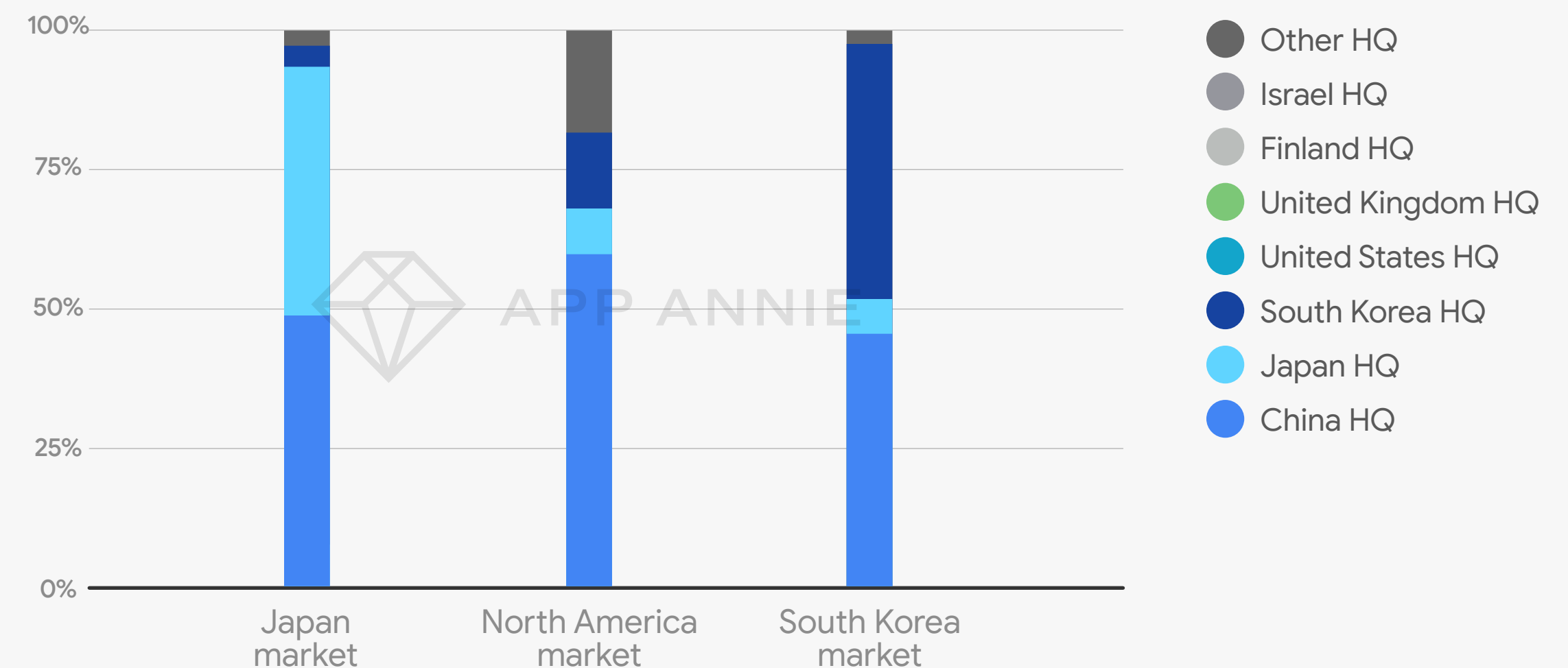


Tower Defense | China Publishers Enjoy Majority Market Share in Tower Defense. Japan and South Korea Are Both Strong in Their Domestic Market

Tower Defense Games:
Consumer Spend Share by Markets

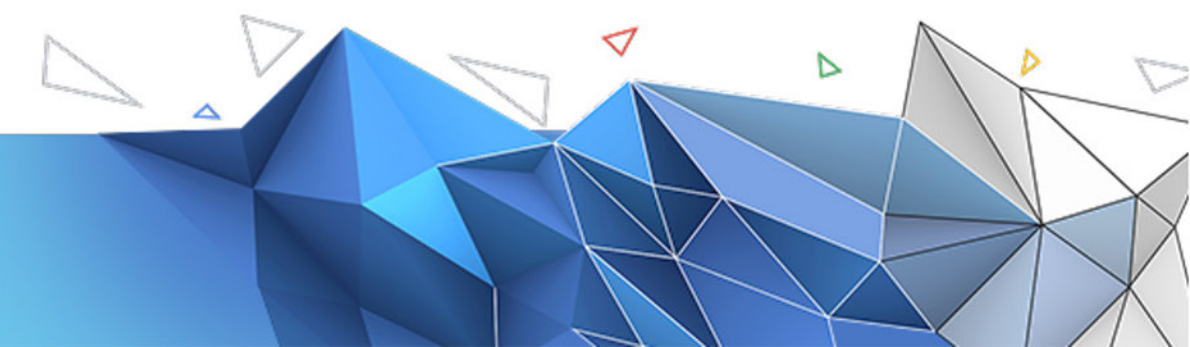


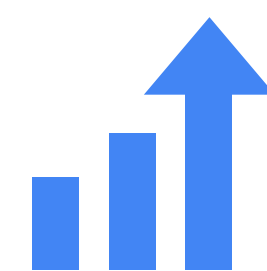
Top Markets for Tower Defense Games:
Consumer Spend Share by Country HQ



Data source: App Annie

Note: Worldwide Excluding China, Hong Kong, Taiwan and Macau. Combined iOS and Google Play. Spend is gross, the cut taken by app stores has not been removed.



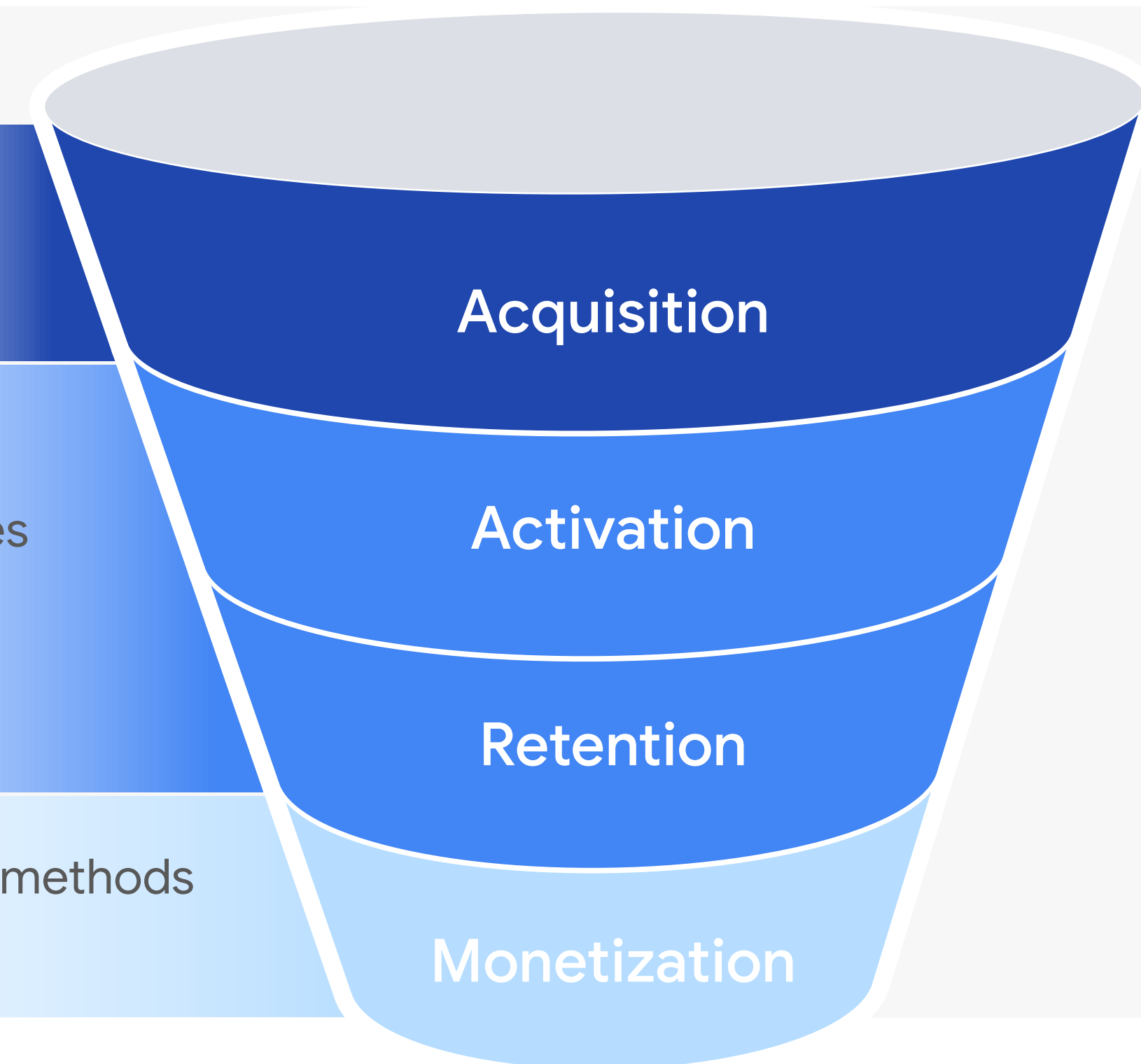


Global Mobile Games Marketing Trends

Focus On Deeper Stages Of The Conversion Funnel To Optimize Mobile Marketing

Questions From Gaming Marketers

- ? How to ensure efficiency of high quality user acquisition
- ? How to improve retention performances and lock in high-value users
- ? How to balance different monetization methods and effectively increase revenue?



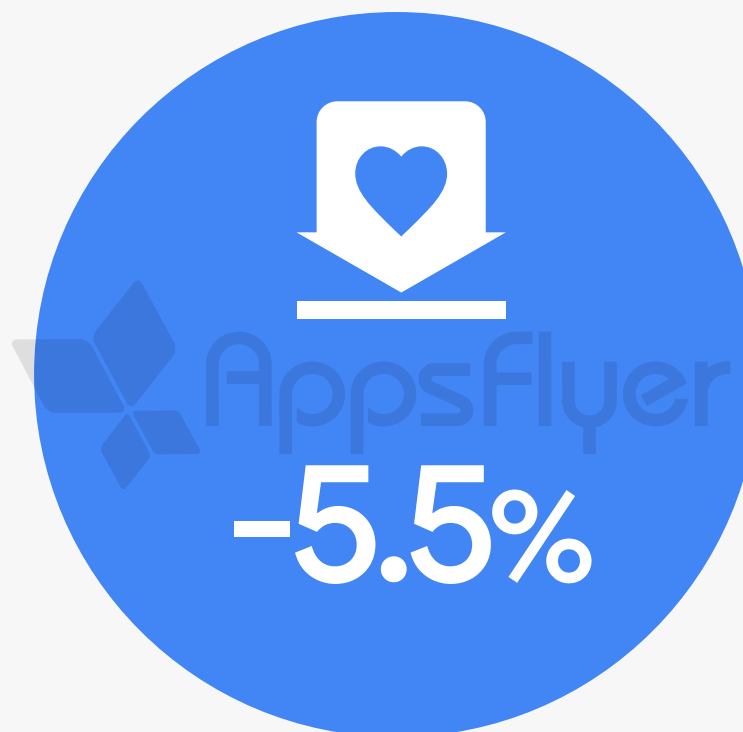
Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.

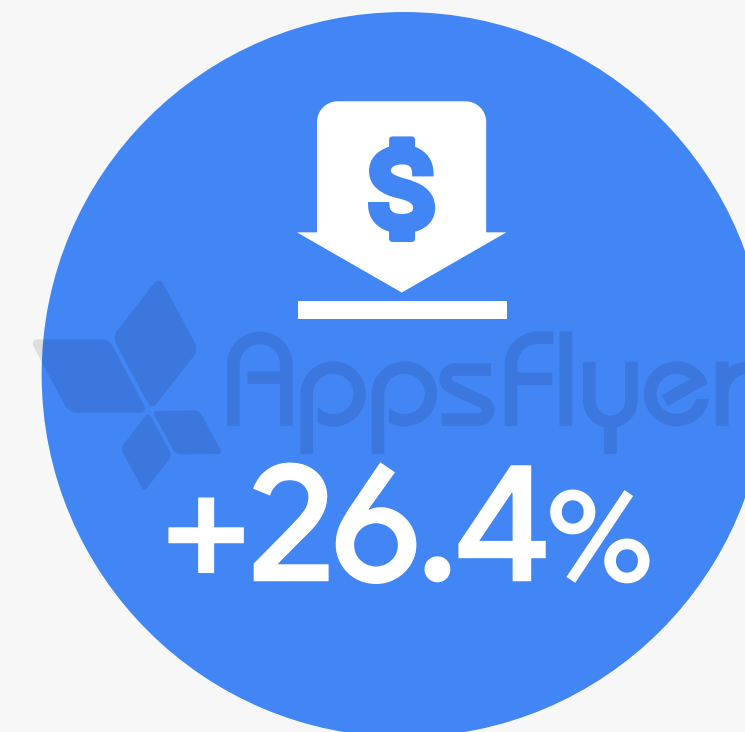


Broken Organic App Discovery Drives Gaming Apps to Become Increasingly Reliant on Non-Organic Installs to Drive Growth

% Change in Average Installs Per App, H1 2020 vs. H1 2019



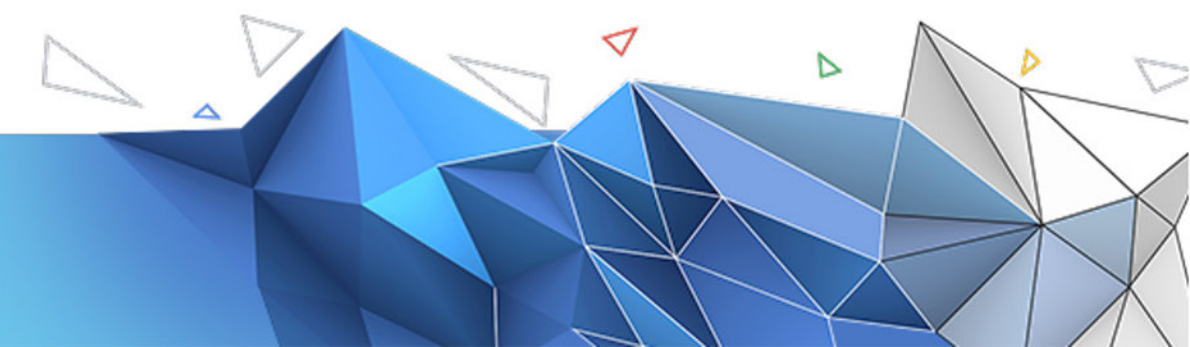
Organic



Non-Organic

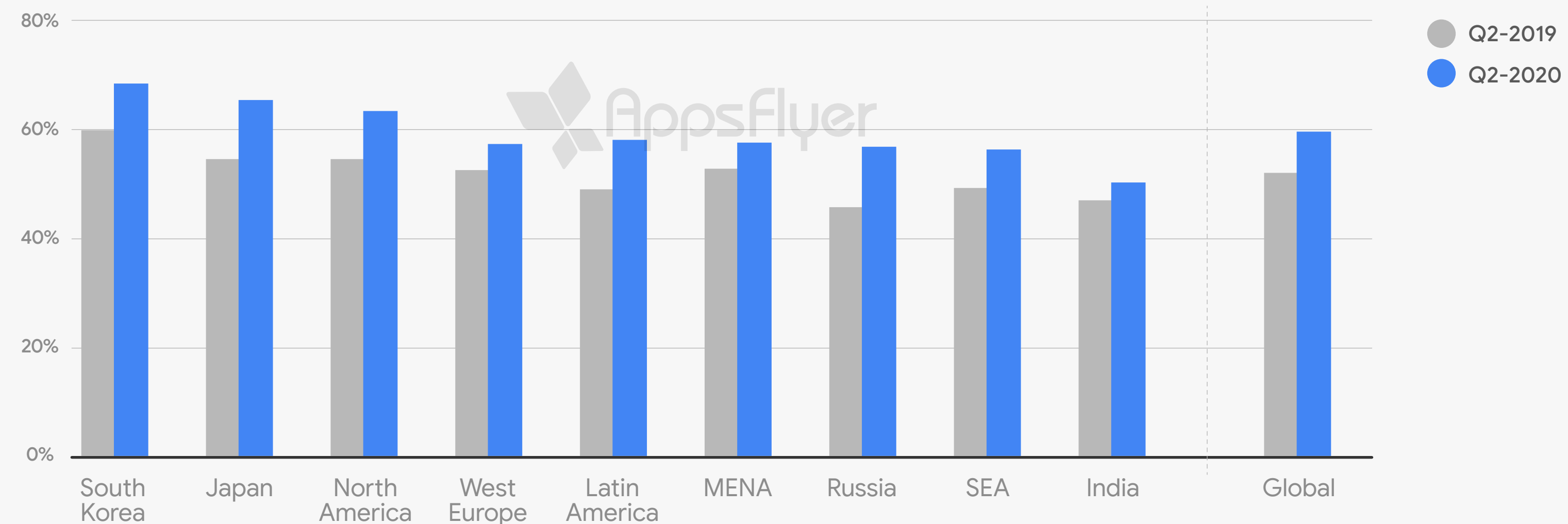
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Mature Markets Have a Higher Share of Non-Organic Installs with Japan Enjoying Highest Growth; Russia and Latin America Are Growing Fastest in Developing World

Share of Non-Organic Installs (Average Per App With Marketing Budget)
| By Market



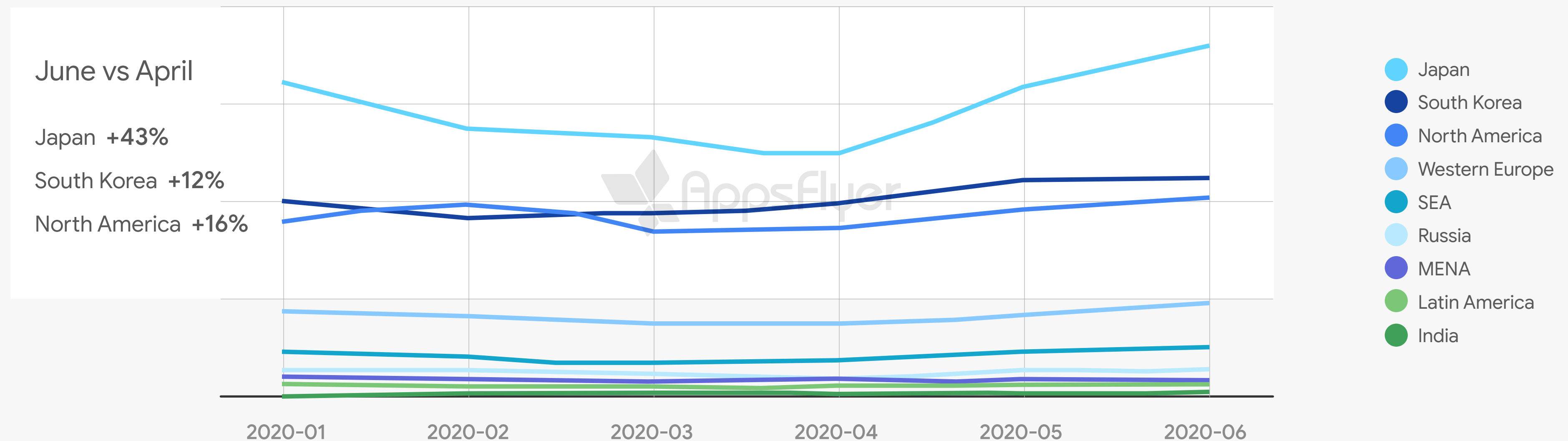
Data source: AppsFlyer

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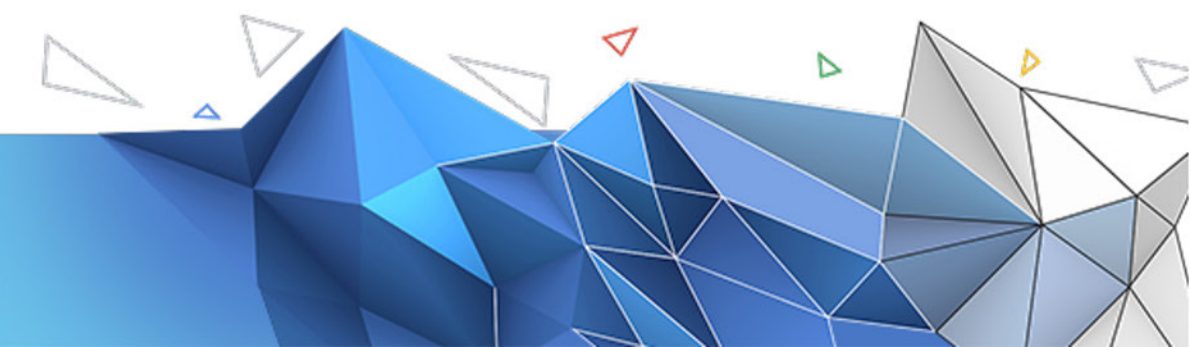
Cost Jumped In Q2, with Japan, South Korea, and North America Leading the Way

CPI Change, 2020 Jan - June | By Market



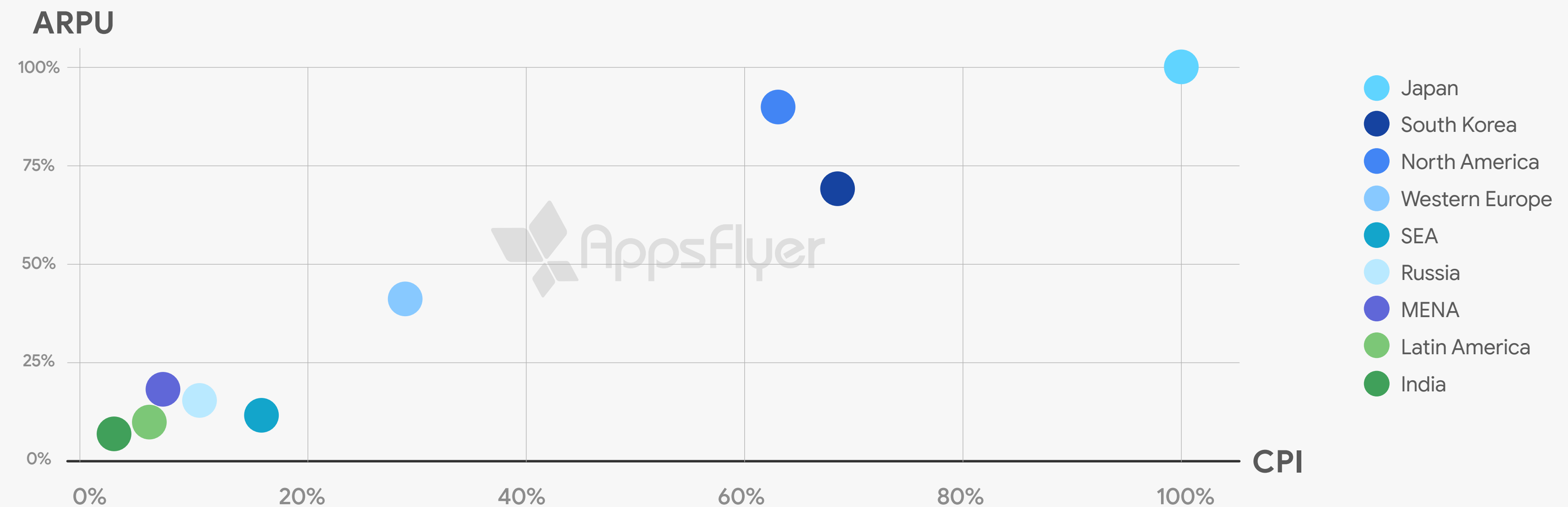
Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.



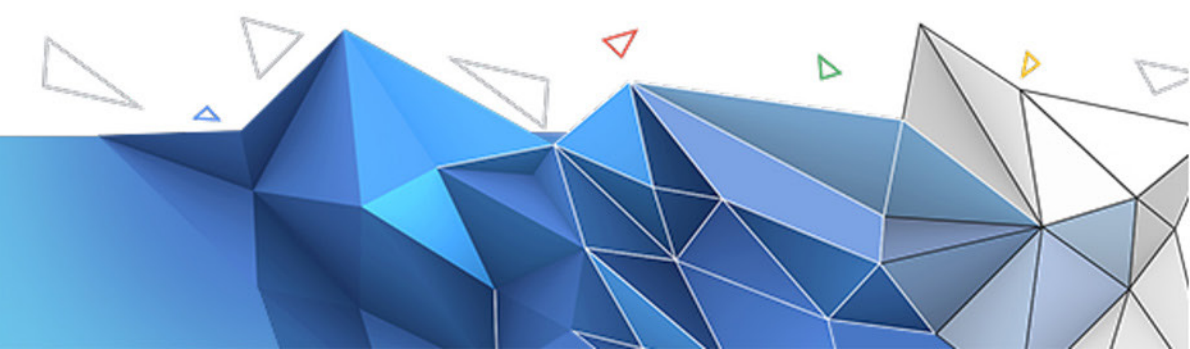
Quality Comes at a Cost: Mature Markets Have Higher ARPU But Also Higher CPI

ARPU Index vs. CPI Index, 2020 Jan - June | By Market



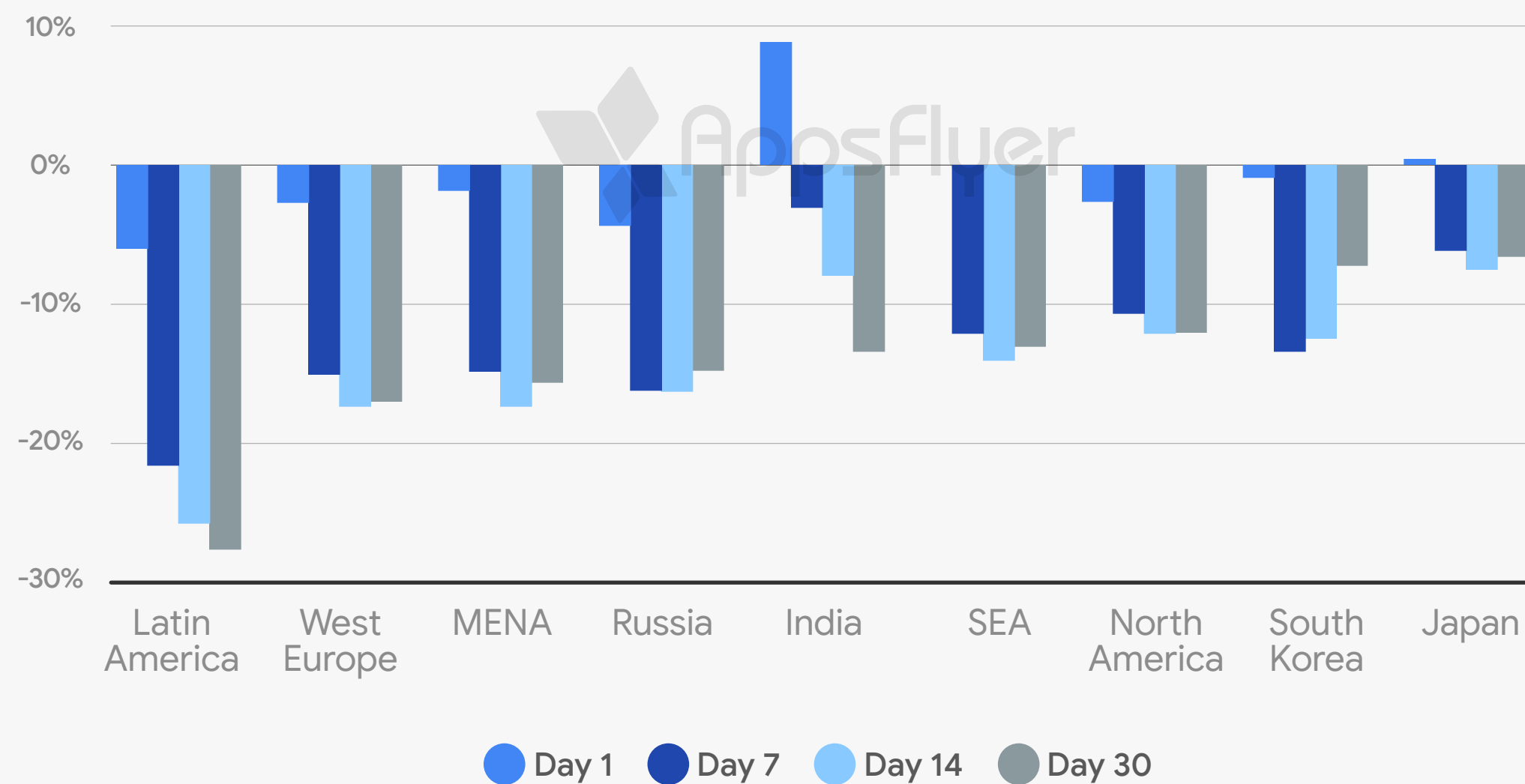
Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.

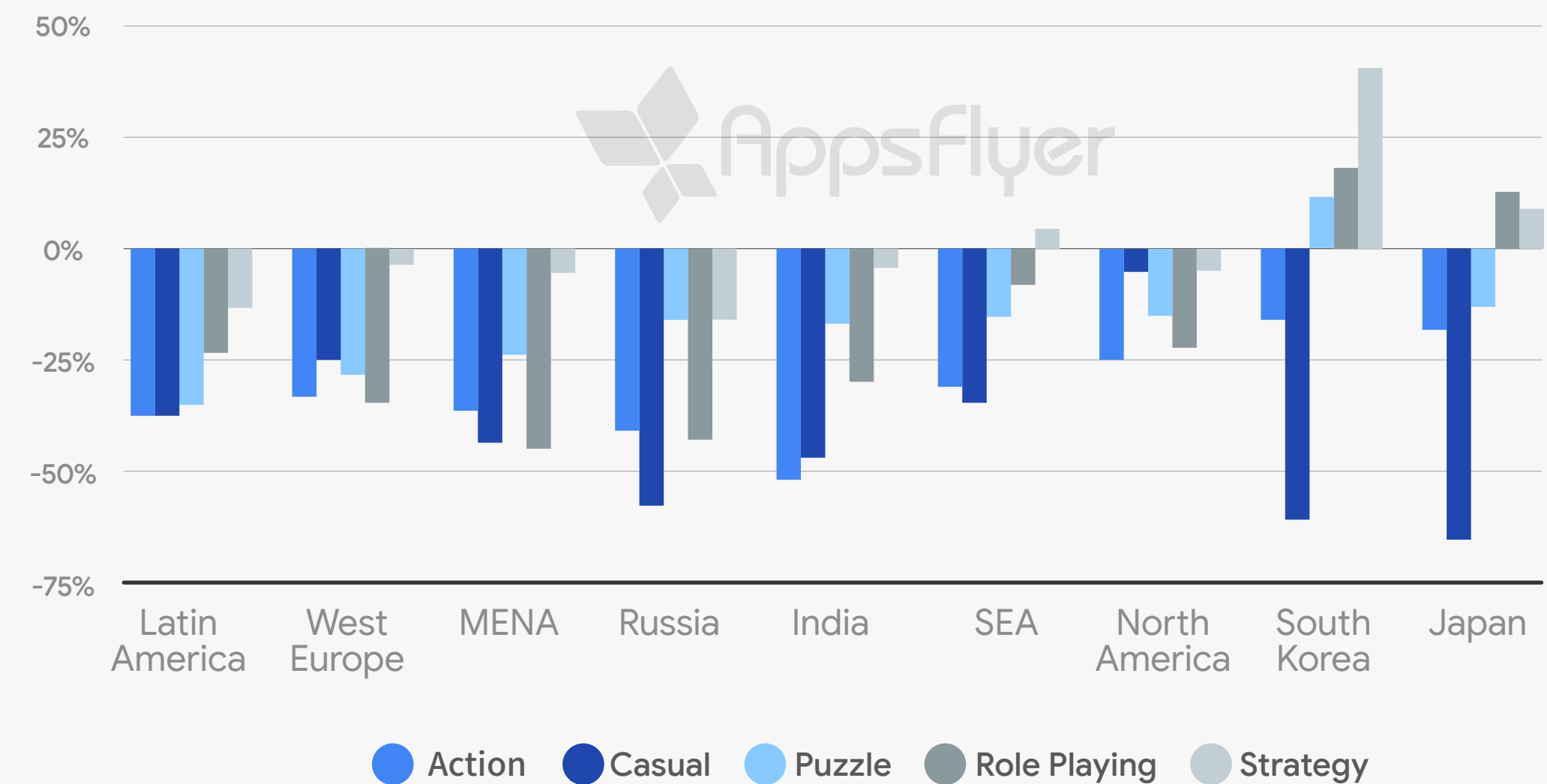


Retention Woes Continue in H1 2020 as Rates Drop Globally, Especially In Emerging Markets like Russia & India, with Casual Games Suffering Largest Drop

Retention Rate % Change, H1 2020 vs. H1 2019
| By Market

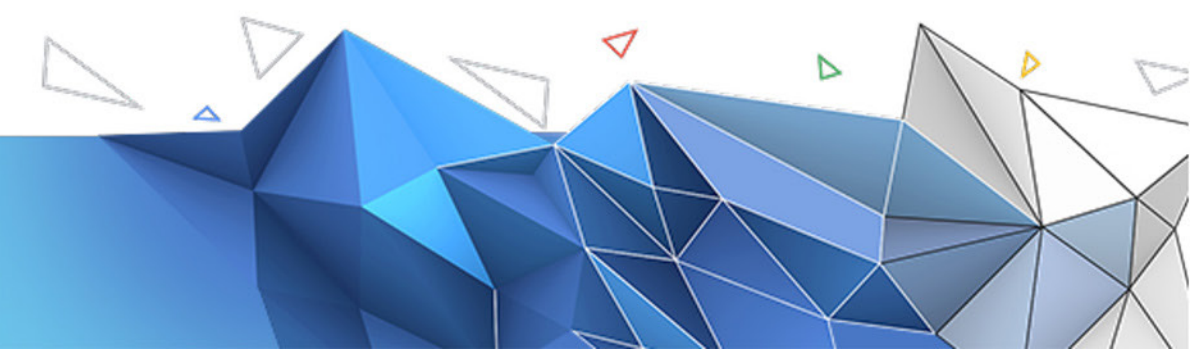


Day 30 Retention Rate % Change, 2020 Q2 vs. 2018 Q2
| By Market By Genre



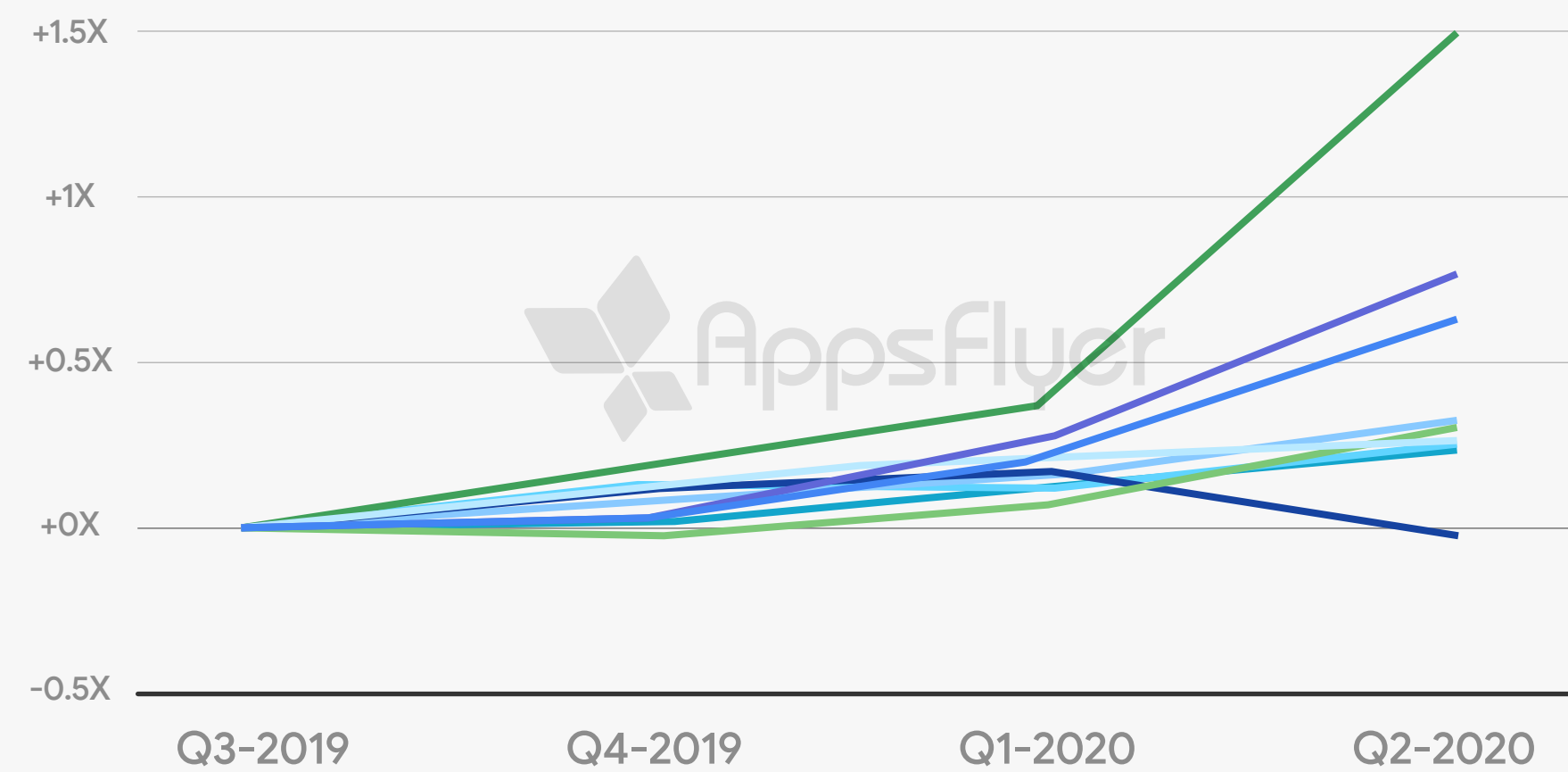
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Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.

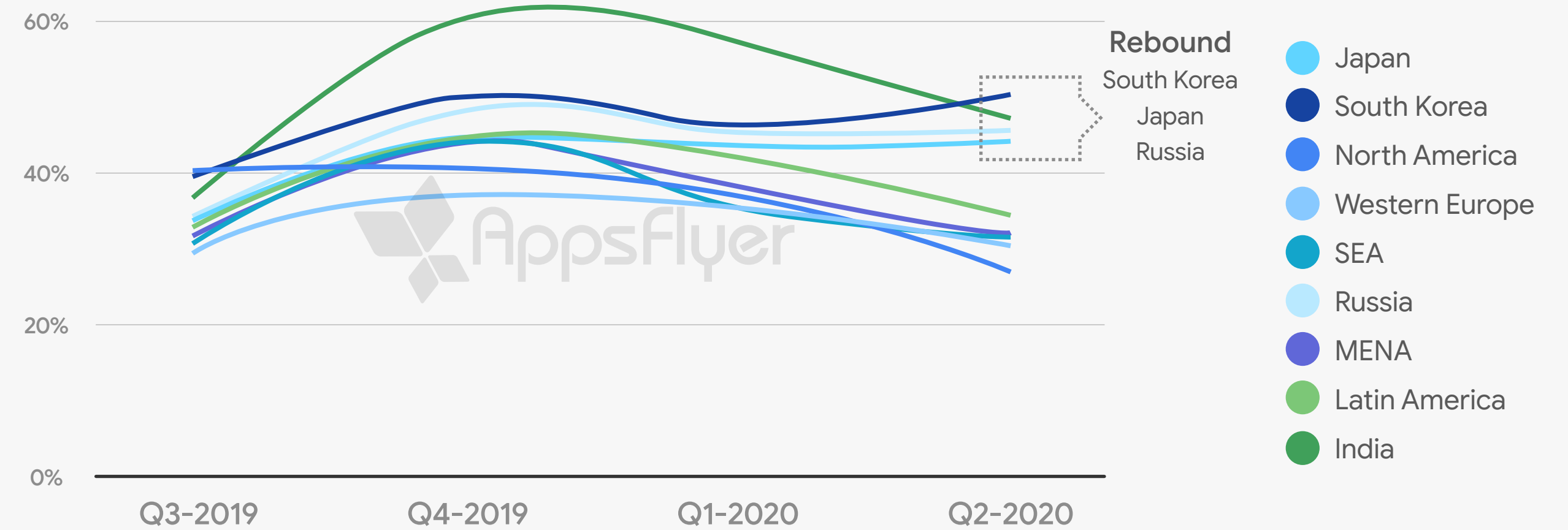


Share of Ad Revenue Mostly Down in 2020 Q1, Japan and South Korea Rebound in Q2

In-App Purchase Revenue Trend | By Market

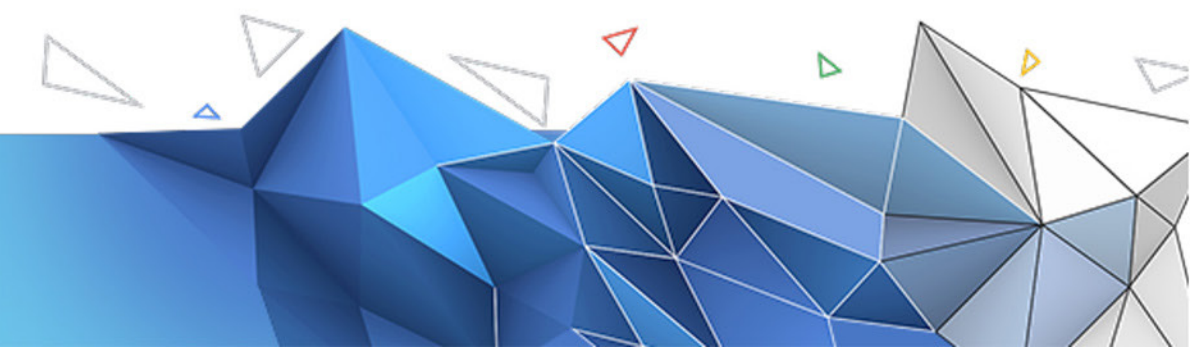


In-App Advertising Revenue Trend | By Market



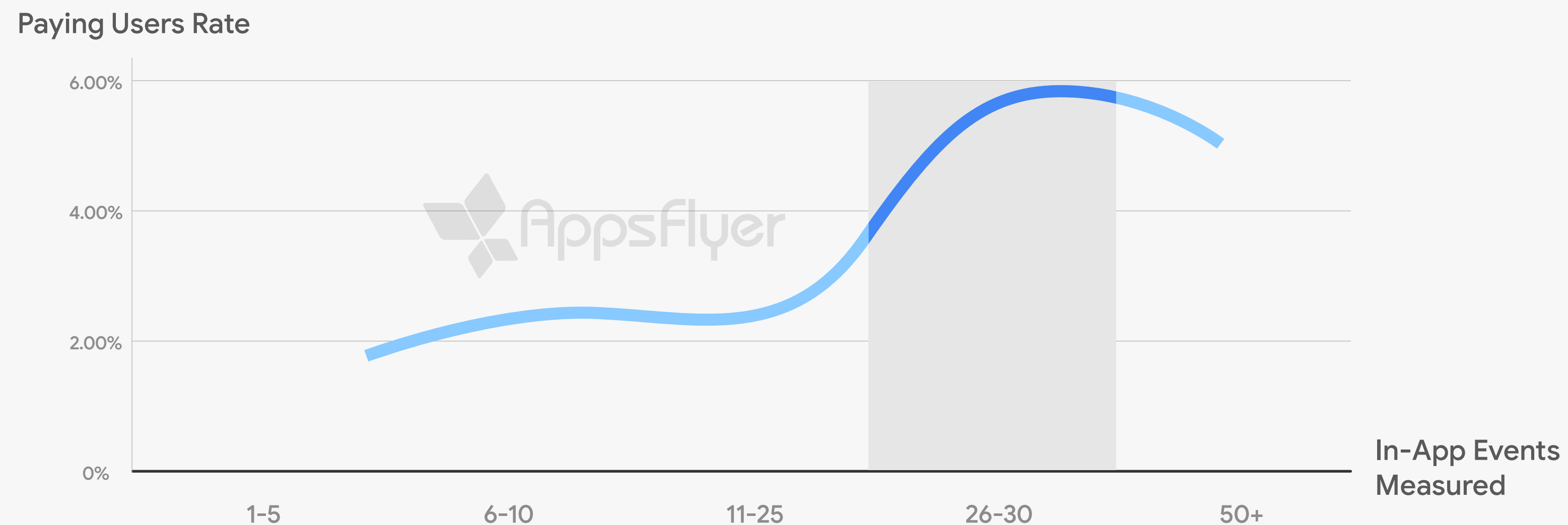
Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.



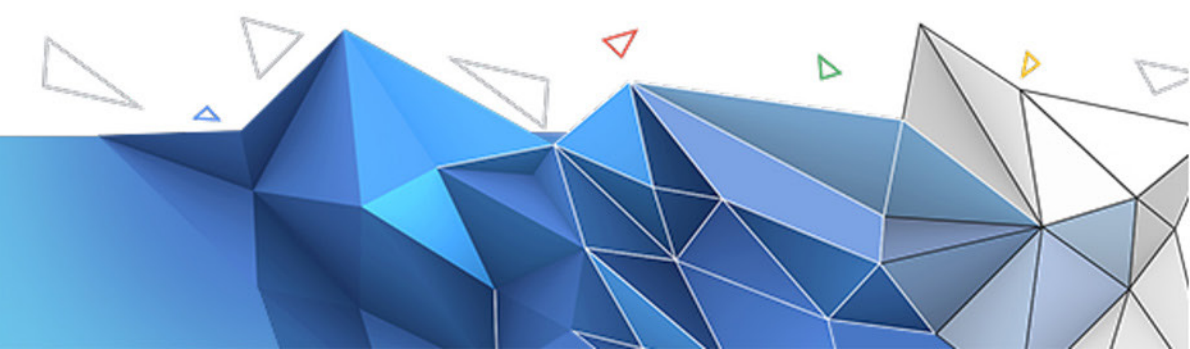
The Sweet Point Between In-App Events and Paying Users Rate: Granular Measurement Drives Performance (But not too Granular)

Paying Users Rate vs. In-App Events Measured, 2020 Jan - June



Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.



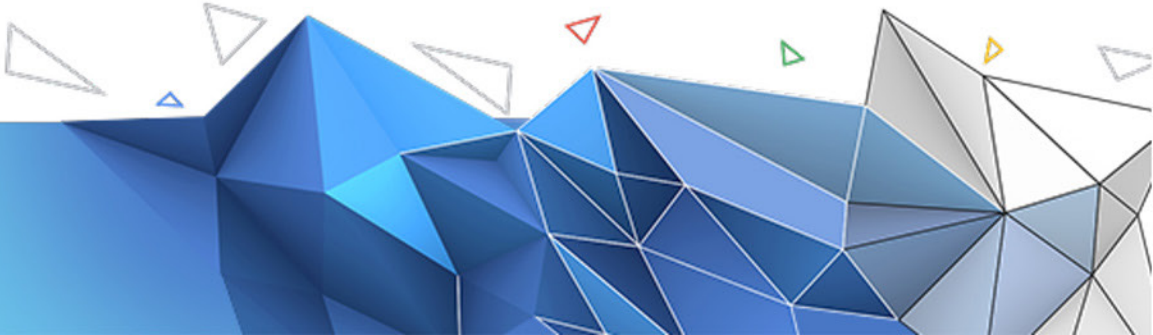
Beyond Standard Gaming Events, “Softer” Genres Monitor Video-Related Events

Most Popular In-App Events Measured

	Casual	Puzzle	Role Playing	Strategy
1	level_achieved	level_achieved	login	login
2	purchase	purchase	level_achieved	purchase
3	video	impression	purchase	level_achieved
4	login	video	registration	tutorial
5	tutorial	ad_clicked	tutorial	registration

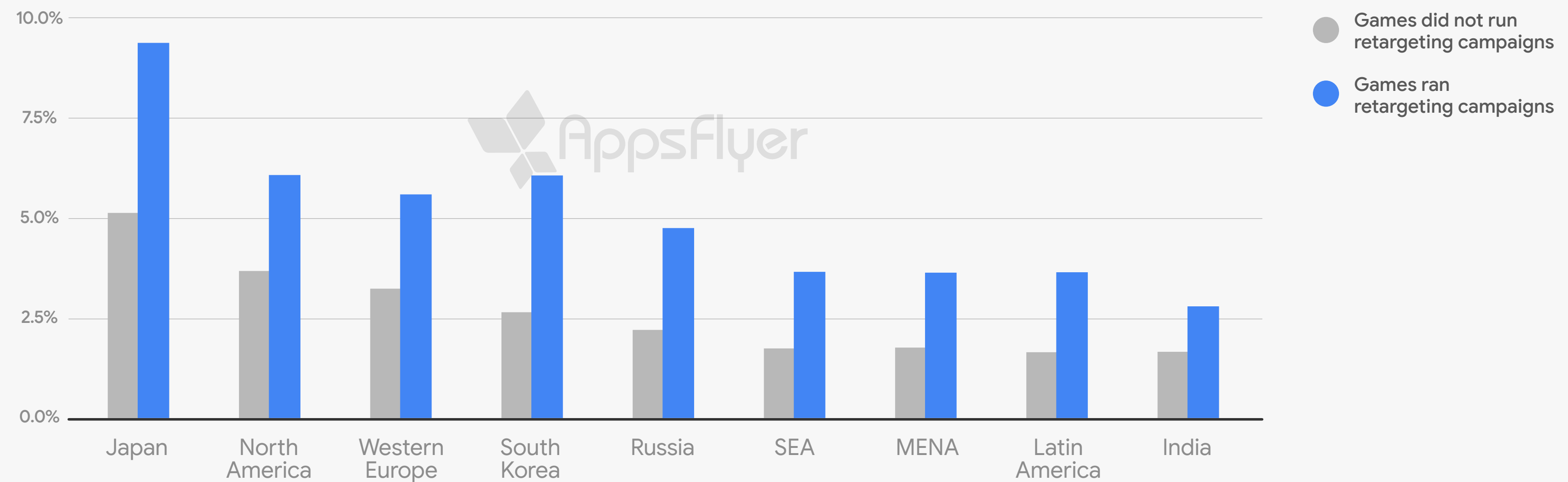
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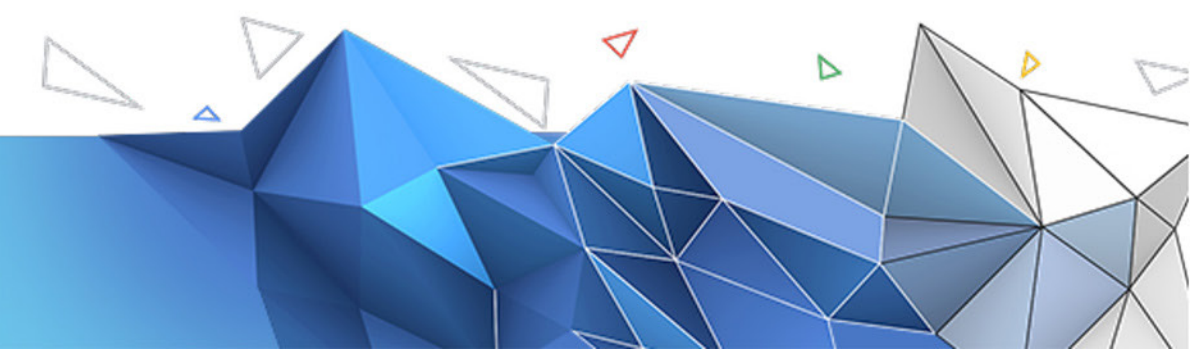
Retargeting Drives Significant Uplift in Retention

Day 30 Retention Rate, 2020 Jan - June | By Market



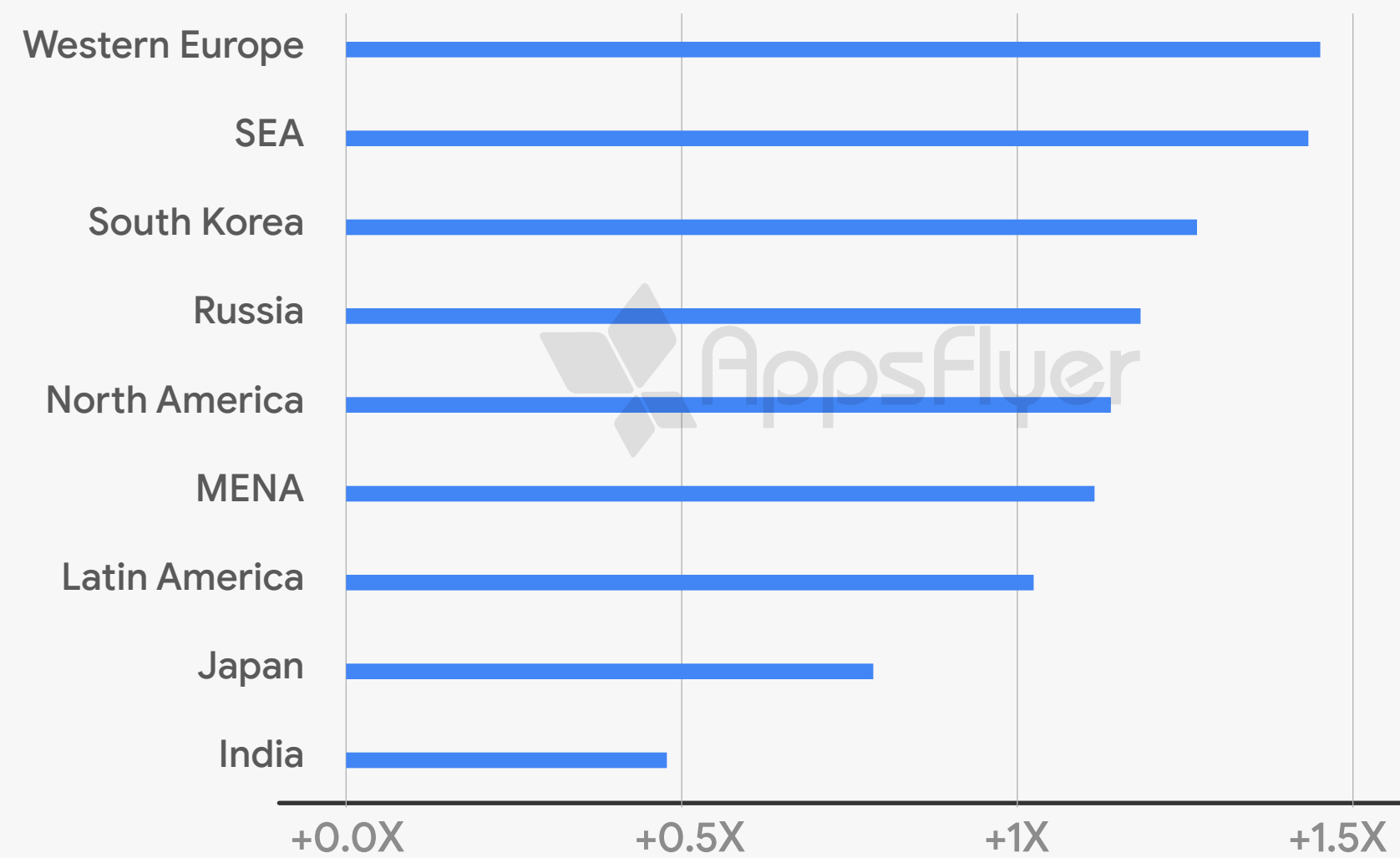
Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.

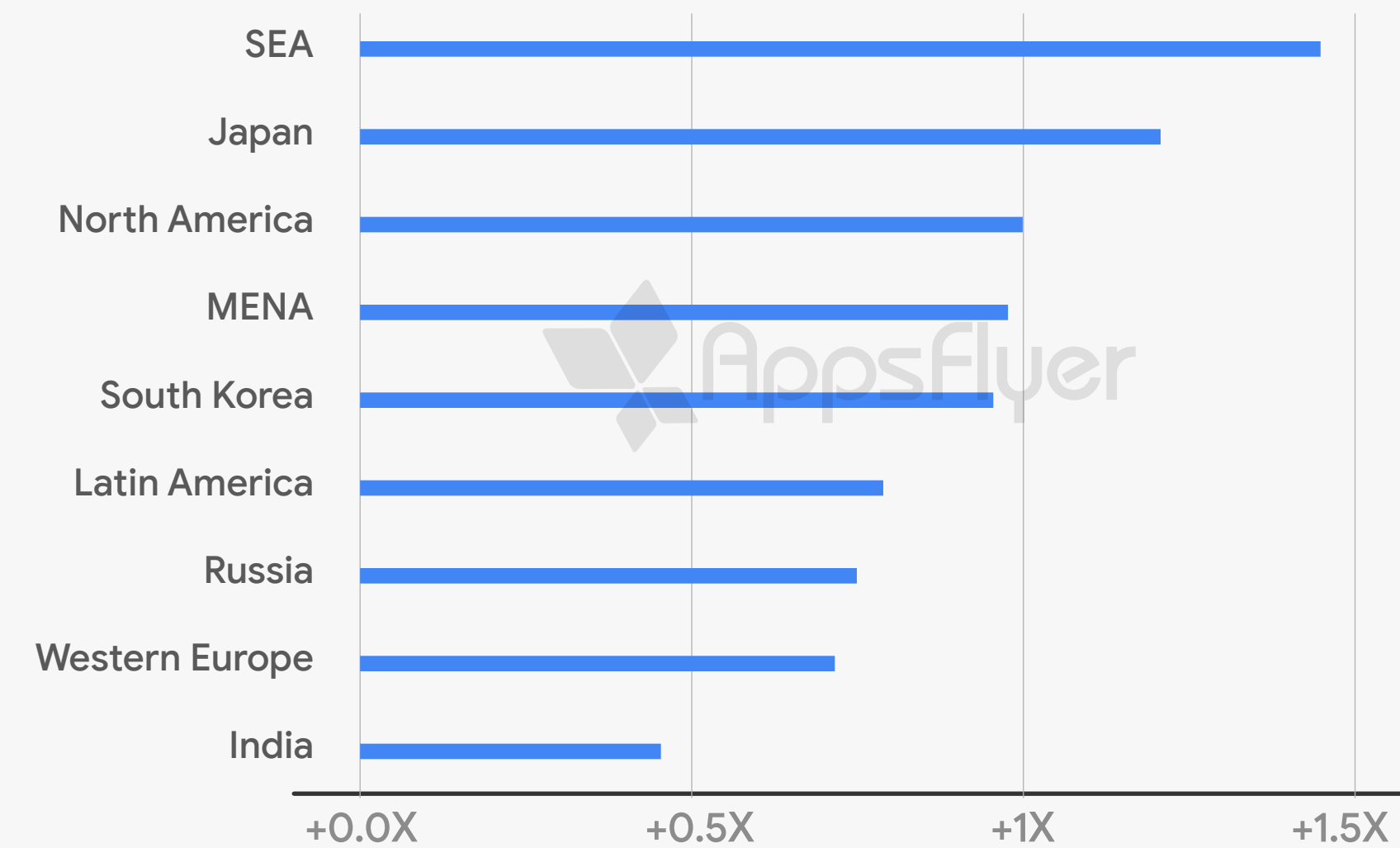


Retargeting Also Delivers Revenue Uplift

Paying Users Rate Uplift with Retargeting | By Market

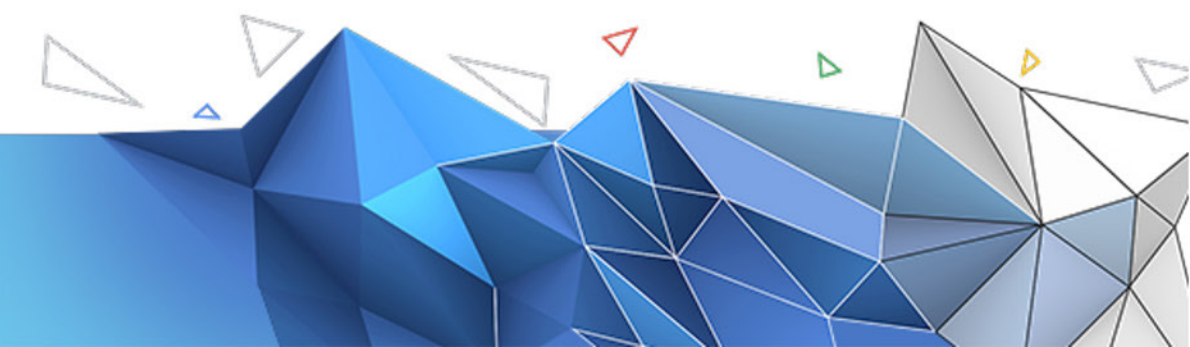


ARPU Uplift with Retargeting | By Market



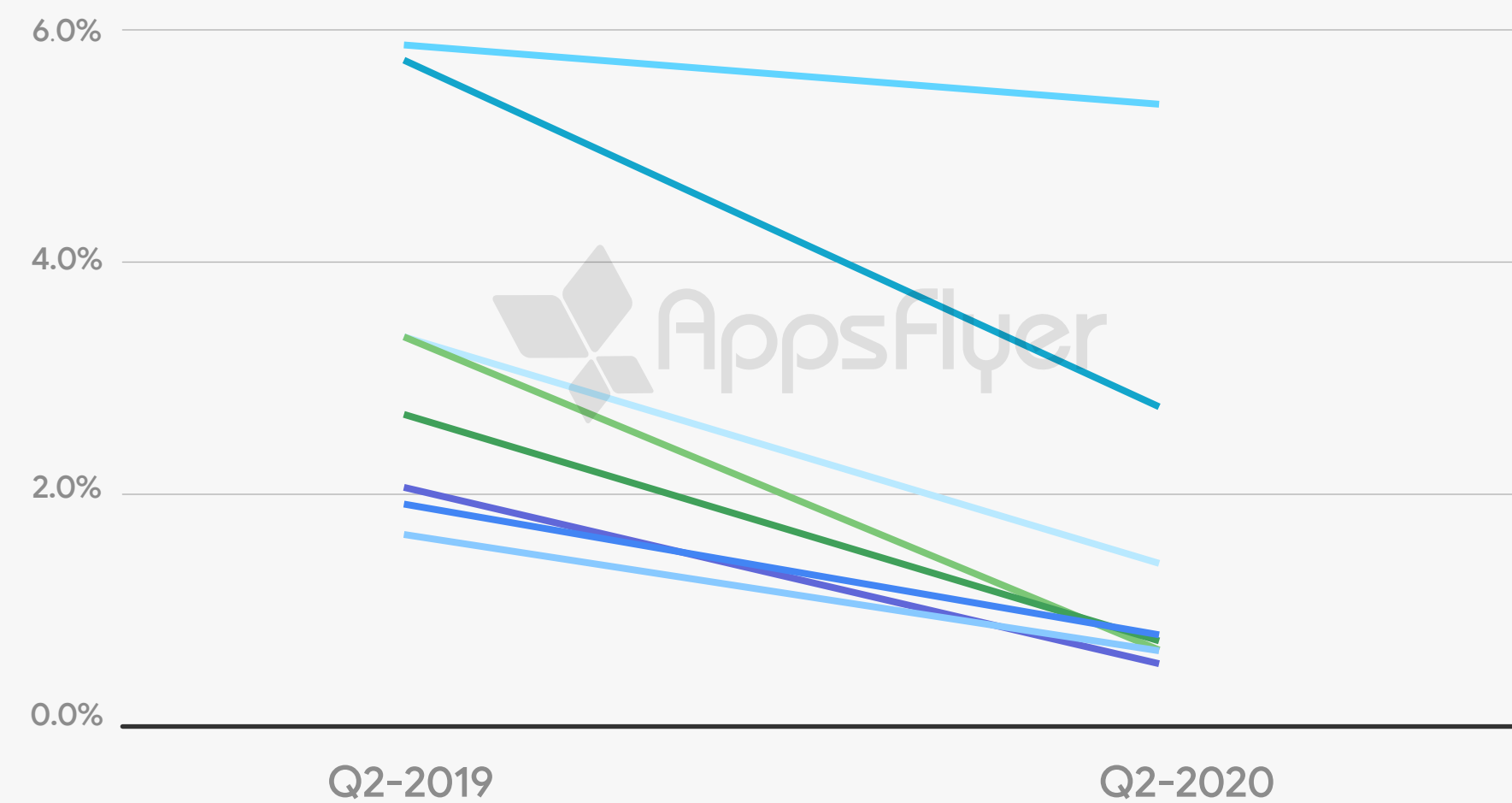
Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.

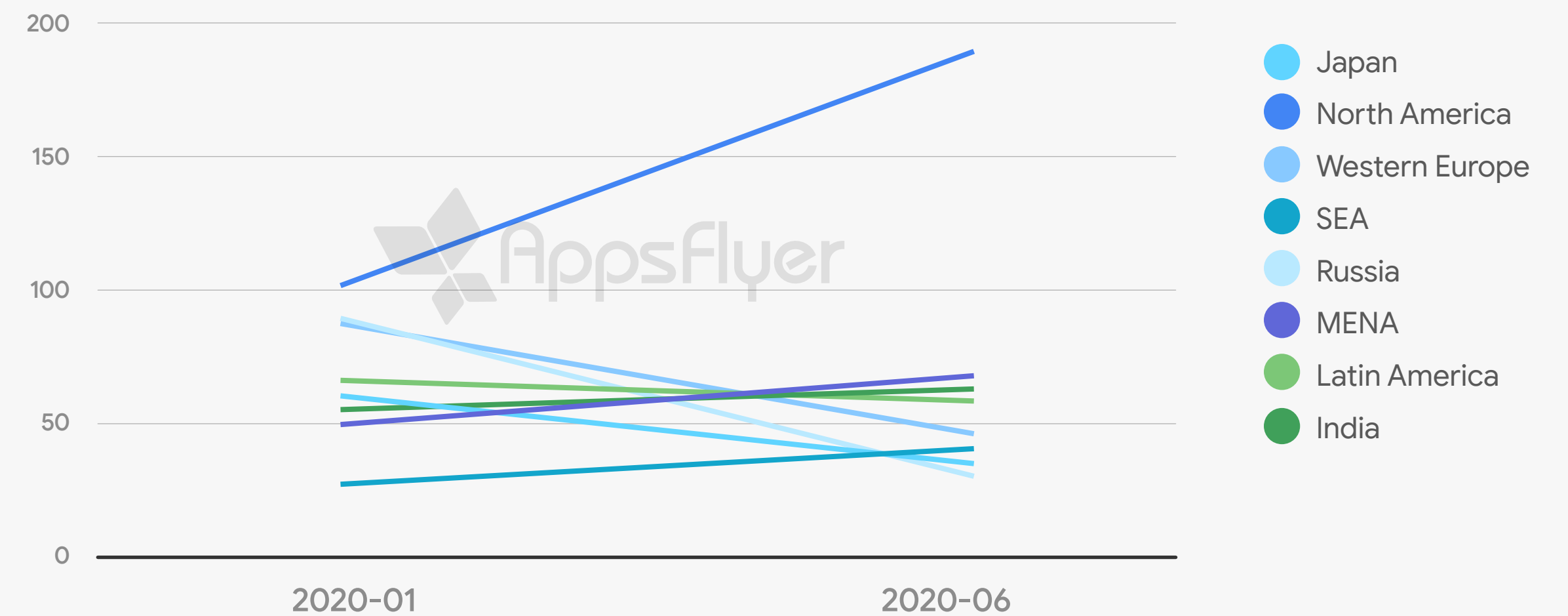


Install Fraud Rate Dropped, But In-App Fraud is on the Rise

Install Fraud Rate | By Market

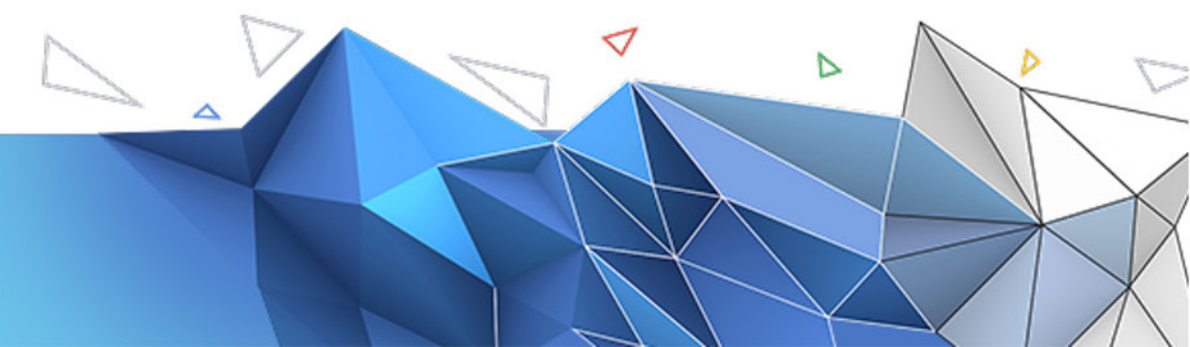


Number of In-App Events From 1 Fraudulent Install | By Market



Data source: AppsFlyer

Note: The report is based on data from 6000 gaming apps with over 17 billion overall install volume. The report calculated the median of overall installs per time period and market - top apps are apps with overall installs above the median (top 50%). All apps must have at least 1,000 non-organic installs per month and market.





Conclusion & Implication

Dive into key markets, invest in localization



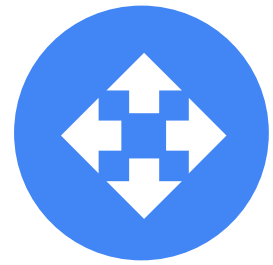
Market Expansion
DEEP

- Even with uncertain global dynamics, Chinese mobile games are growing healthily in overseas markets, transiting from game quantity to quality.
- The breakthroughs in Japan and Korea markets and the stable performance in Europe and America markets shall inspire the entire industry.
- Keep an eye on the market growth in SEA, Russia and other markets, where China HQ publishers are losing shares.





Capture subtle changes of game genres, achieve product differentiation



Genre Innovation
DELICATE

- **Challengers** - Harness popular design and gameplay elements in classic and successful games to enrich gaming experience.
- **Contenders** - Apply hybrid genres and micro-innovation to bring new blood to traditional design.
- **Leaders** - Extend the life value of games through new and diverse possibility of innovation and careful management and marketing.



Closely watch key indicators in marketing to grasp the growth opportunities



Scaling strategy
DETAILED

- While user acquisition gets increasingly competitive, marketers actively respond via effective performance marketing.
- With key indicators as the hints, optimize retargeting and in-app event measurement strategies to improve user retention.
- Pay attention to new fraud methods on mobile, prevent in-app fraud, and secure marketing budget efficacy.





Methodology & Definition

Methodology and Definition

Data in this report with source of App Annie are compiled from App Annie Intelligence

Terms

- Consumer spend is gross spend — the sum of payments made before Apple or Google takes a fee. iOS App Store and Google Play share of consumer spend on apps varies, but is generally 30%. Consumer spend includes paid to download and in-app purchases. They do not include revenue earned from in-app advertising.
- For download and consumer spend figures, the apps in this report are counted based on unified apps made by App Annie. In unified apps, similar versions of the same apps with different names and on different platforms are unified. Apps and publishers are reported under their parent company.

Game Genres

- Games are classified into genres based on App Annie's proprietary game classification taxonomy called Game IQ.
- App Annie's proprietary methodology and framework classifies mobile gaming apps by various attributes such as tuning, genre, sub-genre and modifiers, in a scalable manner. This creates a unique classification of the game ecosystem.

Publisher Headquarter

- China headquartered publishers were defined as companies which are headquartered in Mainland China. They also include overseas publishers or companies that are subsidiaries of companies which are headquartered in Mainland China.
- Overseas acquisitions did not change the headquarter country.

Countries and Regions

- **North America:** United States, Canada
- **Latin America:** Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, French Guiana, Guyana, Mexico, Paraguay, Peru, Suriname, Uruguay, Venezuela
- **Middle East North Africa:** Egypt, Israel, Kuwait, Lebanon, Morocco, Qatar, Saudi Arabia, Turkey
- **Southeast Asia:** Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam
- **West Europe:** Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom





Methodology And Data Sample

Data in this report with source of AppsFlyer are compiled from AppsFlyer

Data Sample

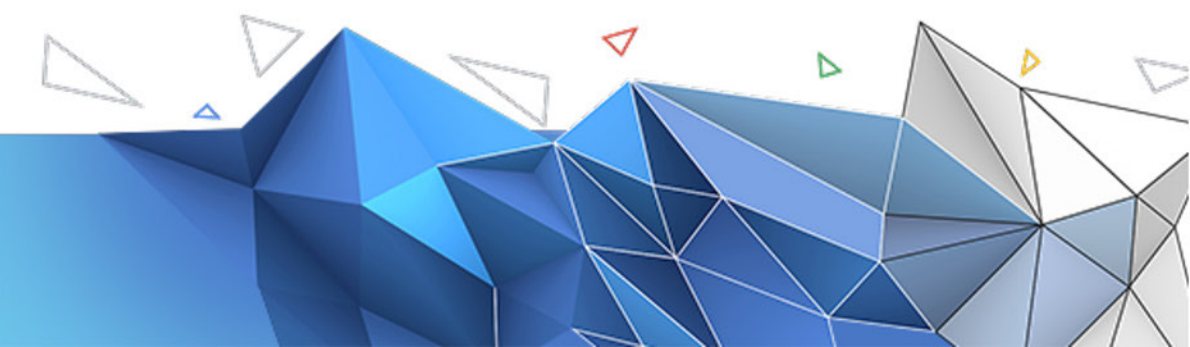
- 6000 gaming apps with over 17 billion overall install volume.
- We calculated the median of overall installs per time period and market – top apps are apps with overall installs above the median (top 50%).

Methodology

- To analyze sufficient marketing data, all apps must have at least 1,000 non-organic installs per month and market.
- All data used in the chapter is measured by AppsFlyer, the leading mobile attribution and marketing analytics company that measures the effectiveness of its clients' app marketing campaigns. This is done via integrations with leading media partners, as well as its propriety SDK implemented in its clients' apps. All data is anonymous and aggregated.
- App genres align to the iOS App Store and Google Play.

Markets

- **North America:** United States, Canada
- **Latin America:** Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, French Guiana, Guyana, Mexico, Paraguay, Peru, Suriname, Uruguay, Venezuela
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