Free Version

2020

Global Mobile Market Report

Key Trends | Market Sizing & Forecasts
Special Focus Topics | Rankings

newzoo

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1.

Introduction

Foreword

Newzoo's 2020 Global Mobile Market Report

The year 2020 has been another monumental year for the mobile market's growth, and games are at the forefront. During the pandemic and the resulting lockdown measures, games have been indispensable for many consumers, giving them a means to escape, socialize with friends, and fill time. Owing to its lower entry barrier, mobile has been many consumers' gateway to gaming, and cloud gaming is bringing console- and PC-level experiences to smartphones—both low- and high-end.

However, rising political anxiety across the globe is tangibly shaping the industry landscape in several areas. Political tensions between China and India are responsible for India banning the Tencent-made PUBG Mobile game in September, one of 118 Chinese apps declared a security risk by the government. In response, PUBG stated it would attempt to manage publishing itself. Similarly, Activision was rumored to have halted a partnership with Tencent's TiMi studios over Call of Duty: Mobile, allegedly in part due to concerns related to Trump's executive order against Tencent-owned companies in August.

Beyond games software, political tensions between China and the West have also left regional 5G developments uncertain. Despite this, governments in Asia are continuing to support 5G, which remains one of the most exciting developments in the mobile space. As a result, we have built a new forecasting model for 5G-ready smartphones. Still in its infancy, 5G is currently enticing early adopters and smartphone aficionados. It will likely take at least another four years to hit the mainstream, when more than 50% of all active smartphones will be 5G-ready. Meanwhile, consumers are becoming more and more aware of the first 5G killer app: cloud gaming. Smartphone manufacturers like Samsung understand the potential and are partnering with cloud gaming services to bolster their marketing efforts. To that end, consumer appetite for mobile-dedicated game peripherals is also on the rise, with brands like Razer already targeting cloud gamers with mobile controllers.

In the general mobile gaming scene, 2018 and 2019 were the years of hypercasual, but hybrid-casual has taken the crown this year. Last year's hypercasual boom became many consumers' first taste of gaming, but these consumers' appetites grew bigger, leading them to seek out more core and competitive experiences. The influx of hypercasual games led to the genre becoming oversaturated, creating user-retention challenges for many companies. Complicating things further, Apple will be revoking its identifier for advertisers (IDFA) with the iOS 14 update early next year. This will impact ad-based revenues from mobile gaming and hypercasual. Innovation was needed, and it came in the form of hybrid-casual, which combines gameplay and monetization elements from hyper(casual) and (mid-)core genres alike. Real-money prize-earner games are another trend to watch, leveraging gamers' competitive natures to encourage user retention.

Skillz's IPO (focusing on wager-based amateur esports) implies that the business is continuing to innovate and diversify monetization models too. On the hardware side, gaming phones are still on the rise, with many major brands launching flagship models this year. Some of these handsets are 5G-ready and feature 144Hz displays, a popular monitor refresh rate among dedicated PC gamers. However, not all mobile gamers own the most cutting-edge devices, meaning the audience is disjointed in terms of hardware. Game publishers are launching multiple software offerings (including Lite apps) to cater to their growing audiences in mature and growth markets across the globe.

2020 has been a challenging year for us all. While there are still uncertainties in the mobile market due to the pandemic, privacy movements, and the political landscape, new technologies and the ever-growing population of mobile gamers will continue to catalyze innovation—as they always have.

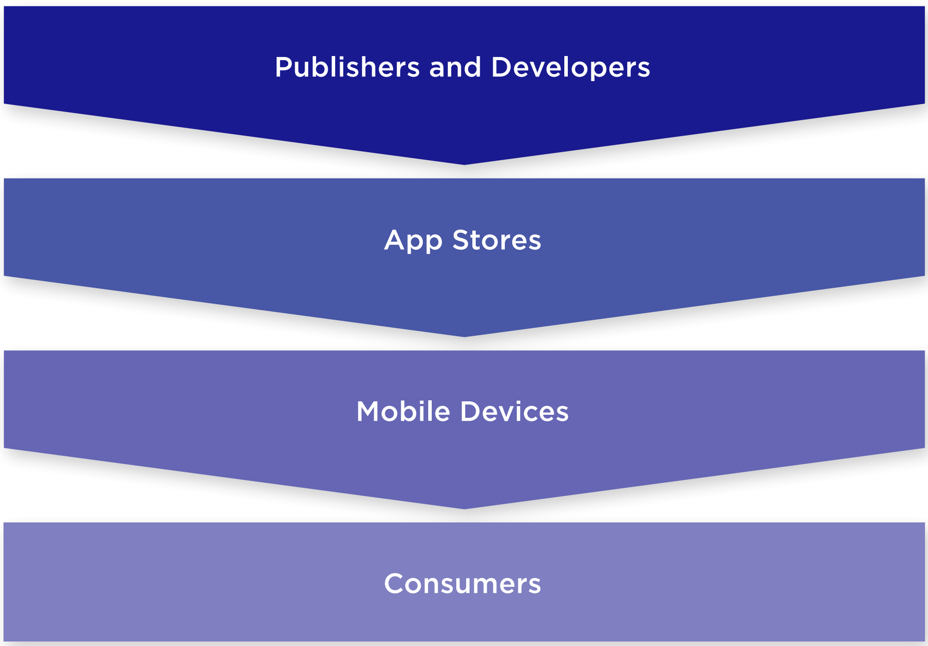
Tianyi Gu
Market Lead - Mobile

Scope of the Report

Mobile Hardware and Mobile Games

Consumers are at the heart of the games business. Key players in the value chain for delivering mobile game content to end-consumers include publishers/developers, app stores, and mobile devices. In this report, we classify the key players in the value chain into two major markets: the mobile hardware market and the mobile games market. In the mobile hardware market, we look at smartphone users, active smartphones, and 5G-ready smartphones. In the mobile games market, we focus on game revenues generated by direct consumer spending.

Mobile Games Value Chain



2.

Methodology & Terminology

Methodology

Sizing the Market with A Variety of Data

Newzoo aims to provide clients with the most insightful knowledge of the mobile market by combing intelligence from our market forecasts and tracking service. By synthesizing many data points, we provide estimates on a global, regional, and individual country/market level. Below, we describe our approach in more detail to help clients understand what underpins our models, facilitating comparisons with other data sources.

At the highest level, Newzoo focuses on the mobile hardware market and the mobile games market. This report combines data from our market forecasts (smartphone user, 5G-ready smartphone, and mobile game revenue forecasts) and tracking service (smartphone usage tracking and mobile game category analysis). These five models are closely linked and form the basis of the most important takeaways in the report. We re-evaluate all our models quarterly, ensuring up-to-date market information for our clients.

Market Forecasts

Smartphone User Forecast

A key part of the report is sizing the smartphone market in terms of active users rather than units shipped. We focus on how many consumers use a smartphone at least a monthly basis. To calculate this, we have developed a detailed model using several socio-economic development indicators per market from data sources including UN, ITU, and government reports. Key indicators are a country's total population, online population, demographic makeup, and accessibility to wireless networks.

5G-Ready Smartphone Forecast

Newzoo's 5G-ready smartphone forecast model is built on our Monthly Active Mobile Device Data service, using a bottom-up approach. We benchmark the market penetration of a new generation of smartphones over years at a country level by analyzing historical data since mid-2016. The first year (2019) of the new generation forecast is based on actual data from Newzoo's Monthly Active Mobile Device Data. Macroeconomic, census data, and local 5G development analysis enable us to reach an estimate of the share of 5G-ready smartphones among all new devices sold in all the years we forecast. The combination of all these factors yields a share of devices that are 5G-ready for every market and every year. Multiplying this share with the number of devices per country and per year from the above-mentioned smartphone user forecast model generates an absolute number of 5G-ready smartphones in each market. This is then aggregated per region and summed for the global total.

Mobile Game Revenue Forecast

Newzoo's total mobile game revenue data comes from our predictive global games market model, which uses a top-down approach to market sizing. We incorporate macroeconomic and census data from the IMF and UN, such as household income and GDP per capita. Further, we use transactional and app store revenue data from our data partner Airnow Data, our primary consumer research, detailed financial information reported by more than 100 public companies, and third-party research. Lastly, we also receive valuable input from clients.

We define revenues as the amount the industry generates in consumer spending on mobile games through in-app purchases, subscriptions, or paid installs from apps that are categorized as games by app stores before revenue cuts by platforms. Our revenue numbers exclude hardware sales, taxes, advertising revenues earned in and around games, business-to-business services, and the traditionally regulated online gambling and betting industry (e.g., BWIN and William Hill). In terms of countries and regions, we define the market size as the amount companies generate from consumers in that specific territory, as opposed to the amount companies based in a particular territory generate worldwide.

Total mobile game revenues are broken down into revenues from the Apple App Store, Google Play, and an aggregate of all available third-party app stores per region and market. By triangulating data from Airnow Data, company financials, and announcements regarding developer payout by Apple and Google, we can split the revenues between Apple's App Store and Google Play. The remaining revenues are generated in third-party app stores from, for example, Amazon Appstore, Samsung Galaxy Store, Garena, and, most importantly, all existing Android app stores in China where Google Play is not available.

Tracking Service

Monthly Active Mobile Device Data

Newzoo's Monthly Active Mobile Device Data service is based on a combination of various data sources. We collect and process global monthly device usage data from strategic partners, giving us aggregated data on the number of actively used devices and models around the world, enriched with more detailed information, such as chipset, screen size, or memory size per model. In total, the monthly sample consists of more than 400 million devices. The results are extrapolated to total smartphones and tablets actively used in each country/market and provide key insights into the MAU of brands, models, and spec details (e.g., type of device, battery sizes, screen resolutions, and many more characteristics). We focus on the two dominant mobile operating systems, iOS and Android, and cover 100 markets in total. Together, these 100 markets cover 98.5% of smartphone users in the world.

Mobile Game Category Analysis

The mobile game category analysis model provides insights into the performance of different app categories across Apple's App Store and Google Play based on multiple metrics. The data is gathered through our mobile app analytics partner Airnow Data, which tracks more than four million apps across 54 markets. Apple's App Store and Google Play differ slightly on how they tag game categories. In order to combine the performance metrics for the two app stores, we created a set of "joined categories" by translating each store-specific category into a universal category applicable to both stores. This enables us to combine data on the App Store and Google Play. It is important to note that there is overlap between some categories, as a game can be tagged with two or more categories on both platforms. Therefore, in some cases, adding up the categories to a total has limitations, as games can be counted multiple times in different categories.

Global Mobile Market Model

Population & Economic Census Data
Projecting organic growth on a local and global scale

Tracking Data
Device usage, app downloads, and revenues

Primary Consumer Research in Key Markets
Understanding playing and paying behavior

Global Financial Company Analysis
Mobile game revenues of public and non-public companies

Third-Party Research
Reported on a local and global scale

Mobile Hardware

Smartphone User and 5G-Ready Smartphone Forecasts

Smartphone Usage Tracking

Mobile Games

Mobile Game Revenue Forecast

Mobile Game Category Analysis

Market Forecasts

Tracking Service

Terminology

Definition of Main Terms

5G-ready smartphone: A smartphone that can connect to 5G networks via an embedded 5G modem. When 5G networks are not available, the device will be able to switch to previous generations of networks, including 4G LTE, 3G, and below.

5G penetration: The share of 5G-ready smartphones among all active smartphones.

Active smartphone: A smartphone used at least once per month.

Apple App Store revenues: Mobile game revenues generated from apps downloaded from Apple's App Store.

Augmented reality: A technology that supplements the users' real-life views with computer-generated sensory input as images or sounds.

Cloud gaming: The ability to play a game on any device without owning the physical hardware required to process it or needing a local copy of the game itself.

Compound annual growth rate (CAGR): The constant growth rate over a period of years. In this report, all CAGRs are based on the years 2018-2023.

Device brand: The manufacturer or brand name of the device as indicated by the device software.

Esports: Competitive gaming at a professional level and in an organized format (a tournament or league) with a specific goal (i.e., winning a champion title or prize money) and a clear distinction between players and teams competing against each other.

Game enthusiasts: All people who engage with gaming content through playing, viewing, and/or owning.

Gamer personas: Based on Newzoo's Gamer Segmentation™, a new way of segmenting game enthusiasts across playing, viewing, and owning behavior. Gamer personas include the Ultimate Gamer, the All-Round Enthusiast, the Subscriber, the Conventional Player, the Hardware Enthusiast, the Popcorn Gamer, the Backseat Viewer, the Time Filler, and the Lapsed Gamer. Please refer here to find the definition of each persona.

Google Play revenues: Mobile game revenues generated from apps downloaded from Google Play.

Mobile game: A game played on a smartphone or a tablet.

Mobile game category: A classification assigned to a mobile game based on its gameplay interaction. Mobile game categories defined in the report include action, adventure, arcade, board game, card, casino, casual, educational game, family game, music, puzzle, racing, role-playing game, simulation, sports, strategy, trivia game, and word game.

Mobile game payer: An individual who spent money on at least one mobile game in the past six months.

Mobile game player or mobile gamer: An individual who played at least one mobile game in the past six months.

Mobile game revenues: Revenues generated through in-app purchases, subscriptions, or paid installs from apps categorized as games by app stores, excluding hardware sales, tax, business-to-business services, advertising, and online gambling and betting revenues.

Online population: People within a country or region who have access to the internet via a computer or mobile device.

Smartphone: A device with a screen size under seven inches and an advanced operating system.

Smartphone penetration: The share of the total population that uses a smartphone.

Smartphone user: An individual who possesses his/her own smartphone and uses it at least once per month.

Tablet: A device with a screen size of seven inches or larger and an advanced operating system.

Third-party store revenues:
Mobile game revenues generated from apps downloaded from third-party Android app stores such as Amazon Appstore, Samsung Galaxy Store, Garena, and, most importantly, all existing Android app stores in China where Google Play is not available.

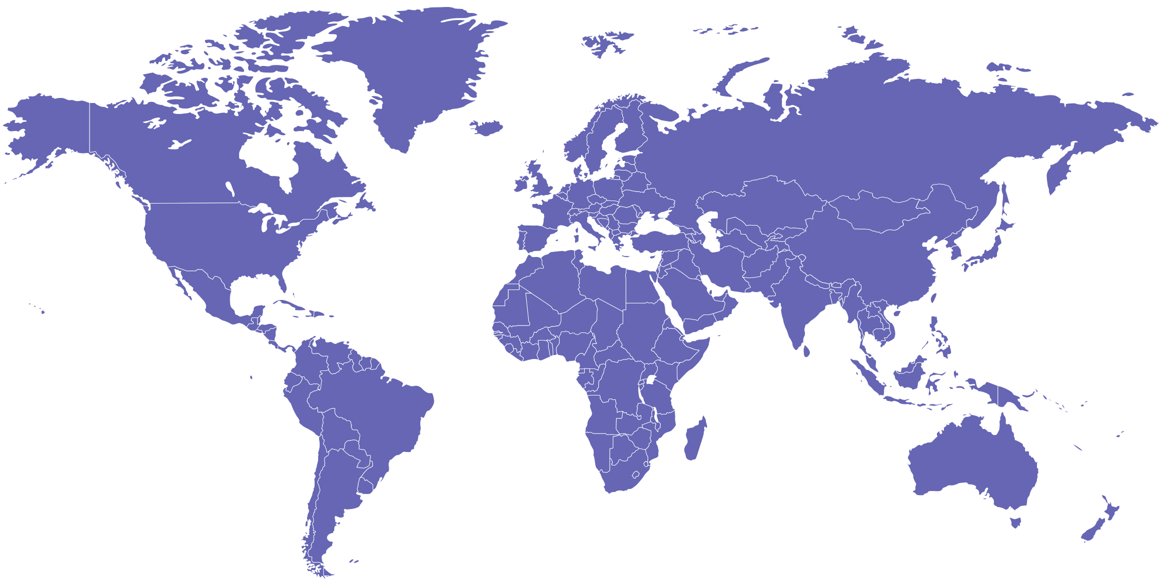
Virtual reality: The computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a headset with a screen inside or gloves fitted with sensors.

3.

The Global Mobile Market

These estimates are from September 2020. We review these quarterly and update them if needed here: newzoo.com/key-numbers.

Global



2020

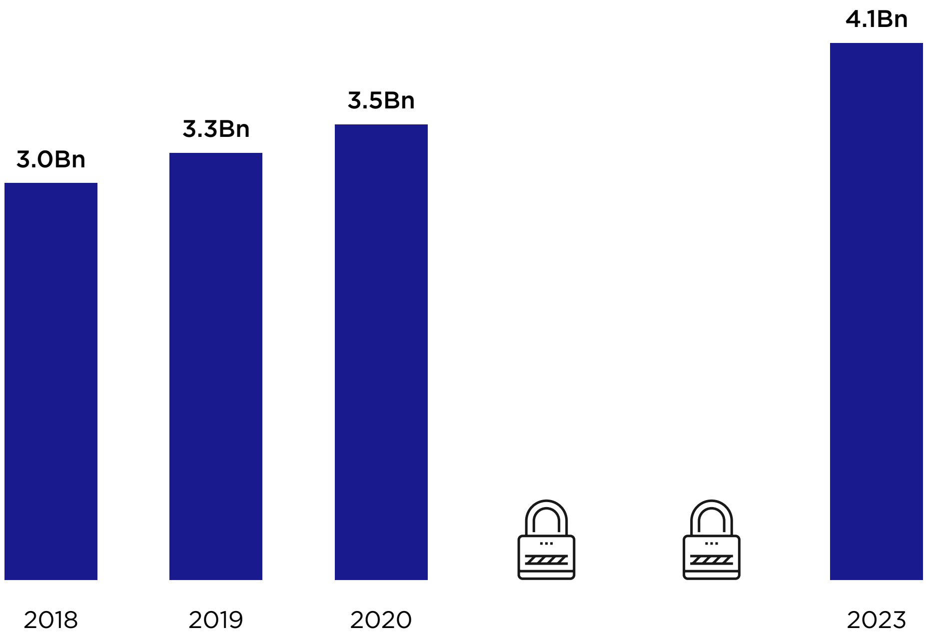
Population	7,794.8M
Online Population	4,396.1M
Smartphone Users	3,483.9M
Active Smartphones	4,155.9M
5G-Ready Smartphones	199.7M
Mobile Game Revenues	$77.2Bn

Smartphone User Forecast

In 2020, the total number of smartphone users worldwide will reach 3.5 billion, representing a year-on-year growth of +6.7%. By 2023, there will be 4.1 billion smartphone users globally, growing at a 2018-2023 CAGR of +6.2%. Much of the growth will be driven by emerging regions.

Smartphone Users Forecast

Global | 2018, 2019, 2020, 2023



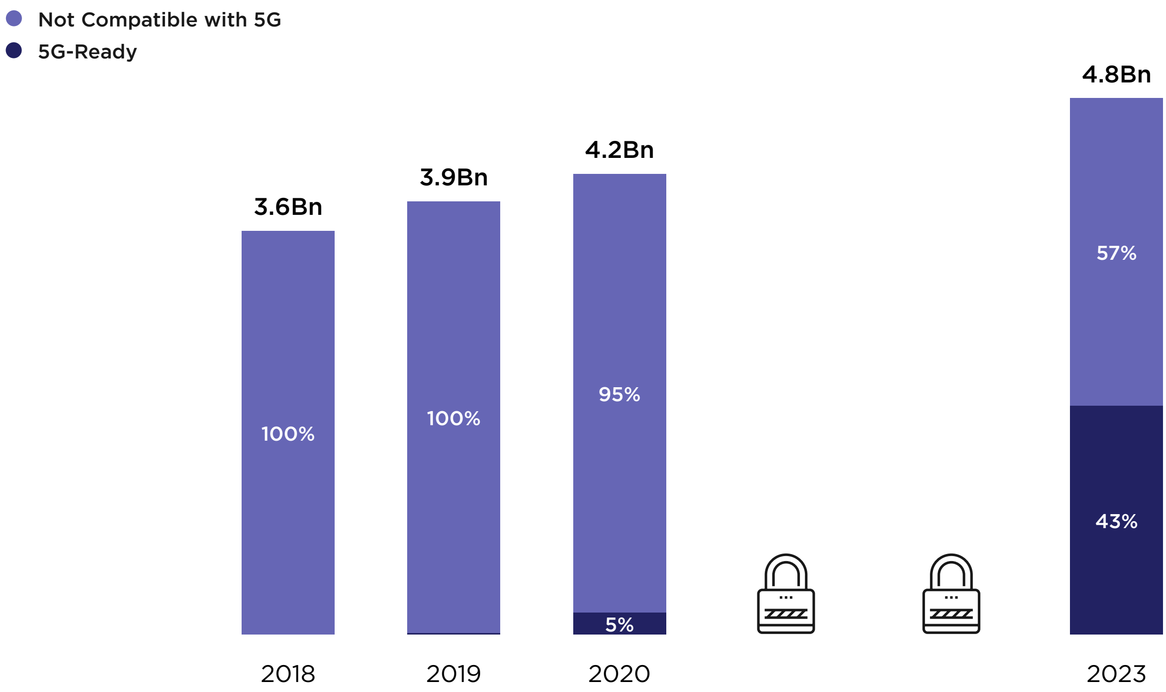
Find the complete 2018-2023 smartphone user forecast split per region in the full report.

Active Smartphones and 5G-Ready Smartphones

Across the world, there will be 4.2 billion smartphones in active use in 2020, with a year-on-year growth of +6.3%. By 2023, the number of total active smartphones in use will reach 4.8 billion. Among all active smartphones, 199.7 million will be 5G-ready by 2020, representing an impressive year-on-year growth of +1,214.7%. By 2023, there will be 2.1 billion 5G-ready smartphones globally, accounting for 42.7% of all active smartphones. The global number of 5G-ready smartphones will grow at a strong three-year CAGR (2020-2023) of +117.9%.

Active Smartphones & 5G-Ready Smartphones

Global | 2018, 2019, 2020, 2023



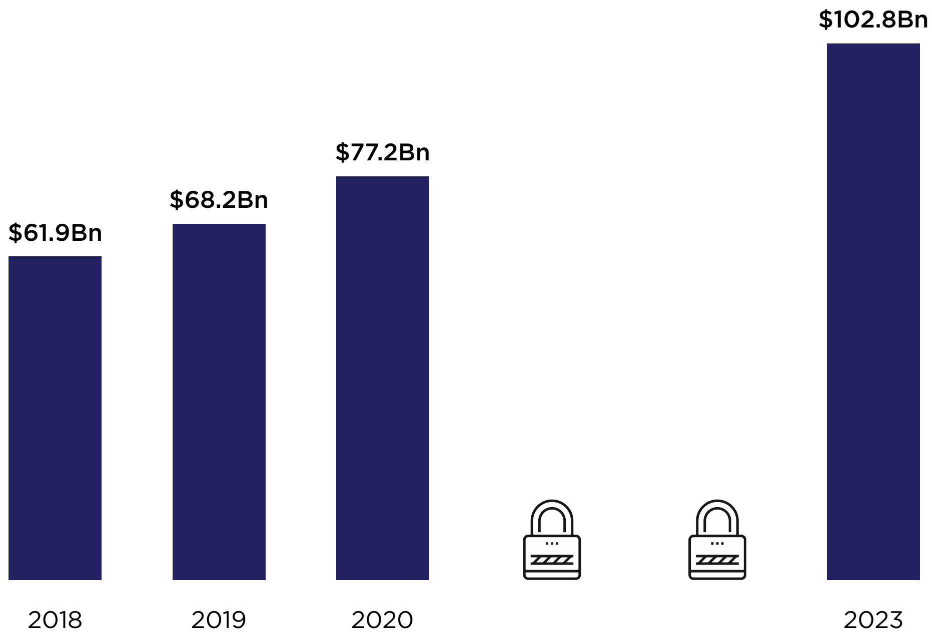
Find the complete 2018-2023 active and 5G-ready smartphone forecast in the full report.

Mobile Game Revenue Forecast

In 2020, global mobile game revenues will grow to $77.2 billion, a year-on-year growth of +13.3%. By 2023, global mobile game revenues are set to cross the $100 billion line, reaching $102.8 billion. In 2020, $38.8 billion in revenues—or 50.2% of the total global mobile game revenues—will come from the iOS platform. Revenues generated by mobile games downloaded from Google Play will reach $27.9 billion, 36.1% of the total market. Mobile game revenues from all third-party Android stores will account for the remaining $10.6 billion, 13.8% of the total.

Mobile Game Revenue Forecast

Global | 2018, 2019, 2020, 2023



Find the complete 2018-2023 mobile game revenue forecast split per app store in the full report.

4.

Key Global Trends

From Hypercasual to Hybrid-Casual

More Ways to Play Mean More Ways to Pay

The era of hypercasual on mobile is branching out into exciting new areas. Mobile advertising analytics company ironSource concluded at Gamefest 2018 that the hypercasual genre is effectively a funnel for converting mobile players into mobile (game) payers by analyzing the aggregated data of 2.5 billion users in ironSource's network over two years. Hypercasual's dramatic popularity spike between 2017 and 2020 led to an oversaturation of players, aggravated further by the increasing number of companies entering the space. These factors—along with a lack of viable, long-term monetization for the genre—have led many publishers to rethink their hypercasual strategies.

One approach many companies have adopted is retaining the core principles and mechanics of hypercasual game design but adding a layer of meta design elements to increase the lifetime value (LTV) of players, as exampled by Archero. This strategy shift led to the emergence of hybrid-casual games. The hybridity of this new genre is twofold:

- **Gameplay:** While the games remain casual at their foundation, meta game elements from core genres—such as action-based role-playing games (ARPGs) and deck builders—are added to the mix.
- **Monetization:** New ways to play lead to new ways to pay, including bundles and direct purchases, as well as the ad-based revenues popular in the hypercasual space.

Future Outlook: Hybrid-casual and Beyond

Find the complete trend on hybrid-casual in the full report.

Will iOS 14 Disrupt Mobile Advertising?

The past two decades have seen Internet penetration and engagement skyrocket. As a result, targeted personalized advertising has become the largest revenue stream for data-driven tech companies like Google and Facebook. Within the mobile ecosystem, in-app advertising has become a key source of revenue for app developers, including game makers. More mobile game publishers and developers than ever are relying on in-game ad revenues, particularly those active in more casual genres (especially hypercasual). For example, Outfit7 (publisher of My Talking Tom) generated six times more revenue from ads than from game publishing in 2019.

Apple's recent iOS 14 announcement is poised to completely change how advertising on mobile works. The update will see Apple revoking its identifier for advertisers (IDFA), making it practically impossible for businesses to track end-user behavior on iOS devices (both via web browsers and in apps). Without contextual insights from this tracking data, it will be challenging for publishers and developers to deliver targeted ads that fit users' preferences. As a result, companies may face higher user acquisition costs, and returns on investment may be far lower.

Impact and Ripple Effect: Advertising Across Mobile's Advertising Businesses

Find the complete trend on the effect of iOS 14 in the full report.

A Controlling Interest

Cloud Gaming, Core Experiences, and Cross-Platform Play Are Spiking Demand for Mobile Controllers

In 22 markets across the globe, Microsoft has brought more than 100 games to mobile via the cloud gaming component of its Xbox Game Pass Ultimate subscription. This service on mobile (xCloud) is enticing for many current and prospective Xbox players. As a result of cloud gaming, which brings console- and PC-level experiences to smartphones, there may be higher demand for game controllers on mobile from both mobile-first gamers and PC/console gamers who would love to play on-the-go, leading to a spike in revenues for the mobile game-peripheral market.

Brands such as SteelSeries, HyperX, Razer, and Samsung have already brought mobile controllers to market in the past year, with Razer being particularly committed. The company's Nintendo Switch-like Kishi controller, for example, is xCloud-ready out of the box, which the product's marketing heavily leans on. Some hardware manufacturers are even bundling controllers and cloud gaming subscriptions with their new flagship devices. For example, Samsung offers a Galaxy Note 20 bundle with PowerA's MOGA XP5-X Plus controller and a three-month Xbox Game Pass Ultimate subscription.

Key Developments and Outlook: Mobile Controllers, Inside and Out of Cloud Gaming

Find the complete trend on mobile controllers in the full report.

The Untapped 48%

The Female Mobile Gamer Opportunity in the West

Blending Passive with Passion

How Idle Game Mechanics Are Innovating the Midcore Space and Beyond

(Hyper)casual Games Hedge Their Bets

The Rise of Wager/Amateur Competitions in the Genre

Play to Win

Games That Let Players Win Prizes and Real Money

Find all seven trends in the full report.

5.

Special Focus Topics

5G Developments Amid a Global Pandemic

Devices, Demand, and Deployment

Last year already kickstarted the mobile market's transition toward the fifth generation of mobile network technology. Countries across the world rolled out 5G networks, while many of the world's leading smartphone manufacturers launched their first flagship 5G smartphones. For 2020 and 2021, the COVID-19 pandemic has created and amplified uncertainties around 5G's mass deployment, which may ripple into the years after. Political tensions are another contributing factor to the technology's slower-than-anticipated uptake.

What Are the Key 5G Market Developments in 2020?

Smartphone Manufacturers and 5G

Find the complete special focus topic on 5G developments amid a global pandemic in the full report.

The Current and Future Outlook of Dedicated Gaming Smartphones

Mobile gaming is increasingly becoming more immersive and competitive, especially in mobile-first markets like China. Mobile esports also is growing its global presence, strengthening the value proposition of dedicated gaming phones. Razer, a company known for its peripherals and now hardware in the PC space, was among the first companies to launch a gaming smartphone. The original Razer Phone (launched in 2017) boasted a 120HZ display, dual front-facing stereo speaks, and a variety of other features that targeted competitive gamers and core gamer personas—Razer's target audience in general. Following the launch of the Razer Phone, many Android phone manufacturers (especially Chinese brands) joined the fray with gaming smartphones of their own.

Like the Razer Phone before them, these devices and brands cater directly to core and competitive gamer personas. The latest gaming phone models take things even further, with more advanced display technologies, complex cooling systems, RGB lighting, larger screen sizes, faster charging, and, in some cases, bundled gaming controllers. Many of the newest gaming phones are also 5G-ready, including the Black Shark 3S from Xiaomi, the ROG Phone 3 from Asus, and the Legion Phone Duel from Lenovo. The latter two devices feature 144Hz displays, a popular monitor refresh rate among dedicated PC gamers.

What Does the Future Hold for Gaming Phones?

Content Partnerships: The Key to Gaming Smartphones Expanding Their Reach?

Find the complete special focus topic on the outlook of dedicated gaming smartphones in the full report.

6.

Rankings

Top 50 Markets 2020

By Smartphone Users

The table below shows the 50 markets worldwide with the highest number of active smartphone users. China has the most active smartphone users by far, boasting 874.4 million by the end of 2020. It will remain the #1 market by smartphone users toward 2023; India takes the #2 spot with 442.7 million smartphone users in 2020, followed by the U.S. with 270.0 million.

Market/Region	Global Rank	Population	Online Population	Smartphone Users	Active Smartphones	Smartphone Penetration
China	1	1,439.3M	907.5M	874.4M	1,062.8M	60.8%
India	2	1,380.0M	649.4M	442.7M	538.1M	32.1%
United States	3	331.0M	283.9M	270.0M	308.3M	81.6%
Indonesia	4	273.5M	174.1M	158.7M	192.8M	58.0%
Brazil	5	212.6M	152.2M	107.7M	127.3M	50.7%
Russia	6	145.9M	119.7M	99.0M	113.9M	67.8%
Mexico	7	128.9M	93.5M	69.2M	81.7M	53.6%
Japan	8	126.5M	101.5M	67.0M	81.4M	52.9%
Germany	9	83.8M	75.5M	65.0M	74.2M	77.6%
United Kingdom	10	67.9M	61.8M	53.2M	60.8M	78.4%

Find the complete ranking and text in the full report.

Newzoo: The Destination for Games Market Insights

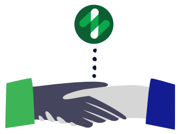
Our Services

Platform

The single destination for anyone with an interest in games. Broad and market-specific solutions, including our landmark reports.

Consumer Insights

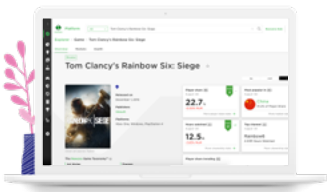
The best way to understand consumer engagement and profile target groups, including our persona segmentation.



Consulting

Custom projects that put our experience and expertise to work on strategic and financial challenges.

Global Esports Market Report & Global Games Market Report



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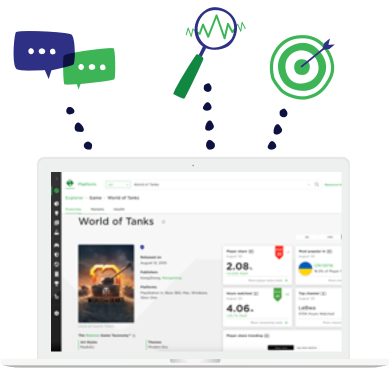

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- Reddit engagement metrics for 300+ games
- Player share rankings for games and genres in 40+ countries
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- Global live viewership metrics for games and genres
- Esports audience and revenues for 50 countries and 8 regions
- Esports investment tracker
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