

APP ANNIE

STATE
OF
MOBILE
2021



### **EXECUTIVE SUMMARY**

### 2020 Mobile Landscape at a Glance

New App Downloads

App Store Spend

Daily Time Spent Per User

Mobile Ad Spend

218B \$143B 4.2 Hrs \$240B \$73B

Venture Capital to Mobile Tech

+7%

YoY Growth

iOS, Google Play, Third-Party Android in China

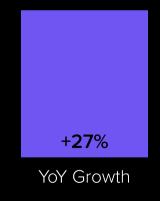


iOS, Google Play, Third-Party Android in China



Android Phones; Among Markets Analyzed





Source: Crunchbase



### What's Inside

- <u>Macro Mobile Trends</u>
- <u>Gaming</u>
- <u>Finance</u>
- Social Networking
- <u>Video Streaming</u>
- Retail
- Food & Drink
- <u>Marketing & Advertising</u>
- Other Industries Embracing Mobile Innovation
- Top Apps and Games of 2020



### The Mobile Performance Standard





























































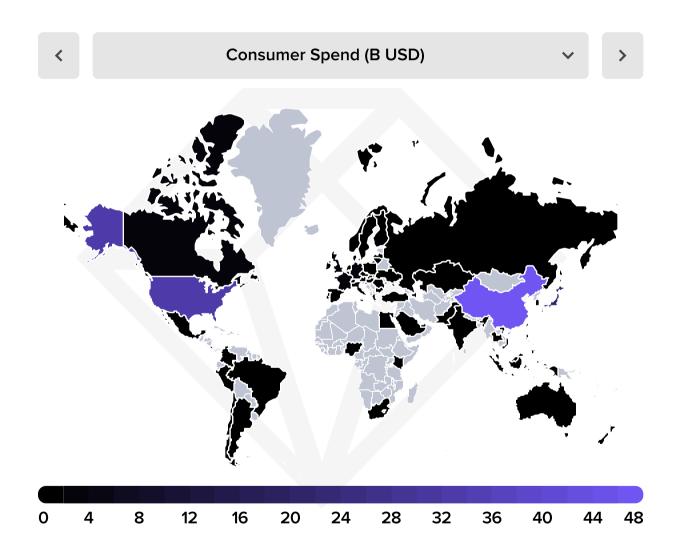
# Macro Mobile Trends

After a year that welcomed more downloads than ever before, apps should focus on influencing user discovery. 37% of app users we surveyed reported they found a new app through a friend or family member. 67% of users agree when discovering and purchasing new apps they trust what they learn from online research, and 50% only consider well-known apps. Cohesive brand and reputation, combined with a seamlessly connected user experience, continues to drive new user acquisition in an increasingly competitive market.

Imma Calvo Managing Director, Apps *Google* 



### Top Markets by App Store Downloads, Consumer Spend & Hours Spent in 2020



Source: App Annie Intelligence Note: Downloads and Consumer Spend are across iOS, Google Play, Third-Party Android in China combined; Spend is gross — inclusive of any percent taken by the app stores; Hours Spent is on Android phones



# **\$143B** Consumer Spend, **3.5T** Hours, **218B** Downloads

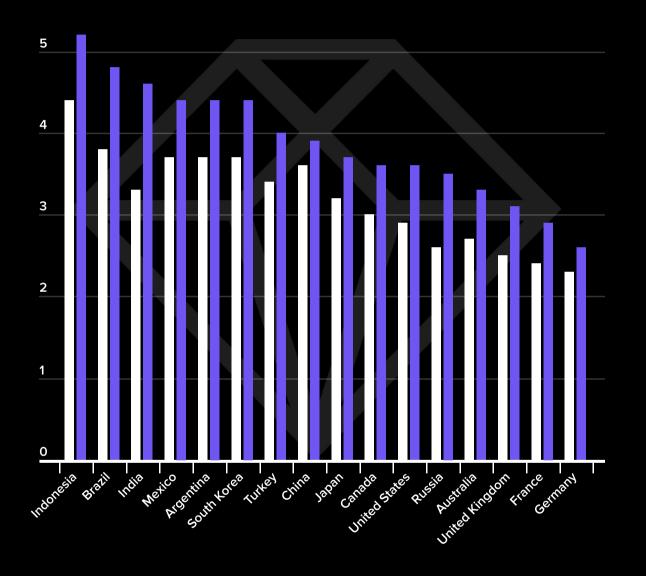
# Mobile Adoption Boomed in 2020 — Advancing 2 - 3 Years in 12 Months

- App habits are not fully formed demand for new apps and games still grows globally, up 7% YoY to 218 billion downloads.
   Now is the time for user acquisition.
- Consumers migrated more of their physical needs onto mobile; spend hit new heights at \$143 billion at 20% growth YoY.
- Mobile took over mindshare at 3.5 trillion hours on Android phones annually. Mobile is the only channel with this reach and depth of engagement.

Are you ready to seize the next big opportunity? Uncover key market drivers, shifts in consumer demand, spend and engagement, and markets primed for growth.

# STATE OF MOBILE 2021

### Average Hours Spent on Mobile Per Day Per User



2019

2020

Source: App Annie Intelligence Note: Android phones

### Mobile Time Spent Surpassed Live TV

## Americans Spent 8% More Time on Mobile Than Watching Live TV Each Day

- The average American watched <u>3.7 hours of live TV a day</u>, whereas they spent 4 hours on their mobile device in H2 2020.
- The weighted average among countries analyzed for time spent surpassed 4 hours 10 minutes during the pandemic up 20% from 2019.

Know where to make strategic decisions: advertising spend, corporate prioritization and resource allocation follow the eyeballs — and they are on mobile. Mobile market estimates highlight growth sectors to inform strategic roadmap and investment priorities.

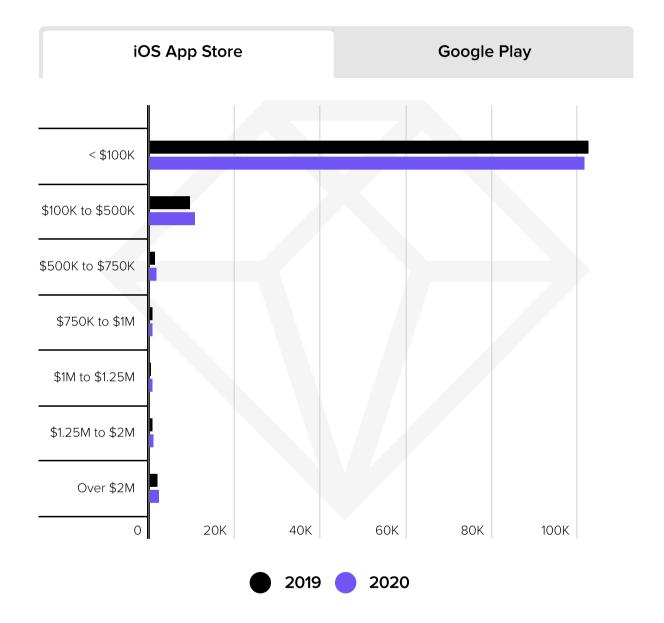
# Monetization: 25% More Publishers Earned Over \$2M Per Annum on Either Store

### Majority < \$1M Per Store

- 97% of publishers that monetize through the iOS App Store earned <\$1 million per annum and would benefit from Apple's <u>App Store</u> small business program reducing fees from 30% to 15%.
- Many publishers particularly gaming publishers roll up under larger companies or parent companies and also monetize across both stores taking home much more per year in aggregate.

Analyze revenue trends across stores, categories and countries to maximize your LTV and revenue potential.

### Distribution of Mobile App Publishers by Annual Global App Store Consumer Spend



Source: App Annie Intelligence Note: China is iOS only; Among top publishers analyzed; Publishers can roll up into companies and parent companies; Analysis is done on the publisher-level among apps that monetize through the app stores; Not all publishers across both app stores are represented; Starting value of ranges is \$100,001, \$500,001, \$750,001, \$1,000,001, \$1,250,001, \$2,000,001 respectively.



### \$73 Billion Investment Capital Poured Into Mobile Companies

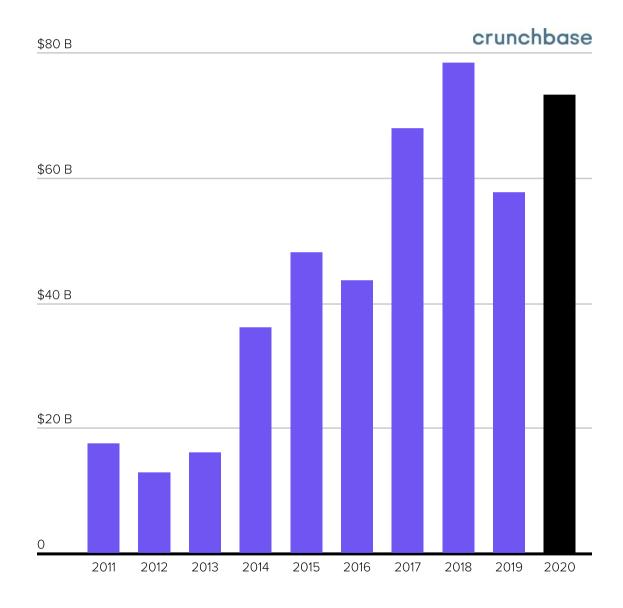
### 27% Growth Year-Over-Year

- From 2016 to 2020, global funding to mobile technology companies more than doubled compared to the previous 5 years.
- Led by financial services, transportation, commerce and shopping.

Investments in companies with a mobile solution represent 26 percent of total global funding dollars in 2020, per Crunchbase data. Mobile has driven consumer and enterprise technology innovation with geo-location, cloud services and Artificial Intelligence, creating leading companies in transportation, financial services, health care and entertainment.

— Gené Teare Data Researcher Crunchbase

### A Decade in Funding to Mobile Tech Funding Includes Seed, Venture and Private Equity for Venture-Backed Companies



Source: Crunchbase Note: As of Dec 18, 2020

# STATE OF MOBILE 2021

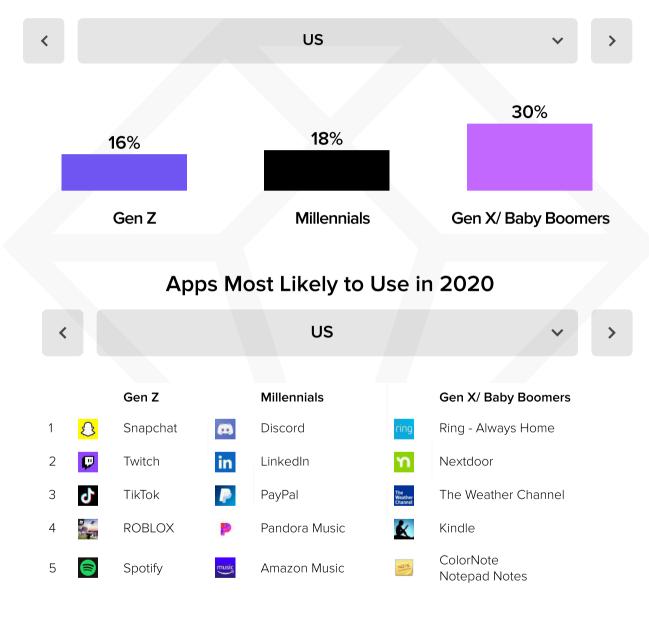
### Not Just Gen Z— Millennials & Baby Boomers Spend More Time in Mobile

# Mobile Affinity Varies by Market & Demographic

- In the US, Gen Z, Millennials and Gen X/ Baby Boomers spent 16%, 18% and 30% more time YoY, respectively, in their most-used apps. In the UK, this was 18%, 17% and 27%, respectively.
- In the US and UK, Gen Z had the highest affinity for <u>Snapchat</u> and <u>Twitch</u>, respectively.

Focus on your key demographics: Understand the varying demographic opportunities behind mobile categories, countries, and design styles to identify latent demand and key partnership opportunities.

### Year-Over-Year Growth in Total Time Spent in Top 50 Apps Per User by Demographic



Source: App Annie Intelligence Note: Android phones; Gen Z represented by those aged 16 -24; Millennials represented by those aged 25-44; Gen X / Baby Boomers represented by those aged 45+; Average of top 50 gaming and non-gaming apps by average MAU excluding pre-installed apps; Apps most likely to use among top 25 apps by average MAU excluding pre-installed apps and a measure of demographic cohort compared to the overall population

As consumers spend more time than ever on mobile, we continue to double down on experiences that help real friends stay connected and entertained. From new original shows to social gaming features and augmented reality advancements, Snapchat's product investments support both our growing community and our advertising partners alike.

### Skye Featherstone

Product Marketing Manager

Snapchat





Now more than ever, consumers rely on trusted weather data to help make decisions. By focusing on our customers, their evolving needs and marketplace trends, The Weather Channel remains a top app in a competitive category and is the world's leading weather provider.

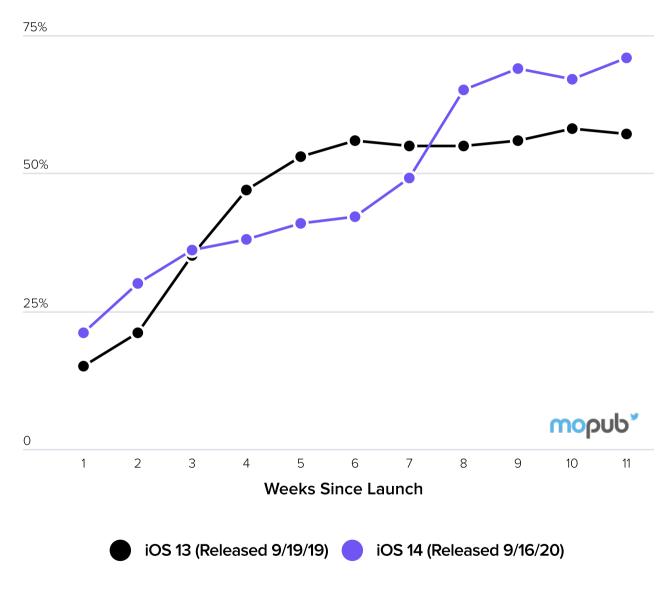
### **Allison Guidetti**

Head of Global Consumer Marketing

The Weather Company & IBM Business



### Percentage of Global iOS Users Adopting New iOS Version



Source: MoPub



### iOS 14 at 24% Higher Adoption Rate

### At 10 Weeks Post-Launch Versus iOS 13

- According to data from MoPub, iOS 14 had higher adoption rates heading into 2021. In particular, Germany and France led initial adoption rates. US and Great Britain had similar adoption rates, and Japan initially lagged behind. A few weeks after launch, adoption rates increased and passed the 50% threshold.
- Advertisers should prepare for the implications of IDFA by looking to aggregated advertising data for actionable insights.

Despite an initially slower start, iOS 14 ultimately hit a higher rate of adoption in a faster time frame relative to its previous version.

— John Bonanno Revenue Manager MoPub

# Gaming

Researching and using top games, category trends, and quantifying size of a category are all critical for us to stay informed on competitors and changes to our industry. Game IQ has been an excellent resource for this intelligence. As we evaluate potential partnerships and even acquisition targets, access to this information is extremely valuable.

Joseph Byrne

Director of Strategy & Business Development *SciPlay* 



### Core Gamers Chose Mobile Console at Home

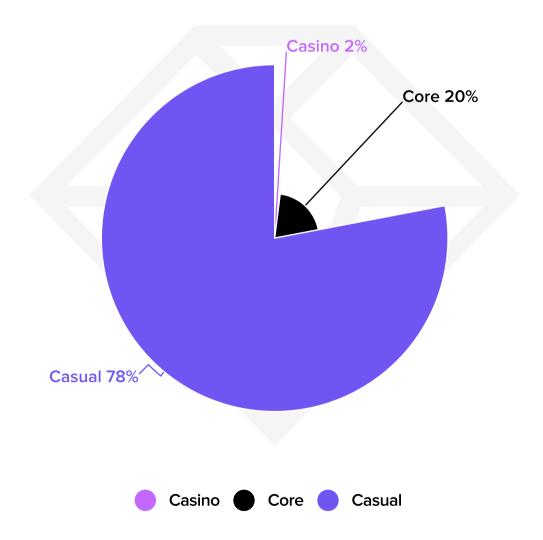
## Core Gamers Generate 66% of Spend, 55% of Time Spent on Mobile Games

- Casual games dominate downloads with the popularity of easyto-use names like <u>Among Us</u>, <u>ROBLOX</u> and <u>My Talking Tom</u> <u>Friends</u>.
- APAC drives a significant portion of spend and time spent among Core games, yet Console and PC-gone-mobile titles bridge the West into Core mobile gaming.
- Mobile gaming on track to surpass \$120 billion in consumer spend in 2021 capturing 1.5x of the market compared to all other gaming platforms combined.

Uncover detailed market opportunities, build products catered to your subgenre, and analyze granular gamer preferences with <u>Game IQ</u> the industry standard for game classiciation.

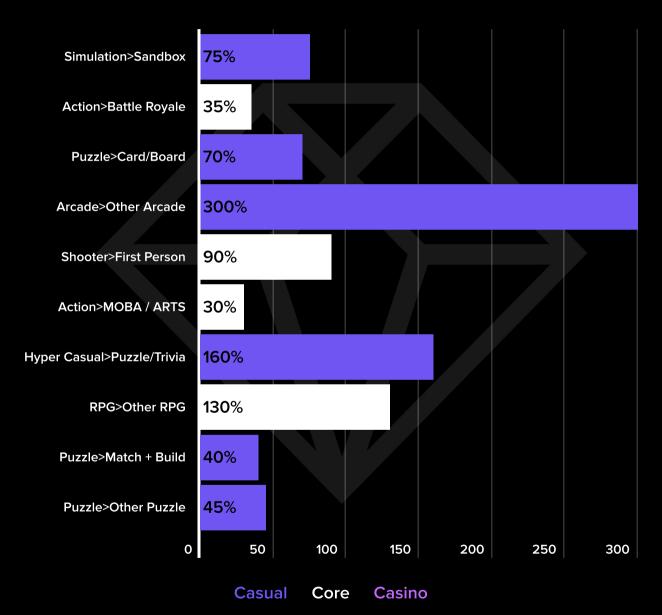
### Global Mobile Gaming Breakdown 2020

Downloads Consumer Spend Time Spent



Source: App Annie Intelligence Note: Downloads and Consumer Spend are across iOS and Google Play combined (iOS only in China); Spend is gross—inclusive of any percent taken by the app stores; Time Spent is on Android phones

### Year-Over-Year Growth in Global Hours Spent Ordered by Year-Over-Year Market Share Growth in 2020



**Source:** App Annie Intelligence Note: Android phones, Among top 10 subgenres by year-over-year growth in market share of time spent





### Sandbox, Arcade & Card / Board Casual Games Gained Market Share

### **Mobile Gaming Moves Mainstream**

- Casual > Simulation > Sandbox games took over the most market share globally, up 1.9 percent share points YoY to nearly 7% of the total market split between 112 subgenres.
- Casual > Arcade > Other Arcade saw the greatest growth in overall time spent YoY — growing 300% to 4.5 billion hours in 2020.

The mobile game market is moving fast. In order take advantage of trends, timely and in-depth estimates and analysis are required. Let <u>Game IQ</u> take you to the next level with detailed game classification.

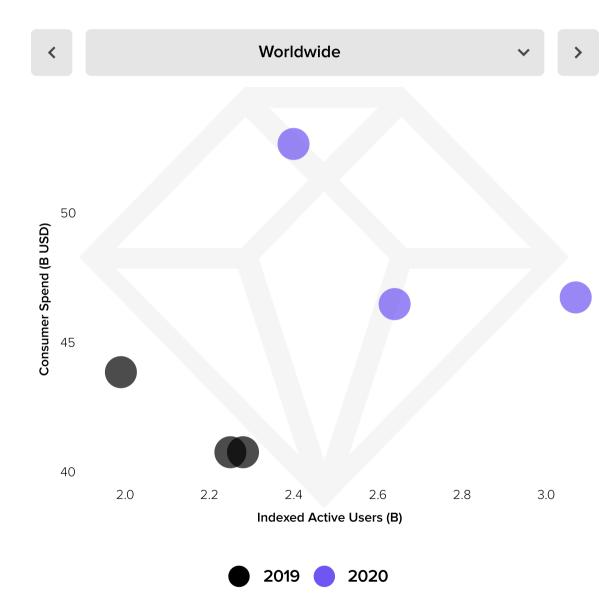
# Events Drove Highest Gaming ARPU in 2020

## +20% Year-Over-Year Growth in Total Consumer Spend & Users

- Events, leaderboards and customization were the top gameplay features for app store monetization in 2020 in western markets.
- In APAC, however, competitive multiplayer, chat (China and South Korea), daily & logins (Japan), and guilds and clans (China) were some of the top-performing features by Average Revenue Per User (ARPU).

Layering rich modifiers with <u>Game IQ</u>, like game-play features, in an ARPU analysis highlights critical market differences and high growth segments — giving you direct actinable insights that affect your top line.

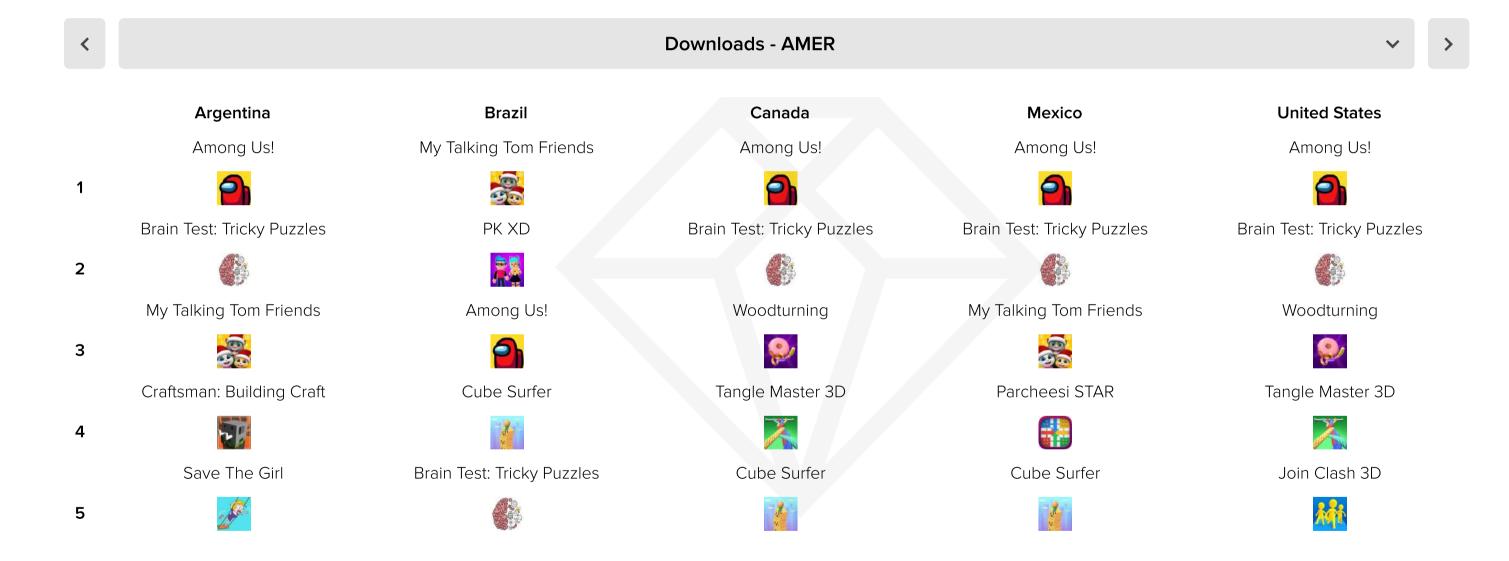
### Mobile Gaming User Monetization Breakdown by Gameplay Features



Source: App Annie Intelligence Note: Consumer Spend is across iOS and Google Play combined; Active Users are across iPhones and Android phones; Indexed to show relative size of markets across aggregate games with gameplay feature.; In this instance, Average Revenue Per User is represented by Average Consumer Spend Per User.



### Breakout Games



Source: App Annie Intelligence Year-Over-Year Growth in combined iOS & Google Play Downloads (China is iOS only), iOS and Google Play Consumer Spend (China is iOS only) and Android phone Time Spent among Games categories across iOS & Google Play

# Finance

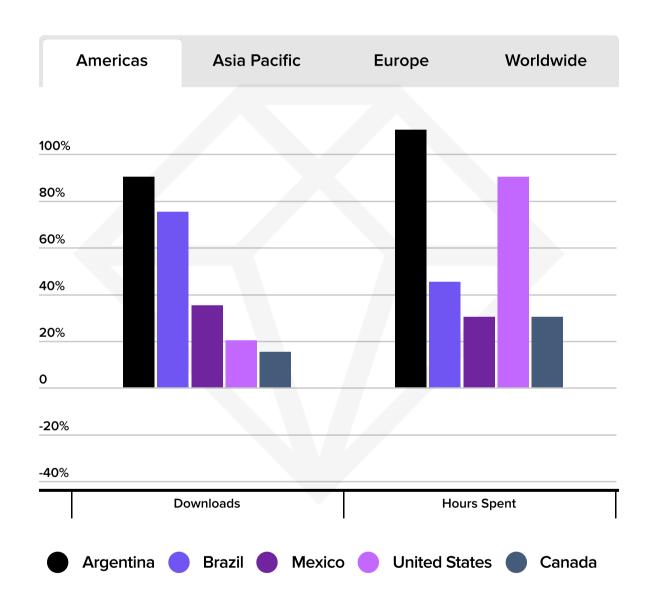
At HSBC, we have been transforming the mobile banking experience for our customers globally with the launch of new apps and features. Our customers' feedback is crucial to helping us shape and refine our experiences, and App Annie has helped us to monitor this through our app ratings across our markets.

Khanh Hwang

Head of Digital Product - Everyday Banking *HSBC* 



### Year-Over-Year Growth in Downloads & Hours Spent in Finance Apps in 2020



**Source: App Annie Intelligence** Note: Downloads and Consumer Spend are across iOS, Google Play, China is iOS only; Hours Spent is on Android phones



# Mobile Fuels 45% More Financial Engagement

## Mobile Is the Channel for Influencing Financial Decisions

- Time spent in Finance apps during 2020 was up 45% worldwide outside of China in 2020 YoY.
- Whether leveraging wallet apps, financial services like loans, shopping for major purchases like a car or a house, or investing in the market, Finance apps are in high demand and a critical part of the decision-making process for consumers.
- Decline in Finance app downloads in China came after new legislation in the peer-to-peer lending space.

Understand which features are cultivating stickiness with users and preferred over desktop or in-person interfaces. Mobile is the common thread in financial decision-making: from research to consideration, evaluation & purchase or investment.

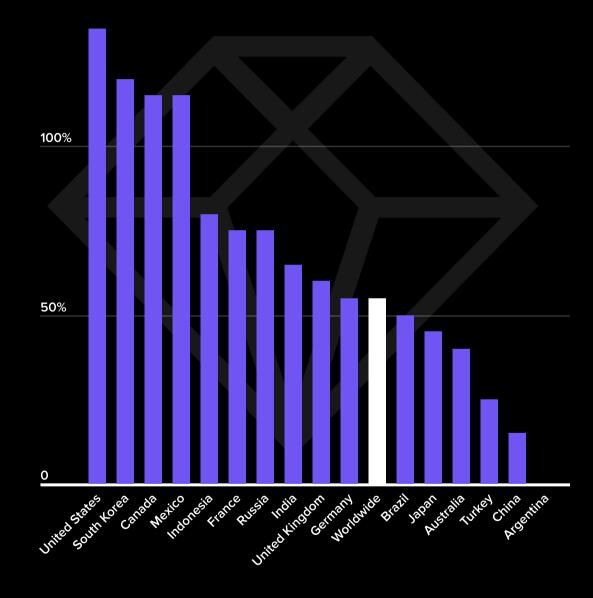
### Participation in Stock Market Grows 55% Globally on Mobile

# Investment Monitoring & Trading Apps Democratize Trading & Empower the Everyday Trader

- Amidst a tumultuous financial market upended by COVID-19, mobile apps are the go-to channel for participation illustrating a powerful shift in financial thinking.
- Similar shifts arose in the credit space, with peer-to-peer loan apps on the rise in Indonesia and buy now, pay later or "reverse credit" attracting Gen Z and millennials in the US and Australia.

Payments, transfers, mobile wallets and trading captured the most attention among fintechs — without timely monitoring, you may miss out on key indicators of the evolving customer mindset.

### Year-Over-Year Growth in Hours Spent in Top Investment & Trading Apps



Source: App Annie Intelligence
Note: Android phones; Among top 5 apps

### Breakout Apps

2020 Finance: Time Spent

AMER			APAC	EMEA	
	Argentina	Brazil	Canada	Mexico	United States
	Mercado Pago	Caixa Tem	Yahoo Finance	Bancomer móvil	Robinhood
1		*©	yahoo/	BBVA	
	Banco Nación	CAIXA	Wealthsimple Trade	HSBC México	Cash App
2		X	w	MX	\$
	Brubank	CAIXA   Emergency Aid	Scotiabank	Banamex Mobile	TD Ameritrade
3	<b>6</b>	OMETA  AND THE OFFICIAL  SENSOR	5	citi	
	Banco Galicia	Nubank	TD (Canada)	Supermóvil	Yahoo Finance
4	+	MU	TD	MX MX	yahoo/
	Santander Río	Banco Inter	RBC Mobile	Banco Azteca	Webull Stocks
5	<b>~</b>	inter	RBC		

**Source: App Annie Intelligence** Year-Over-Year Growth in Android phone Time Spent Among apps in the Finance category across iOS & Google Play



COVID-19 has further accelerated our customers' preference towards mobile banking, so we are pleased that our commitment to best-in-class customer experience is recognized. It is great validation of our continuing focus on building experiences that enable our customers to bank when, where and how they want to bank in both Canada and the US.

Imran Khan

VP — Global Digital Experience

TD Bank





# Social Networking



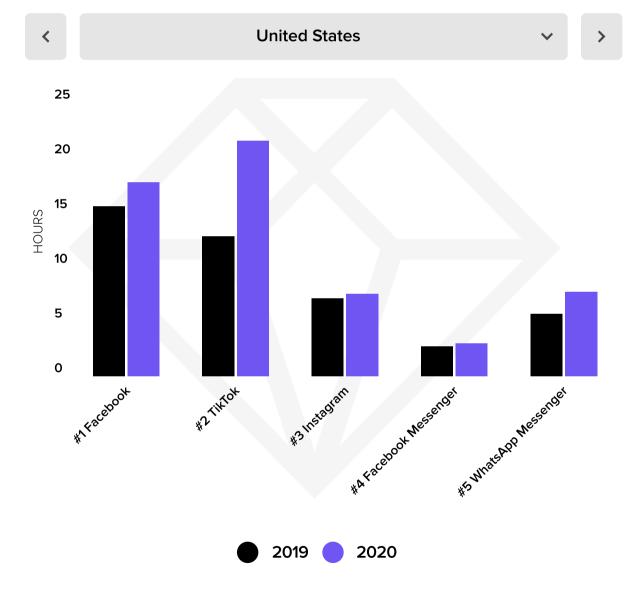
### TikTok Outpaces Top Social Apps in Hours Per User

### Up to 325% Year-Over-Year Growth

- Time spent indicates the reach and depth of engagement among top social apps by time spent, the average time spent per user increased for nearly every app in every market.
- <u>TikTok</u> ranked in the top 5 by time spent and its average monthly time spent per user grew faster than nearly every other app analyzed, including 70% in the US and 80% in the UK — surpassing <u>Facebook</u>. TikTok is on track to <u>hit 1.2 billion</u> active users in 2021.

Monitor consumer behavior shifts: TikTok is commanding significant per-user engagement. Mobile market estimates inform if this is cutting into your market share, or additive overall and how that shapes your next steps.

### Average Monthly Time Spent Per User Among Top Social Networking Apps by Hours Spent in 2020



### Source: App Annie Intelligence

Note: Android phones; Top apps ranked by overall Time Spent



### Breakout Apps

2020 Social: MAU

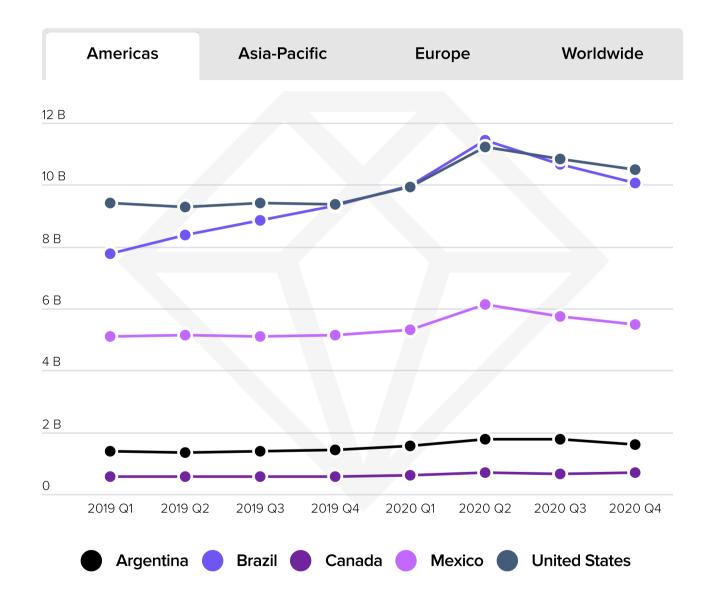
AMER			APAC		EMEA	
	Argentina	Brazil	Canada	Mexico	United States	
	TikTok	TikTok	TikTok	TikTok	TikTok	
1	4	4	<b>5</b>	<b>&amp;</b>	<b>5</b>	
	Instagram	Telegram	WhatsApp Messenger	Instagram	Discord	
2						
	Telegram	Instagram	Twitter	Pinterest	Facebook	
3	•	O	<b>Y</b>	0	f	
	Discord	Pinterest	Discord	Telegram	Instagram	
4		P			O	
	Facebook	Twitter	Reddit	Twitter	WhatsApp Messenger	
5	f	<b>Y</b>	<b>6</b>	<b>y</b>		

**Source:** App Annie Intelligence Year-Over-Year Growth in iPhone and Android Phone Combined MAU among apps in the Social, Social Networking and Communication categories across iOS & Google Play. Our analysis is limited to apps whose primary purpose is communication, whether one-to-one or one-to-many. Excluding Browsers and utilities



# Video Streaming

### Quarterly Hours Spent in Video Streaming Apps



### Source: App Annie Intelligence

Note: Android phones; Video Streaming apps comprised of Entertainment and Video Players & Editors



# 40% More Hours Streamed on Mobile in 2020

## Binging From Anywhere — Consumers Choose Mobile Over TV

- Time spent in streaming apps peaked in Q2 2020 in the west as the first wave of COVID-19 forced people inside.
- Even while at home, consumers turned to the small screens to stream content or engage in second-screening.
- By 2021 and in the new normal, the average mobile streamer in the US, South Korea and the UK will download 85%, 80% and 60% more video streaming apps, respectively, compared to pre-pandemic levels.

Maximize your output: Know where to focus your ads, craft your SDK and ad partnerships and analyze features in high demand to inform your strategy.



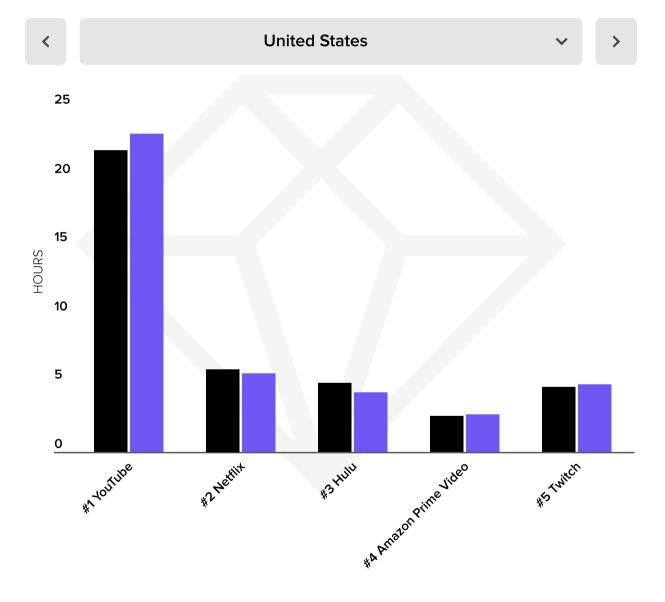
### YouTube Sees Up To 6x Time Spent Per User vs. Next Closest App, Up to 38 Hours a Month

# Equivalent to One Week's Worth of Full-Time Work Spent Streaming

- YouTube was the #1 ranking video streaming app by time spent among all markets analyzed, except China. YouTube also commands the market in average time spent per user per month among markets analyzed.
- Twitch outranked many video streaming platforms showcasing the rise of user-generated content, live streams and e-sports.

Benchmark your success and progress in highly competitive markets like video streaming. Lower than average time spent per user? Consider your re-engagement mechanisms, recommendation engine and streaming features like joint-viewing. Evaluate mobile market estimates to benchmark progress.

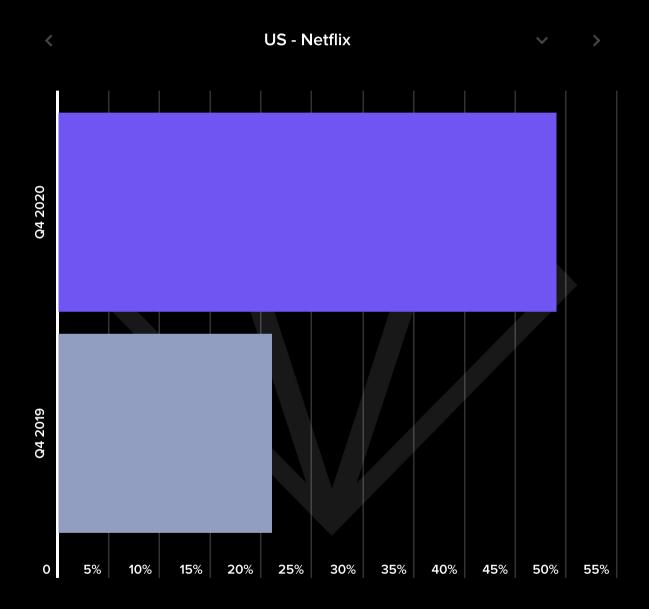
### Average Monthly Time Spent Per User Among Top Video Streaming Apps by Hours Spent



### Source: App Annie Intelligence

Note: Android phones; Top apps ranked by overall Time Spent; Excluding News & Sports streaming apps

### % of Selected Video Streaming App Users Who Also Used TikTok



Source: App Annie Intelligence Note: iPhones for Australia, Canada, France, Germany, Japan, UK, US. Android phones for Argentina, Brazil, China, India, Indonesia, Mexico, Russia, South Korea, Turkey

### TikTok Encroaches on Video Streaming War

# TikTok's Cross-App Usage With Top Streaming Apps Grows YoY

- The user base of top streaming apps is increasingly using
   TikTok YoY which could represent a competitive threat.
- In the US, 2.3x the usage penetration of Netflix's iPhone user base used TikTok in Q4 2020 vs Q4 2019.
- Impact of the TikTok ban in India is seen here bucking the trend — a dramatic 23 percentage point decline in crossapp usage YoY.

Cross-app usage unearths opportunities, threats and partnerships and can give you valuable insight into how to approach the market: defensively, offensively or collaboratively.



### Breakout Apps

### 2020 Video Streaming: Time Spent

AMER			APAC		EMEA	
	Argentina	Brazil	Canada	Mexico	United States	
	Netflix	Netflix	Amazon Prime Video	Netflix	Disney+	
1	N	N	prime video	N	Dengs+	
	Twitch	Amazon Prime Video	Netflix	Amazon Prime Video	Roku	
2		prime video		prime video	Roкu	
	Amazon Prime Video	Twitch	Disney+	Twitch	Tubi TV	
3	prime video		Dienesp+		tubi	
	YouTube Go	Globo Play	Twitch	YouTube Go	Twitch	
4	•	globo	<b>P</b>	•		
	YouTube Kids	YouTube Kids	Roku	Disney+	Amazon Prime Video	
5			Roкu	Discop+	prime video	

**Source:** App Annie Intelligence Year-Over-Year Growth in Android Phone Time Spent among apps custom categorized from the Entertainment, Photo & Video, News, Sports, News & Magazines and Video Editors & Players categories across iOS and Google Play



# Retail

People have always come to Pinterest to shop, and in 2020 we made it easier than ever to go from inspiration to purchase, and for retailers to upload their catalogs and benefit from product discovery. As distributed commerce unlocks seamless shopping experiences, we'll continue our work to make every item on Pinterest shoppable.

Dan Lurie
Head of Shopping Product *Pinterest* 



# STATE OF MOBILE 2021

### M-Commerce Boom Changes Shopping Behavior

### **Biggest Mobile Shopping Year Yet**

### \$115 BILLION

<u>Spent globally</u> during 11.11 Shopping Festival across Alibaba and several other shopping platforms from Nov 1 - Nov 11, 2020. Mobile drove the lion's share.

### +30% YoY

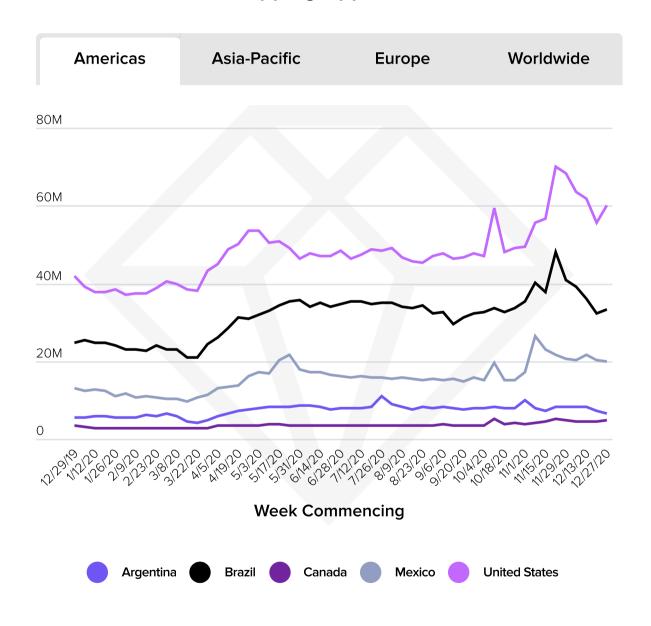
Time spent globally in Shopping apps on Android phones during 2020. Outside of China — an early adopter of mobile shopping — global time spent in Shopping apps grew 45% YoY.

### **\$53.2 BILLION**

Spent on mobile in the US from Nov 1 - Dec 9, 2020, up by over 55% YoY.

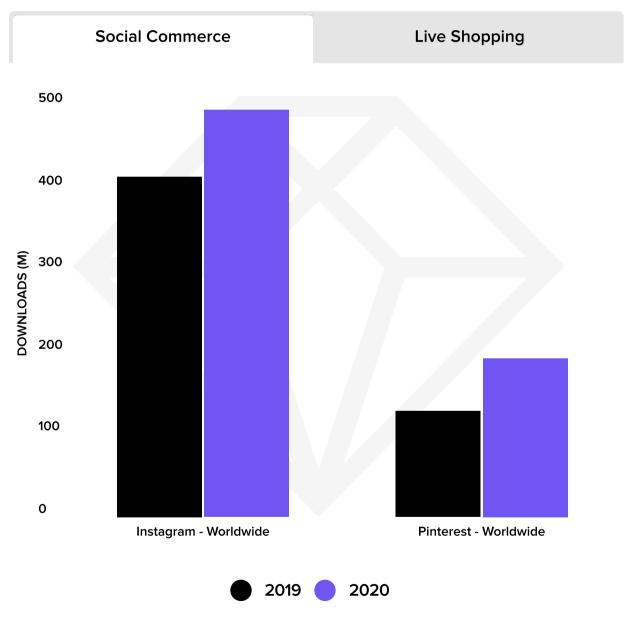
Capitalize on a rapidly growing market — use data to segment, strategize and identify opportunities to drive top-line retail growth.

### Weekly Hours Spent in Shopping Apps in 2020



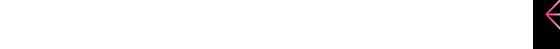
Source: App Annie Intelligence Note: Android phones

### Downloads of Select Social Commerce & Live Shopping Apps in Select Markets



Source: App Annie Intelligence

Note: iOS and Google Play combined; China is iOS only



### Alternative Commerce: Social & Live Shopping, a \$2 Trillion Opportunity

# Mobile-First Shopping of 2021 & Beyond

- Global downloads of <u>Pinterest</u> and <u>Instagram</u> worldwide grew 50% and 20% YoY, respectively. Social commerce and live shopping present a \$2 trillion market globally by 2024.
- Downloads of live shopping <u>TaoBao Live</u> in China, <u>Grip</u> in South Korea and <u>NTWRK</u> in the US grew 100%, 245% and 85% respectively. China was a first-mover in the live streaming shopping market.
- The market is budding in the US, as evidenced by NTWRK nearly doubling in size. While further along in South Korea, it is still nascent. The YoY growth rates are early indicators of market demand.

Monitor early indicators of high-growth segments in the mobile market by country and region to plan in advance for emerging and disruptive trends.

### Breakout Apps

### 2020 Shopping: Time Spent

	AMER		APAC		EMEA	
	Argentina	Brazil	Canada	Mexico	United States	
	MercadoLibre	MercadoLibre	Amazon	MercadoLibre	Amazon	
1			amazon		amazon	
	Tiendamia	Shopee	AliExpress	Amazon	Walmart	
2	mia	12.12	AllExpress	amazon	>1<	
	Falabella	OLX Brasil	Wish	SHEIN	eBay	
3	f.	OL-X	w	S BLACKTHINAY	ebay	
	Avellaneda a un Toque	Magazine Luiza	eBay	Liverpool México	Target	
4			ebay		<b>O</b>	
	ZARA	Amazon	Flipp	Privalia MX	Instacart	
5	ZAPA	amazon	fine.			

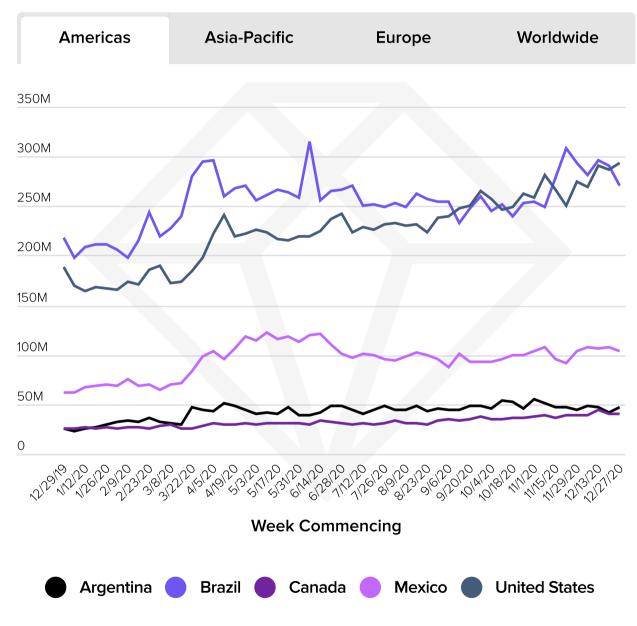
# Food & Drink

In 2020 we were able to focus on executing mobile strategies that really delivered incremental growth for Deliveroo. We were able to couple consumer insights with market context from App Annie to make decisions that have had a high impact on our performance.

James Cordery
Head of Performance Marketing Strategy *Deliveroo* 



### Weekly Sessions Spent in Food & Drink Apps in 2020



Source: App Annie Intelligence
Note: Android phones





## Country Sessions Grew Up to 105% Year-Over-Year

- For most markets analyzed, sessions for the year ramped up in Q2 and Q3, reaching record highs in Q4 2020 as consumers stayed home amidst lockdowns and social distancing policies from COVID-19.
- In the US, Argentina, the UK, Indonesia and Russia YoY growth in Q4 2020 was 60%, 65%, 70%, 80% and 105%, respectively.
- While use of food delivery apps often peaked near the beginning of the pandemic in most markets, India had an initial decline due to logistical impacts before rising again in the summer.

Analyze app features and their performance metrics. Contactless delivery, contactless payments, a desire for choice and variety help fuel demand for Food & Drink apps.



#### Breakout Apps

#### 2020 Food & Drink: Sessions

	AME	R	APAC	E	EMEA		
	Argentina	Brazil	Canada	Mexico	United States		
	PedidosYa	iFood Delivery de Comida	UberEATS	UberEATS	DoorDash		
1	7	ifeed	Uber Eats	Uber Eats	7		
	Rappi	UberEATS	SkipTheDishes	DiDi Food	Recipes Home		
2	*	Uber Eats	SKIP	Б			
	Wabi Casa	Zé Delivery de Bebidas	DoorDash	Rappi	UberEATS		
3	<b>~</b>		<b>-</b>	*	Uber Eats		
	UberEATS	James Delivery	Tim Hortons	DiDi Couriers	Instacart		
4	Uber Eats	HELLO	Tim Hortons	D			
	Grido	99 Food	Instacart	Sodexo Club MX	Grubhub		
5	GRIDO	99 Food		sopexo Club sodexo	GRUBHUB		

**Source: App Annie Intelligence** Year-over-Year Growth in Android Phone Total Sessions Among apps in the Food and Drink category across iOS & Google Play



# Marketing & Advertising

Finding new developers in the mobile app space and having the ability to dive deeper into understanding our customer's performance is hugely important to Vungle. Through App Annie's powerful data and tools, we are able to unearth these growth opportunities and better inform our creative, advertising, and monetization strategies to deliver value to our customers.

Alex Magill Sr Revenue Analyst *Vungle* 



#### Mobile Ad Placements Grew 95% Year-Over-Year in US

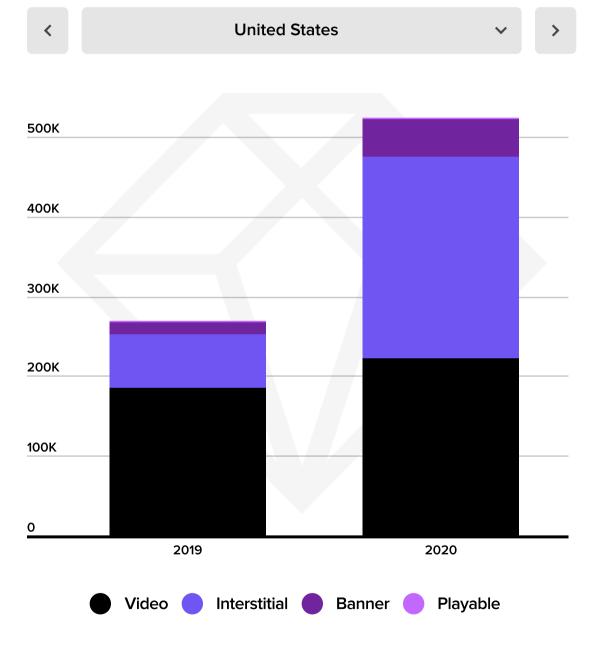
#### 335% in Turkey, 175% Mexico, 165% France, 170% Brazil

- Across the board, interstitial ads saw the largest YoY growth as COVID-19-induced cuts to marketing budgets likely prompted advertisers to seek cheaper inventory.
- Video ads saw YoY growth yet were dethroned for placements by interstitial in all markets analyzed except Australia and Canada

   where video remained the most prominent.

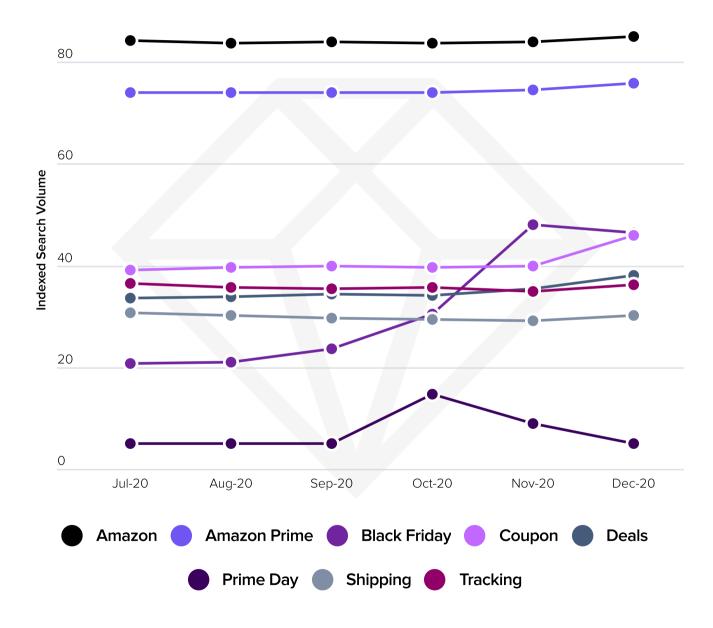
Mobile bolstered the ad industry in 2020 — growing to \$240 billion in mobile ad spend and set to top \$290 billion in 2021. Use SDK and ad network penetration insights along with creative intelligence to explore the ad partnerships and best practices for the strongest ROI.

#### Mobile Ads By Format, Prominent Ad Network



Source: App Annie Intelligence Note: iPhones and Android phones

#### Indexed Average US Search Volume for Keywords



Source: App Annie Intelligence

Note: iPhones; Averaged daily search volume

#### Capitalize on Organic Search Traffic With Strategic Keyword Optimization

#### Black Friday Interest Ramps in September

- Interest in Amazon's subscription service "Amazon Prime" saw 1.6x search volume as "Black Friday" at its peak in November 2020.
- Search volume for "Prime Day" grew 3x month-over-month in October, yet remained roughly 1/3 the demand of "Black Friday" indicating an emerging opportunity, but retailers will need to think strategically to capture organic traffic during Prime Day.

App Annie supports our ASO success by allowing us to discover keywords to optimize our app store presence and uncover competitors' paid and organic keyword strategies.

— Susan Azari Mobile App Commercial Lead *The Very Group* 

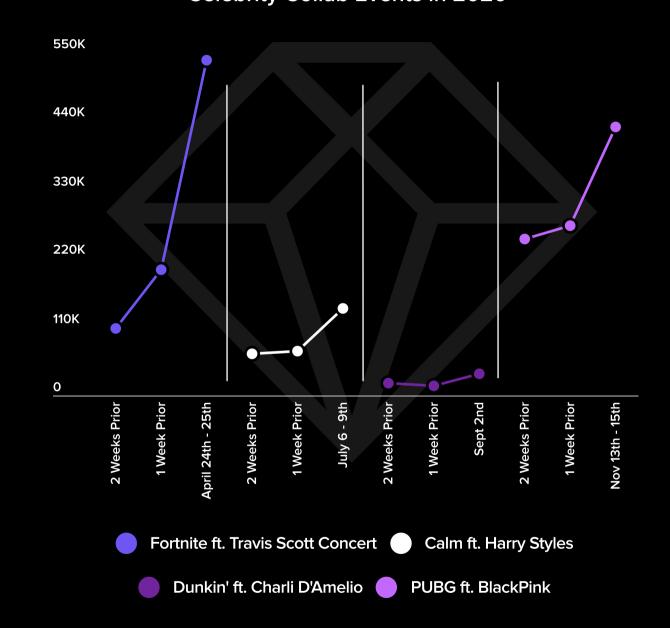
#### Strategic Celebrity-Mobile App Collabs Spur Up to 2.7x Downloads

#### Mobile-Savvy UA to Cut Through the Noise

- Collaborations span categories, including meditation apps, fast food, games, shopping, music and more.
- The fusion of live shopping and celebrity collaboration is another marketing tactic poised for growth.

Collaborations can boost your user acquisition if planned carefully, fueled by demographic, cross-app usage and engagement data, and integrated marketing resources diverted to fully support the mobile campaign.

#### Average Daily Global Downloads During Celebrity Collab Events in 2020



Source: App Annie Intelligence
Note: iOS and Google Play, China is iOS only



### Other Industries Embracing Mobile Innovation

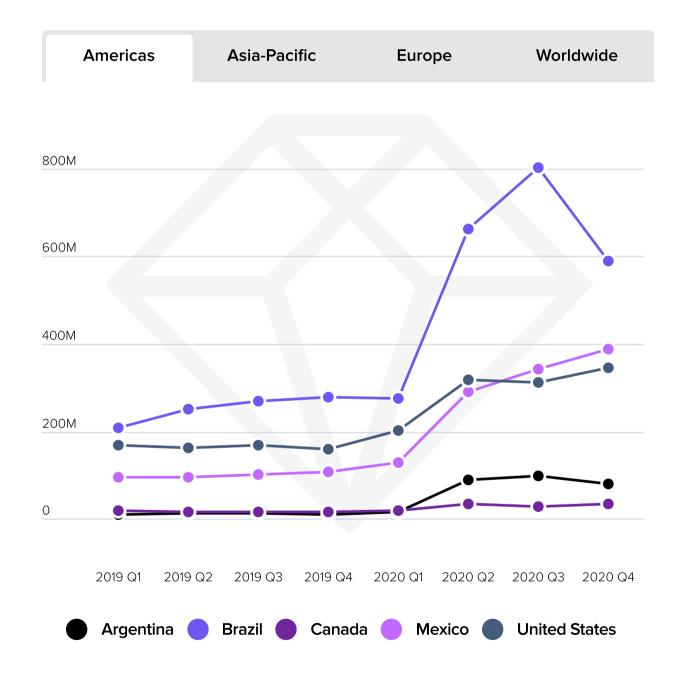
Rosetta Stone saw double-digit install growth throughout 2020, especially during the height of stay-at-home orders. Even in a more stationary world, we increasingly see mobile becoming the platform of choice for many segments of learners.

James DiMento

Mobile Marketing Manager Rosetta Stone



#### **Quarterly Hours Spent in Business Apps**



Source: App Annie Intelligence

Note: Android phones; Worldwide outside of China



#### Time Spent in Business Apps Grew 275% Year-Over-Year in Q4 2020

#### **ZOOM**, Google Meet Soar

- There was a huge ramp-up of using Business apps to collaborate during the first wave of COVID-19 in Q2 2020 and usage has remained high through the end of the year.
- As companies rework flexible and remote working options, usage of business collaboration apps is poised to remain high — placing greater demand on home data usage and speed, an area ripe for benefitting from 5G.
- In India, time spent in Business apps approached 3 billion hours on Android phones in Q3 2020 alone.

Increased video conferencing during the 40-hour workweek can spill over into other consumer habits. Understand affinity across apps and industries to minimize time to action.

#### Breakout Apps

#### 2020 Education: Downloads

	AMER		APAC		EMEA	
	Argentina	Brazil	Canada	Mexico	United States	
	Google Classroom	Google Classroom	Google Classroom	Google Classroom	Google Classroom	
1						
	Cake(케이크)	Brainly	PictureThis	Brainly	Toca Hair Salon 4	
2	<b>©</b>	B		B		
	Brainly	Cake(케이크)	Toca Hair Salon 4	Cake(케이크)	Flipgrid	
3	В	<b>©</b>		$\odot$	0	
	Socratic by Google	Centro de Mídias SP	Epic!	Mathway	PictureThis	
4			epic!	M		
	PictureThis	Toca Hair Salon 4	Flipgrid	Duolingo: Learn Languages	Seesaw Class	
5				0.0	CLASS	



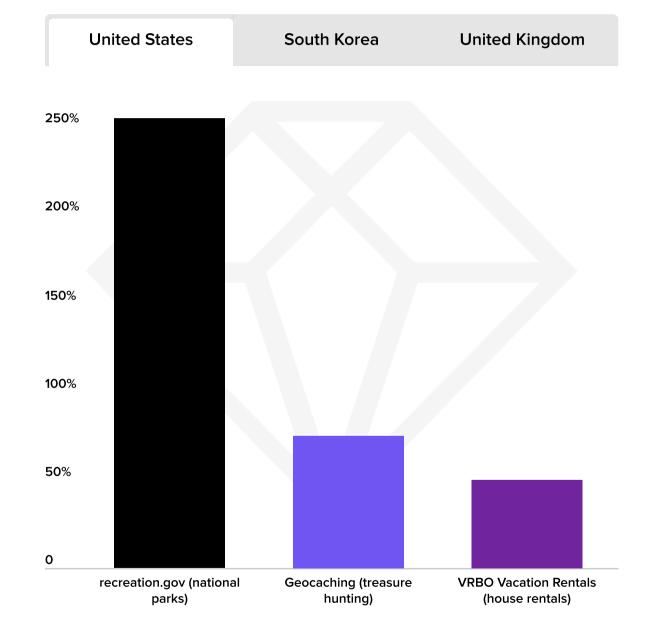
# Travel Industry Poised for Growth: Local Stays, Driving & Micro Mobility, Outdoors

#### Local, Socially-Distant & Outdoor

- In the US, outdoor exploration apps <u>recreation.gov</u> and <u>Geocaching</u> saw strong download growth at 255% and 75% respectively to top 2.7 million downloads, indicating a desire for outdoor activities.
- Micro mobility apps have seen strong growth in 2020 amidst caution about crowds in public transport. <u>Santander Cycles</u> saw 65% growth YoY in the UK. In South Korea, 3 scooter and bikesharing apps saw over 2.6 million downloads collectively.

Monitoring emerging growth trends such as DAU, MAU and time spent on mobile is the best method for measuring and preparing for strategic planning amidst an industry recovery.

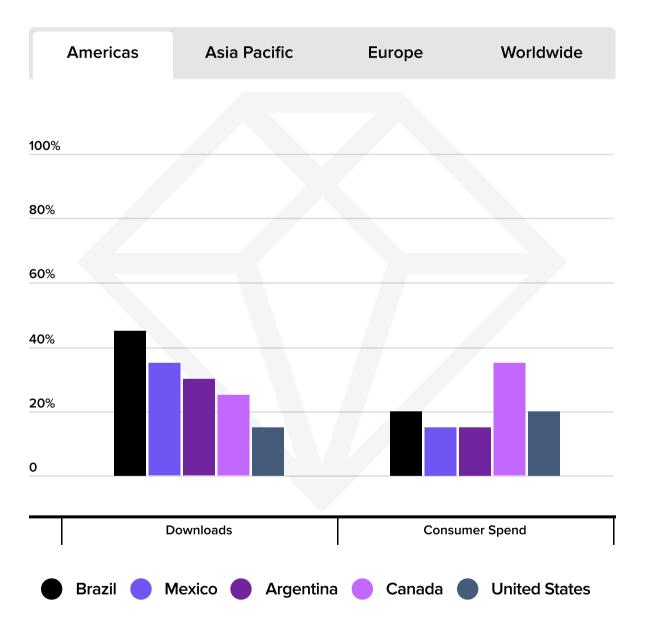
#### Year-Over-Year Growth in Downloads of Select Travel Apps in 2020



Source: App Annie Intelligence

Note: iOS and Google Play; China is iOS only

#### Year-Over-Year Growth in Downloads & Consumer Spend in Health & Fitness Apps in 2020



Source: App Annie Intelligence Note: Downloads and Consumer Spend are across iOS and Google Play. China is iOS only. Spend is gross — inclusive of any percent taken by the app stores



#### Demand for At-Home Exercise Spurs Growth in Mobile's Share of Wallet

#### 30% Growth Year-Over-Year in Consumer Spend to \$2B

- The UK over-indexed for consumer spend in Health & Fitness apps, seeing the greatest increase in spend among analyzed countries in its region at 70%.
- Downloads of COVID-19 tracing apps <u>Corona-Warn-App</u>,
   <u>Aarogya Setu</u> and <u>HES Life at Home</u> surged in Germany, India and Turkey, alongside weight loss and exercise apps.
- Medical app downloads grew 50% YoY spurred by demand for COVID-tracing and telehealth apps. Downloads surpassed 3.2 billion across Health & Fitness and Medical apps.

Comparing market growth trends across countries in the adoption rate of home gyms and outdoor exercise helps you identify streaming, retail and real estate knock-on effects.

BeautyPlus and AirBrush have had an explosive 2020, with average daily sales up 200% YoY. We've identified localized content, value-added features for premium members and seamless onboarding to be our key drivers of growth.

Lumila Veloso
Airbrush App
Owned by Pixocial





According to App Annie, YoY revenue growth of global e-book market is close to 30% in 2020. Chinese publishers are one of the key contributors of this revenue growth. Webnovel, as one of the best monetized e-book platforms, mostly derived by a freemium pay-by-chapter model, has seen tremendous growth in 2020.

#### Sandra Chen

Head of Webnovel

International Business of China Literature



## Top Apps & Games of 2020

2020 was a record-breaking year for Playrix. According to App Annie, we ranked 2nd by top grossing gaming publishers worldwide and we saw 2-3x YoY growth in our apps for downloads and DAU. App Annie was a strategic partner in this — making our lives easier with valuable data.

**Maxim Kirilenko** 

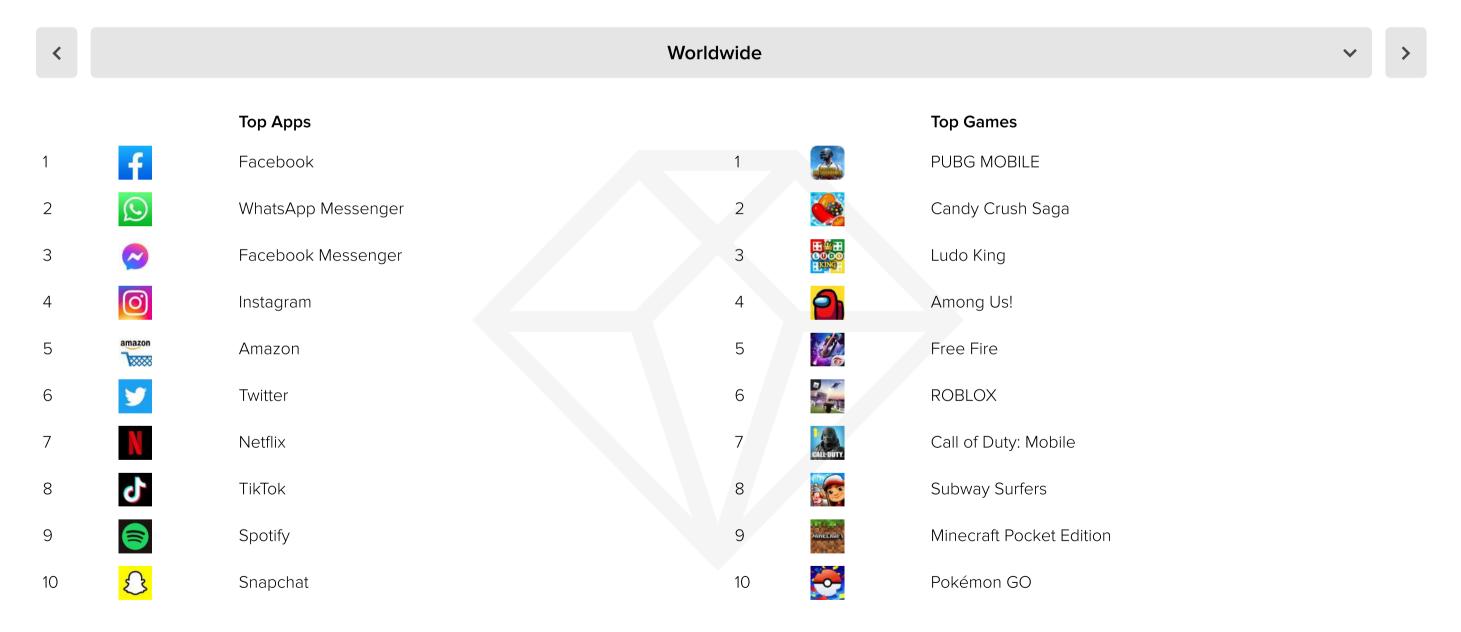
Business Development Director *Playrix* 





#### 2020 Rankings by Market

#### **Monthly Active Users**



#### Source: App Annie Intelligence

Combined iPhone and Android Phone Monthly Active Users; Worldwide excluding China; Market-level rankings



#### 2020 Rankings by Market

#### **Downloads**

					Worldwide			
		Top Apps		Top Games	Top App Companies		Top Games Companies	
1	4	TikTok	W <sub>G</sub>	Free Fire	Google	United States	Voodoo	France
2	f	Facebook	2	Among Us!	Facebook	United States	AppLovin	United States
3	<b>(2)</b>	WhatsApp Messenger	96	Subway Surfers	ByteDance	China	Crazy Labs	Israel
4		ZOOM Cloud Meetings		PUBG MOBILE	Microsoft	United States	Jinke Culture - Outfit7	China
5	O	Instagram		Gardenscapes - New Acres	InShot Inc	China	SayGames	Belarus
6		Facebook Messenger		Hunter Assassin	Alibaba Group	China	Playgendary	Germany
7		Google Meet	(1)	Brain Out	Amazon	United States	Azur Interactive Games	Russia
8	<u></u>	Snapchat	90	My Talking Tom Friends	Tencent	China	Miniclip	Switzerland
9	1	Telegram		Tiles Hop: EDM Rush	ABISHKKING	Hong Kong	BabyBus	China
10	N	Netflix	E E H	Ludo King	Zoom Video Communications	United States	Playrix	Ireland

Worldwide

#### Source: App Annie Intelligence

Combined iOS and Google Play; China is iOS only; Market-level rankings



#### 2020 Rankings by Market

#### **Consumer Spend**

<		Worldwide						
		Top Apps		Top Games	Top App Companies		Top Games Companies	
1		Tinder	515	Honour of Kings	Google	United States	Tencent	China
2	4	TikTok		Pokémon GO	Tencent	China	Playrix	Ireland
3		YouTube		ROBLOX	Disney	United States	NetEase	China
4	Dienep+	Disney+		Monster Strike	ByteDance	China	Activision Blizzard	United States
5	ellas .	Tencent Video		Coin Master	Match Group	United States	Zynga	United States
6	N	Netflix		Game For Peace	InterActiveCorp (IAC)	United States	BANDAI NAMCO	Japan
7	1	Google One	THE SAME AND THE S	PUBG MOBILE	LINE	Japan	Supercell	Finland
8	<b>QIY</b>	iQIYI		Fate/Grand Order	Baidu	China	Netmarble	South Korea
9		BIGO LIVE		Candy Crush Saga	Amazon	United States	Playtika	Israel
10	P	Pandora Music		Gardenscapes - New Acres	JOYY Inc.	China	Lilith	China

Source: App Annie Intelligence

Combined iOS and Google Play; China is iOS only; Market-level rankings

Hyperconnect is a multi-product mobile technology company laser-focused on cultivating deep relationships amongst its user base that go far beyond shallow, 'everyday' interations, using advanced video and AI technologies. Its flagship products, Azar and Hakuna, have exceeded 500 million and 15 million downloads, respectively. Our projects are fast-becoming a compelling playground for the globally-aware and online-savvy Gen Z.

Kim Junghoon

Chief Business Officer Hyperconnect

**HYPERCONNECT** 



Even after 8 years, SmartNews did experience a significant growth in MAU and Total Time globally in 2020 thanks to our innovative new features such as Weather Radar, Coronavirus Updates, Local Coupon, Real-time Election Results as well as a rich news cycle making our core offering a must-read for many users.

#### **Fabien-Pierre Nicolas**

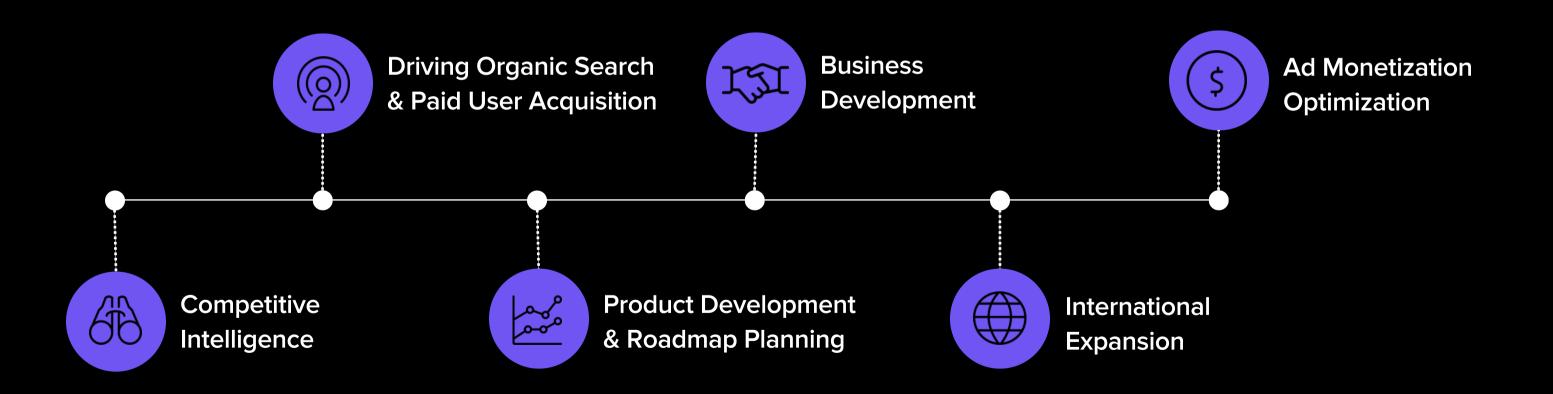
Vice-President, US Marketing SmartNews

**SmartNews** 



#### APP ANNIE

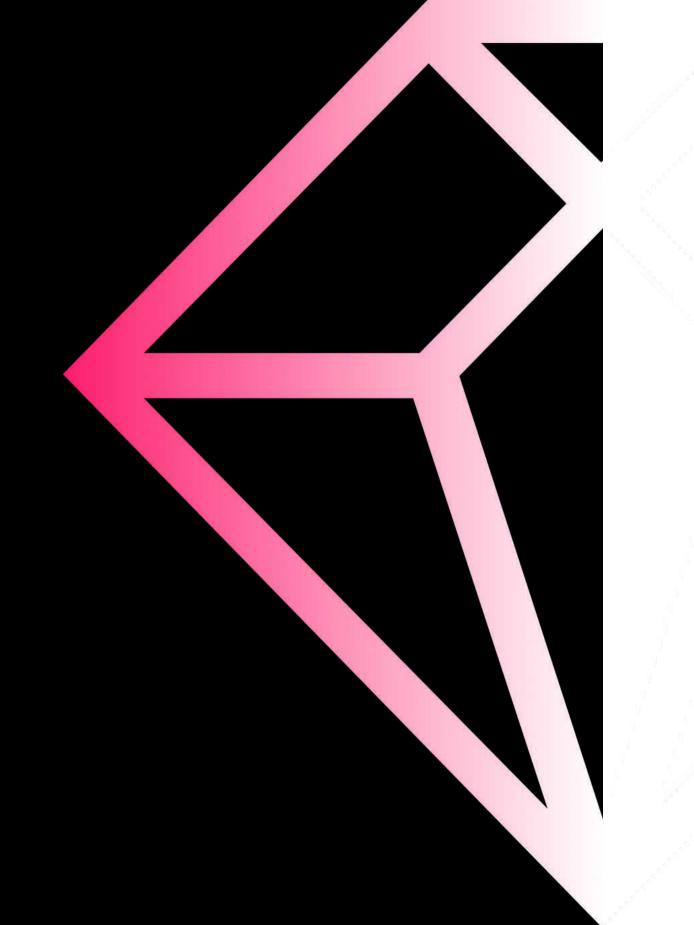
### We Fuel Successful Mobile Experiences & Monetization





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