October 17, 2017

ACTIVATE TECH & MEDIA OUTLOOK 2018



THE WALL STREET JOURNAL.

Welcome to Activate's Tech and Media Outlook 2018

2018 will be a pivotal year for technology and media businesses; these are the major forces that will create growth opportunities and reshape companies in the year ahead.

Each year, as part of the Wall Street Journal D.Live Conference, we take a deep dive into some of the major consumer trends, technology innovations, and industry dynamics that will predict what is going to happen next and what it will mean.

We are excited to share our third annual Outlook, and hope you will enjoy it for many of its surprising and unexpected insights. From the trajectory of smart speakers, to the future of reality computing (AR/VR), to the global eCommerce business, we've uncovered key insights and likely trends. There is also an extensive evaluation of the creators who drive billions of web video views, a hard look at the news business, and a view into the likely price wars ahead in streaming video. Forecasts include how consumers will spend their tech and media time, the next wave of internet and media revenues, and the rise of Super Users – who will be critical to acquire and retain.

On each slide you will find extensive analysis, drawing on proprietary industry research and largescale surveys representing the U.S. population.

We know you'll find the results both provocative and useful, and look forward to a lively discussion.

Let's see where tech and media are headed!

The Activate Team

D+activate

The Most Important Insights for Tech and Media in 2018

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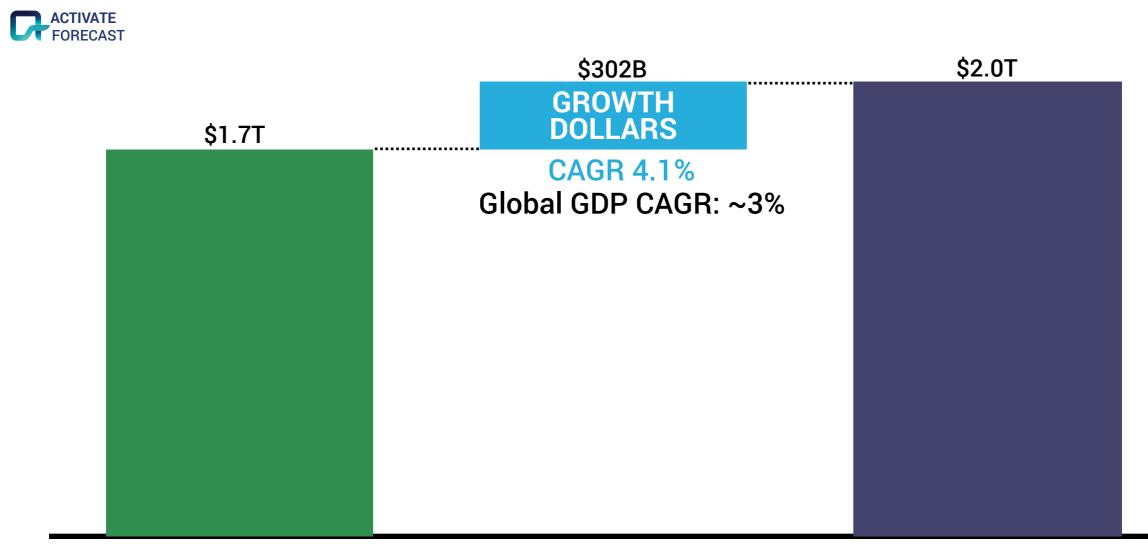
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We forecast that over the next four years, global Internet and media revenues will grow by approximately \$300 billion, continuing to outpace GDP growth

CONSUMER INTERNET AND MEDIA REVENUES¹, GLOBAL, 2017E-2021E, USD





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2021E

1. Consumer Internet and Media Revenues include radio, recorded music, magazine publishing, newspaper publishing, video games, filmed entertainment, book publishing, TV subscription and licensing fees, Internet access, digital advertising, and traditional advertising on these platforms.

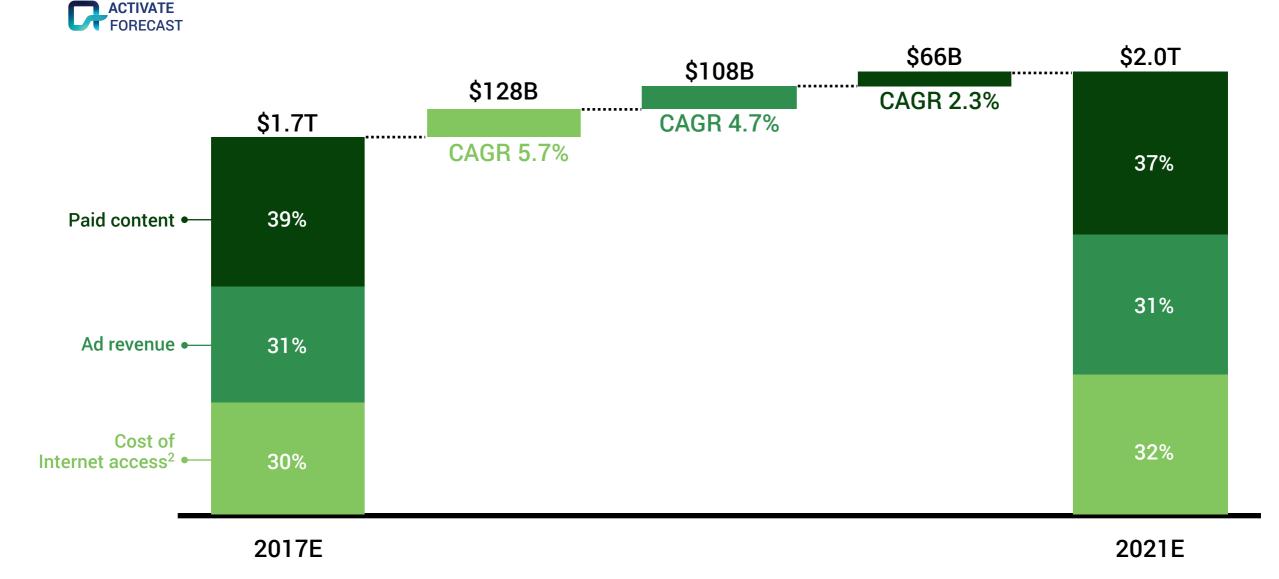
Sources: Activate analysis, eMarketer, GroupM, IBISWorld, IFPI, International Monetary Fund, NewZoo, PricewaterhouseCoopers, RBC, World Bank, ZenithOptimedia



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Access will lead revenue growth for tech and media companies

CONSUMER INTERNET AND MEDIA REVENUE GROWTH BY SEGMENT¹, GLOBAL, 2017E-2021E, USD



1. Consumer Internet and Media Revenues include radio, recorded music, magazine publishing, newspaper publishing, video games, filmed entertainment, book publishing, TV subscription and licensing fees, Internet access, digital advertising, and traditional advertising on these platforms.

2. Includes fixed broadband, wireless, and mobile Internet access.

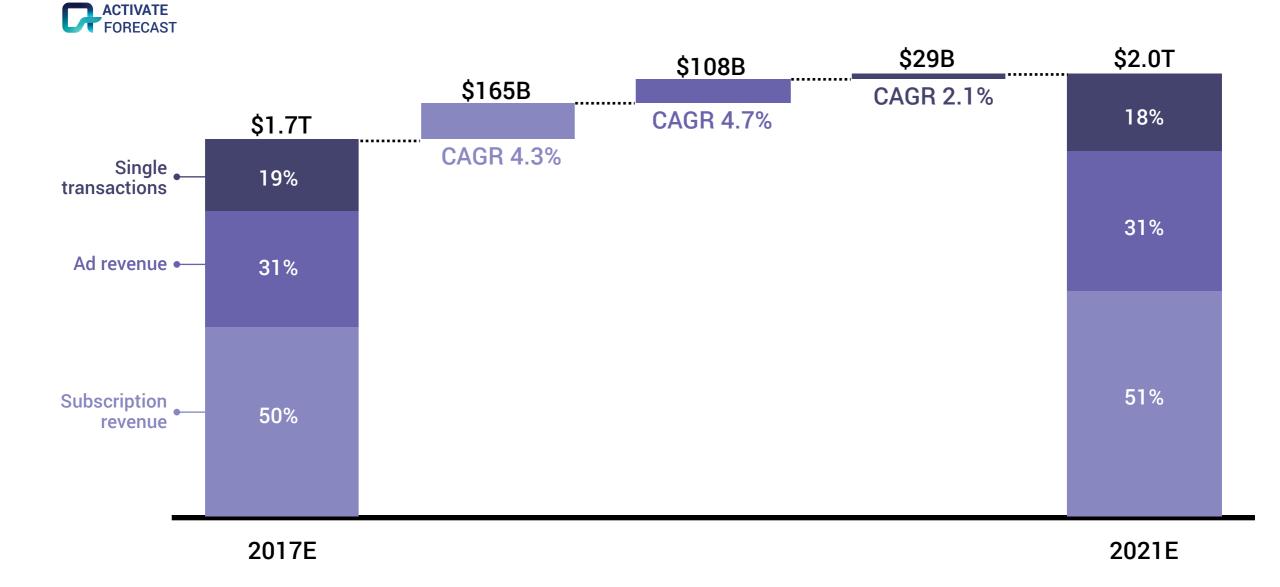
Sources: Activate analysis, eMarketer, GroupM, IBISWorld, IFPI, International Monetary Fund, NewZoo, PricewaterhouseCoopers, RBC, World Bank, ZenithOptimedia

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Subscription will be the primary revenue model, accounting for over half of consumer Internet and media growth

CONSUMER INTERNET AND MEDIA REVENUE GROWTH BY REVENUE MODEL¹, GLOBAL, 2017E-2021E, USD



1. Consumer Internet and Media Revenues include radio, recorded music, magazine publishing, newspaper publishing, video games, filmed entertainment, book publishing, TV subscription and licensing fees, Internet access, digital advertising, and traditional advertising on these platforms. Sources: Activate analysis, eMarketer, GroupM, IBISWorld, IFPI, International Monetary Fund, NewZoo,

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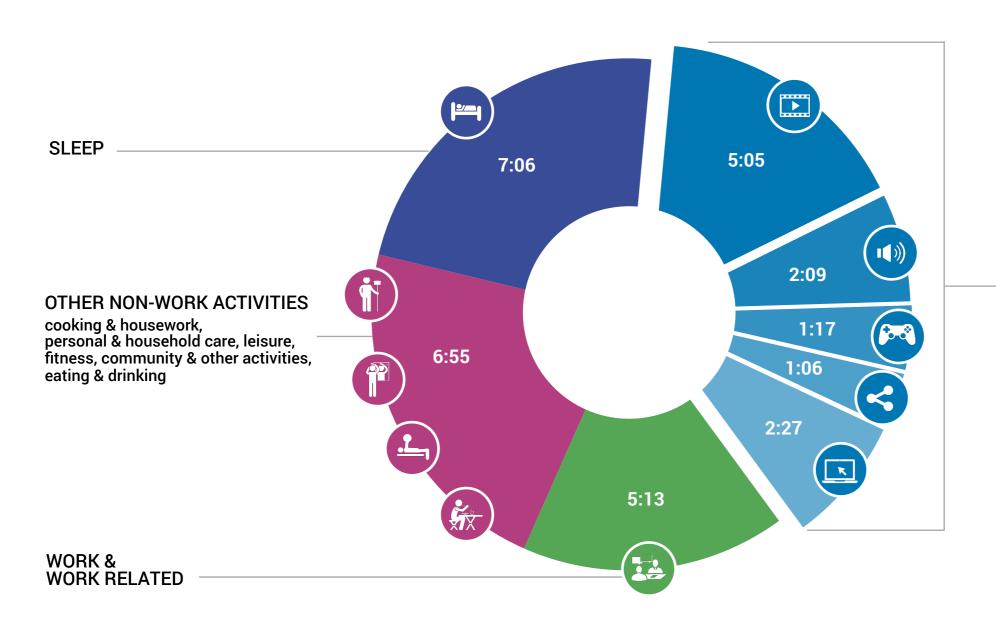
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Our analysis shows that multi-tasking means that there are 31 hours a day for the average American; 12 hours are spent consuming tech and media

AVERAGE DAY BY ACTIVITY PER ADULT (AGE 18+), U.S., 2016, HOURS: MINUTES



12:04 MEDIA AND CONSUMER TECH ACTIVITY

video, audio, social media (including messaging), gaming, other¹

Note: Behaviors averaged over 7 days. 1. Other includes browsing websites, offline reading, cinema, out-of-home, etc.

Sources: Activate analysis, Activate 2016 Consumer Tech & Media Research Study (n=1,003), comScore, eMarketer, Gallup, GWI, IAB, National Sleep Foundation, Nielsen, Pew Research, U.S. Bureau of Labor Statistics

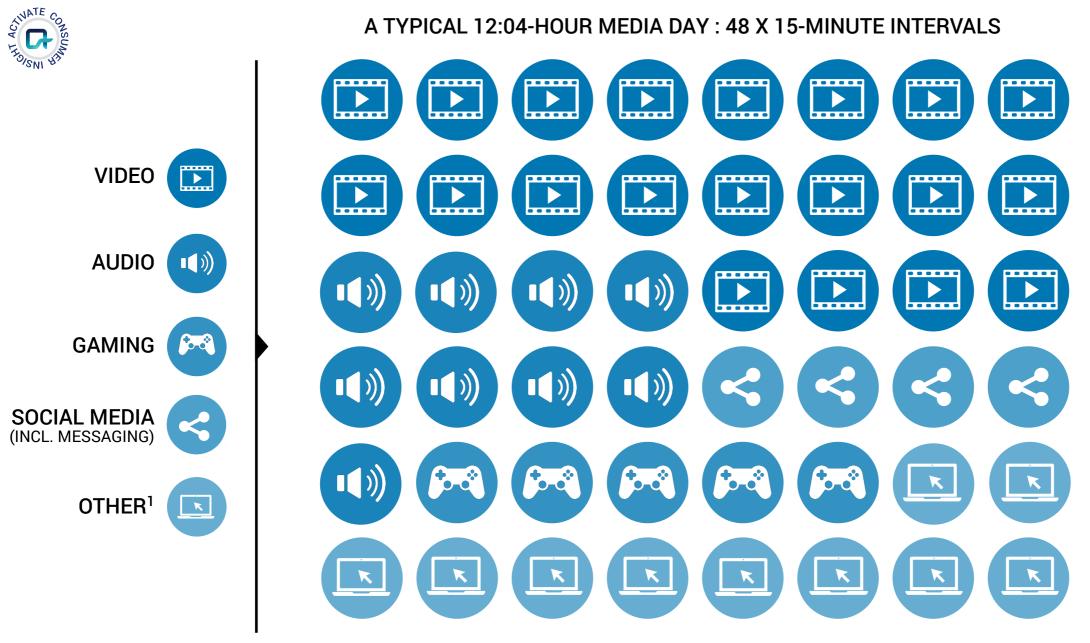


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On average, video captures the largest share of attention of the daily 12 hours of tech and media consumption

DAILY MEDIA ATTENTION PER ADULT (AGE 18+), U.S., 2016, 15-MINUTE INTERVALS



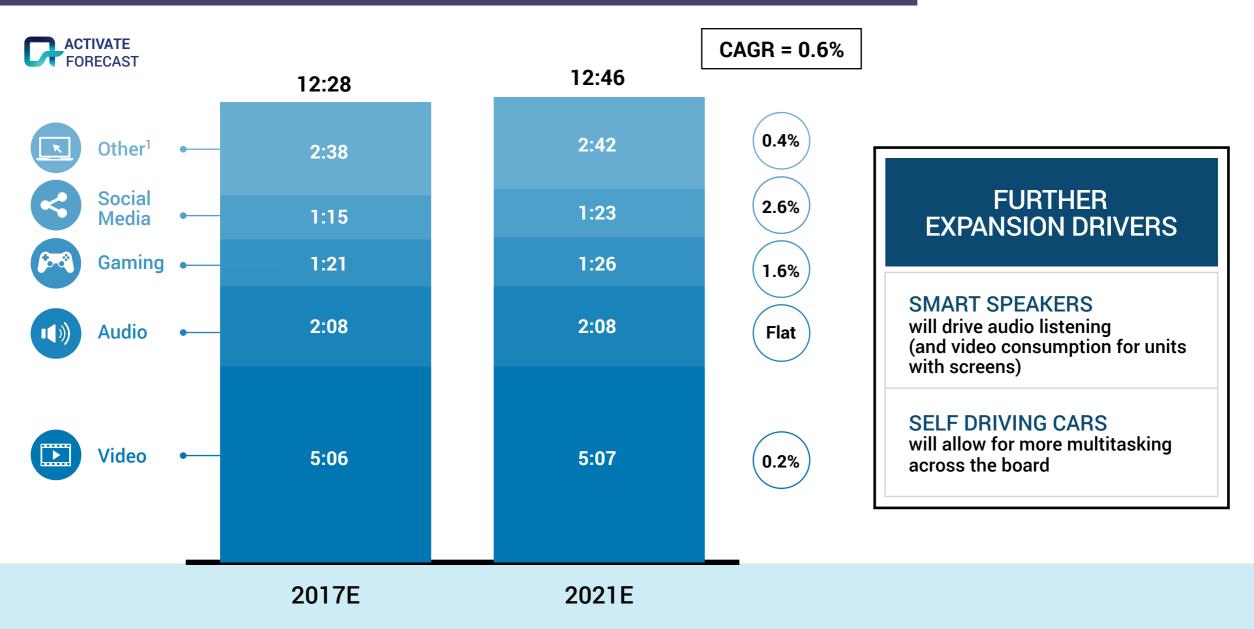
Note: Behaviors averaged over 7 days.

1. Other includes browsing websites, offline reading, cinema, out-of-home, etc. Sources: Activate analysis, Activate 2016 Consumer Tech & Media Research Study (n=1,003), comScore, eMarketer, Gallup, GWI, IAB, National Sleep Foundation, Nielsen, Pew Research, U.S. Bureau of Labor Statistics



By 2021, Americans will spend an additional 18 minutes with tech and media daily

DAILY HOURS SPENT PER ADULT (AGE 18+), U.S., 2017E-2021E, HOURS: MINUTES



Note: Behaviors averaged over 7 days.

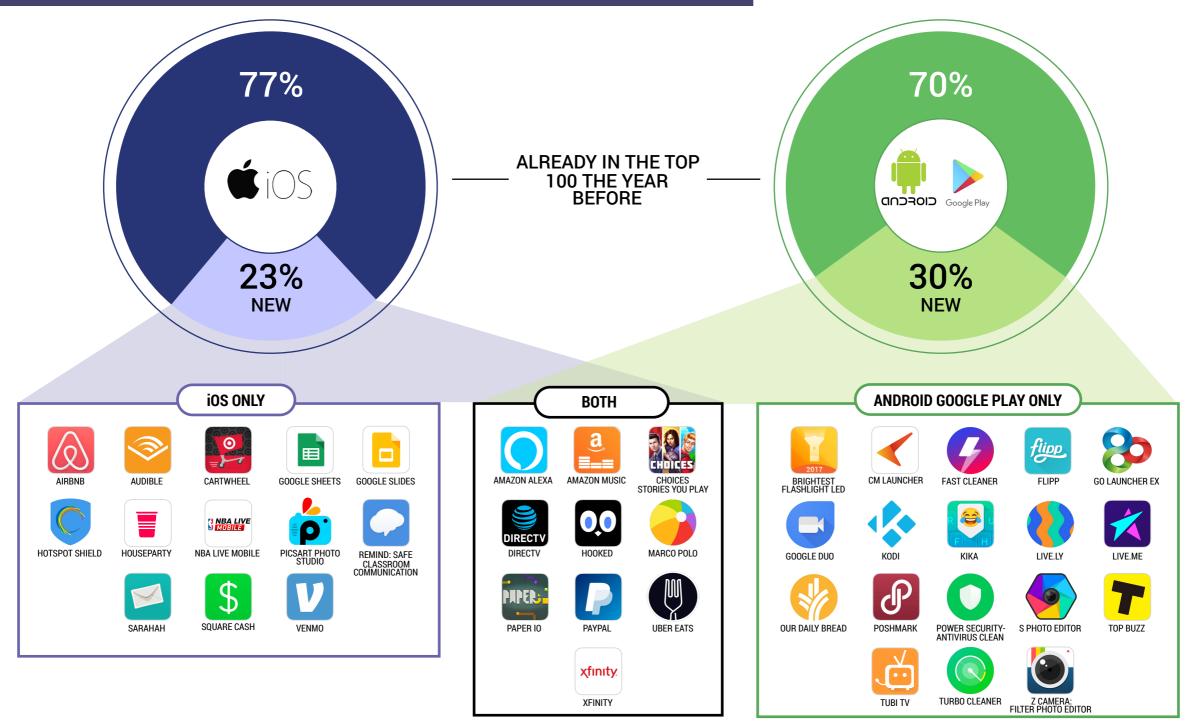
1. Other includes browsing websites, offline reading, cinema, out-of-home, etc.





New services continue to drive adoption addressing new user behaviors such as smart speakers and mobile video

TOP 100 APPS BY DOWNLOADS, U.S., SEP 2016-AUG 2017, % TOP 100 APPS

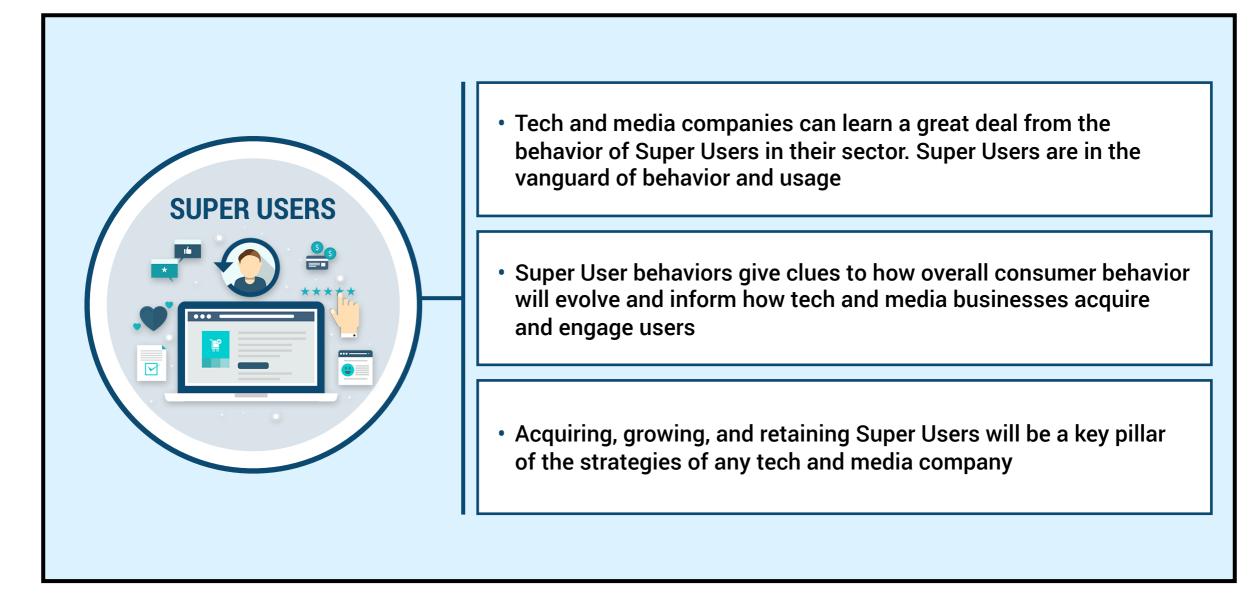


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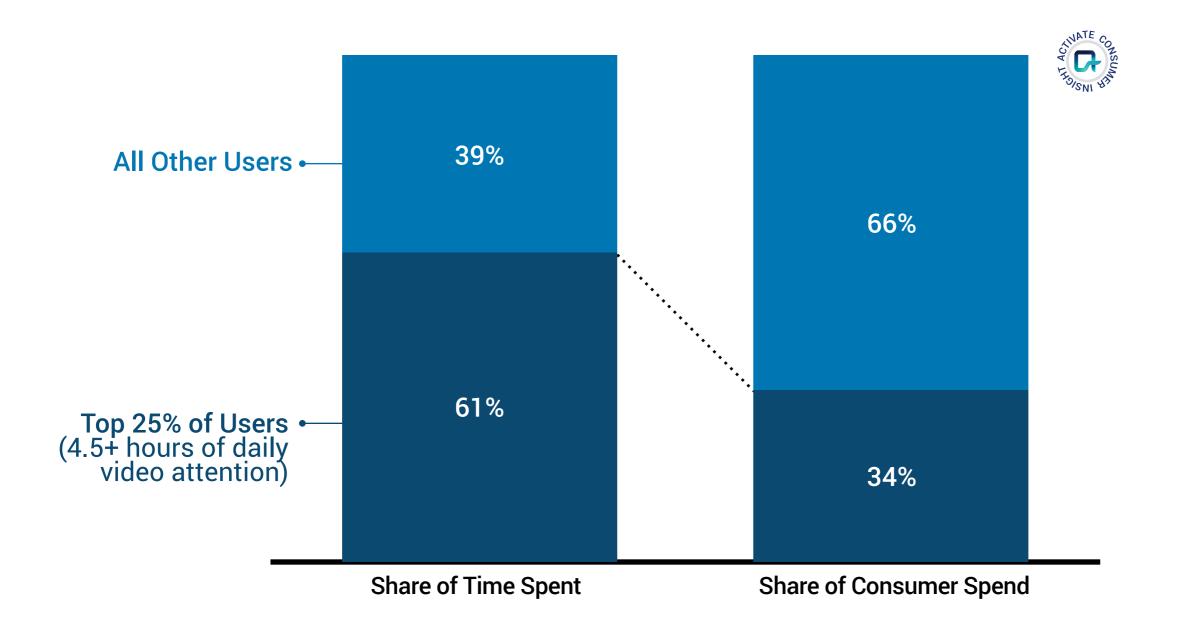
Targeting Super Users will be critical to the growth strategies of all tech and media companies





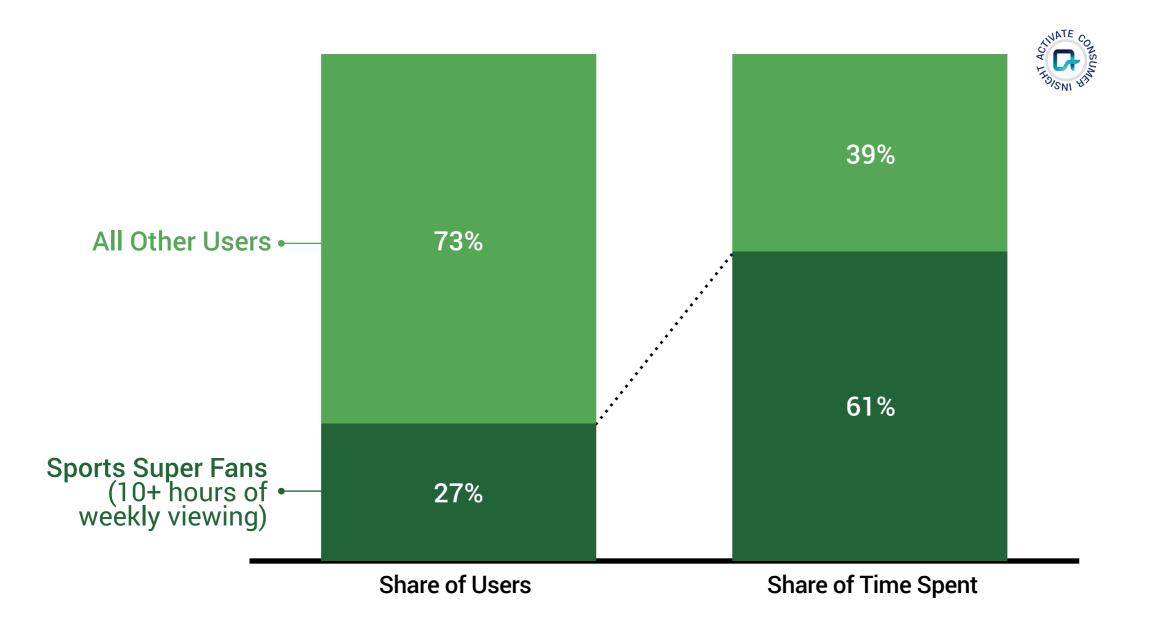
Video Super Users account for a disproportionate amount of time and also over-index on spend

VIDEO TIME AND SPEND RELATIVE TO SHARE OF USERS, U.S., 2017, % TOTAL



Sports Super Fans follow the same trend as other video Super Users

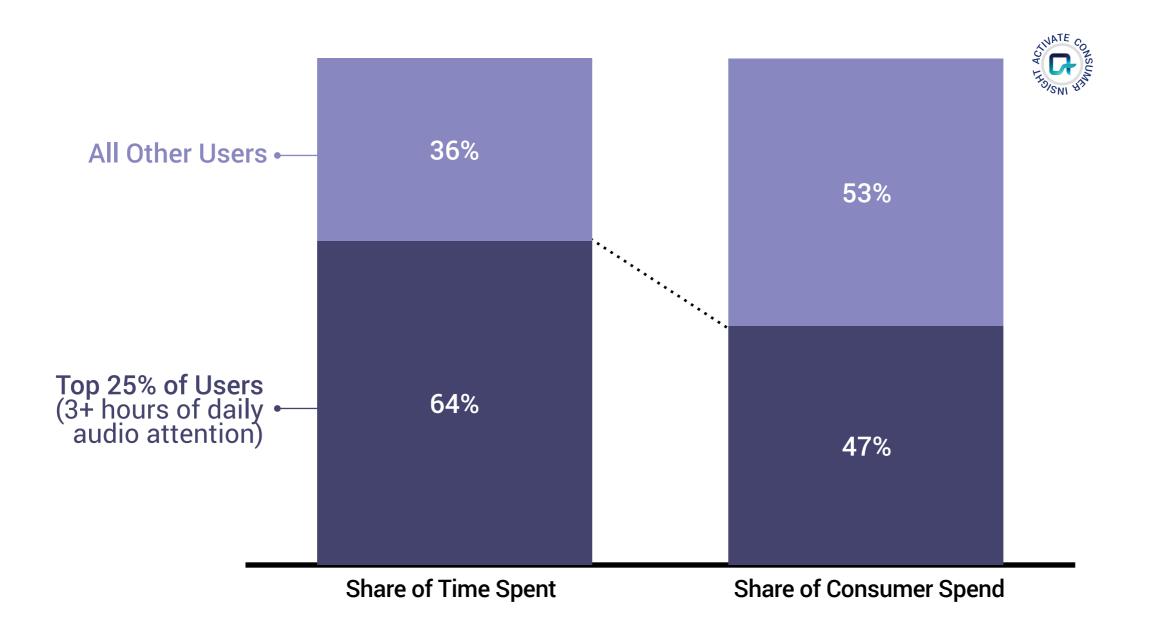
SPORTS FANS AND TIME SPENT RELATIVE TO SHARE OF USERS, U.S., 2017, % TOTAL



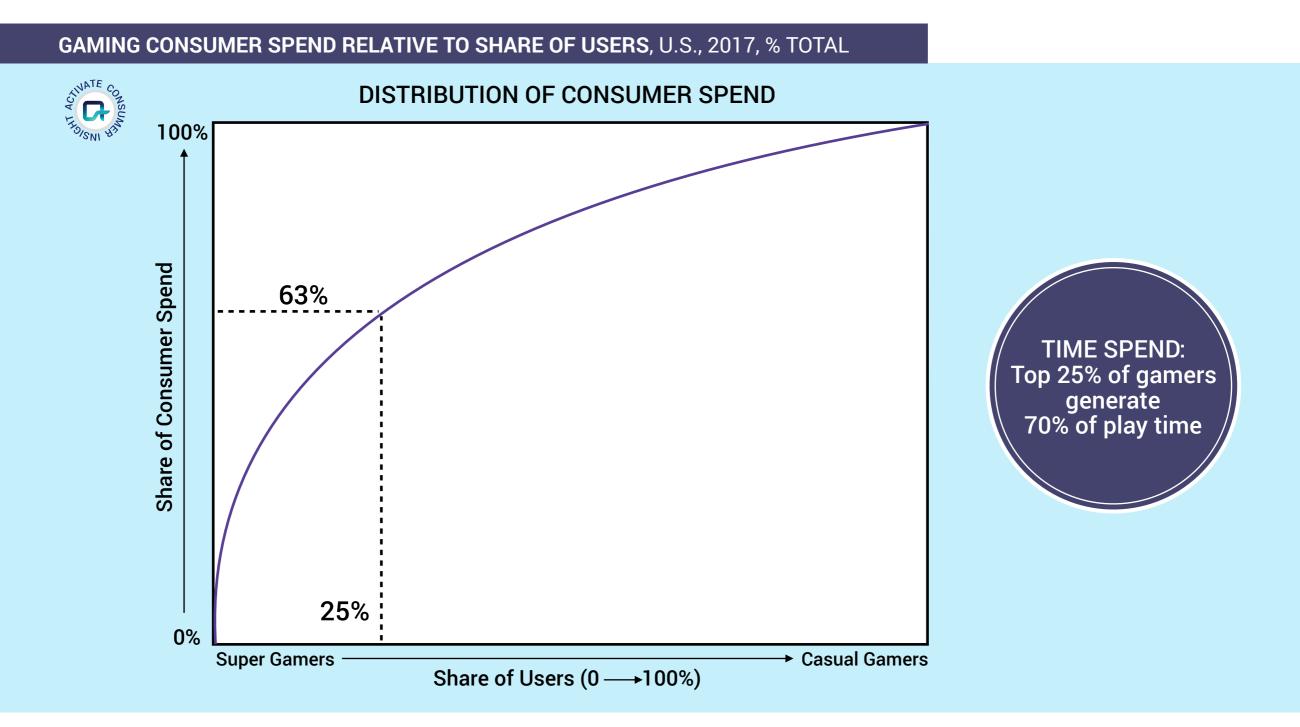


In audio, Super Users account for almost half of all consumer spend

AUDIO TIME AND SPEND RELATIVE TO SHARE OF USERS, U.S., 2017, % TOTAL



In video games, the curve is even steeper; Super Users are the core of gaming

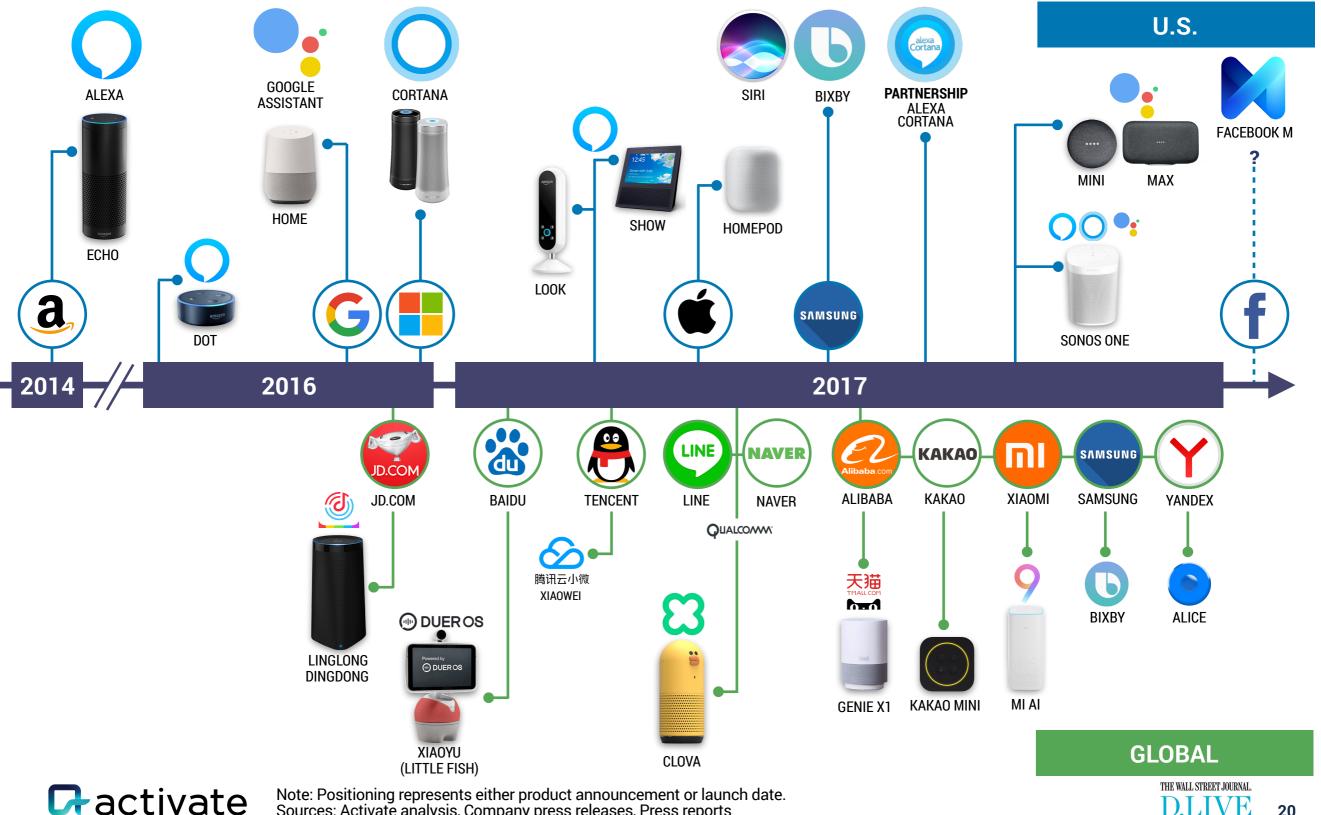


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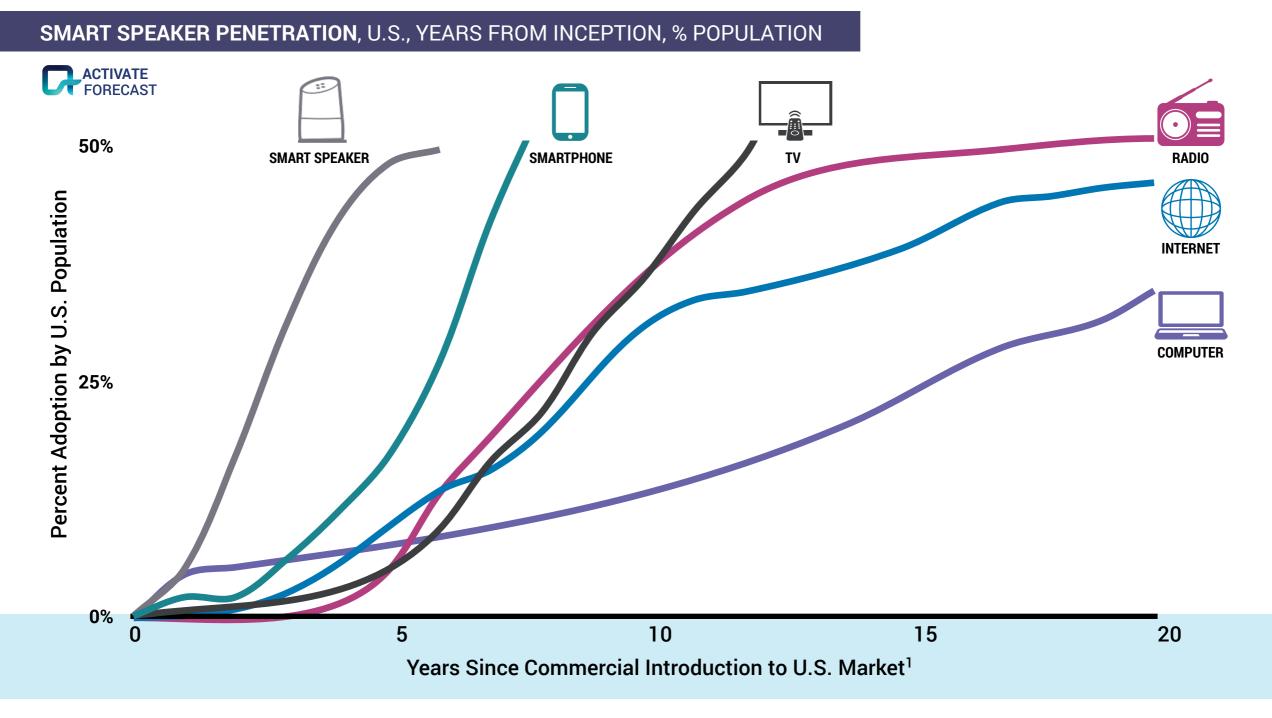
The smart speaker battles are not really about the device; the battles began in 2014 and escalated over the last two years



Sources: Activate analysis, Company press releases, Press reports

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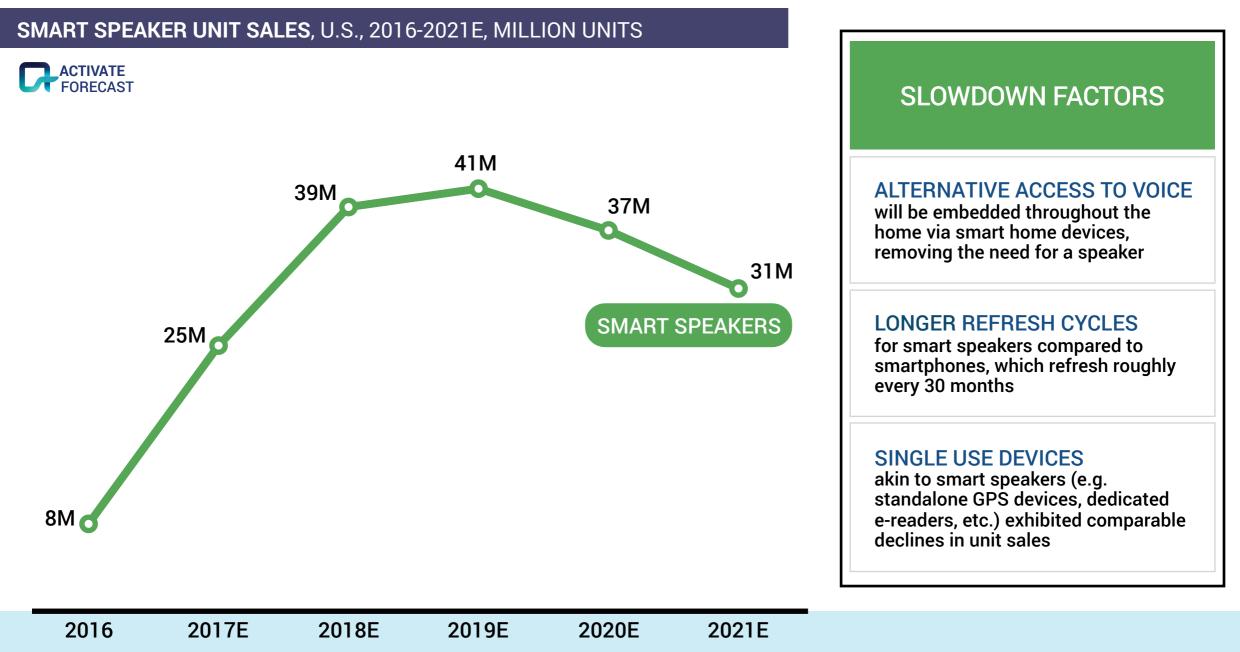
We forecast that smart speaker adoption is likely to be faster than any other consumer device; however sales will not grow to the sky



 Radio, TV, and computer measured as share of U.S. households. Smartphone and Internet measured as share of U.S. population.
 Sources: Activate analysis, U.S. Census Bureau, World Bank



In fact, we forecast that device sales are likely to peak as digital assistants with conversational interfaces break free from the smart speaker

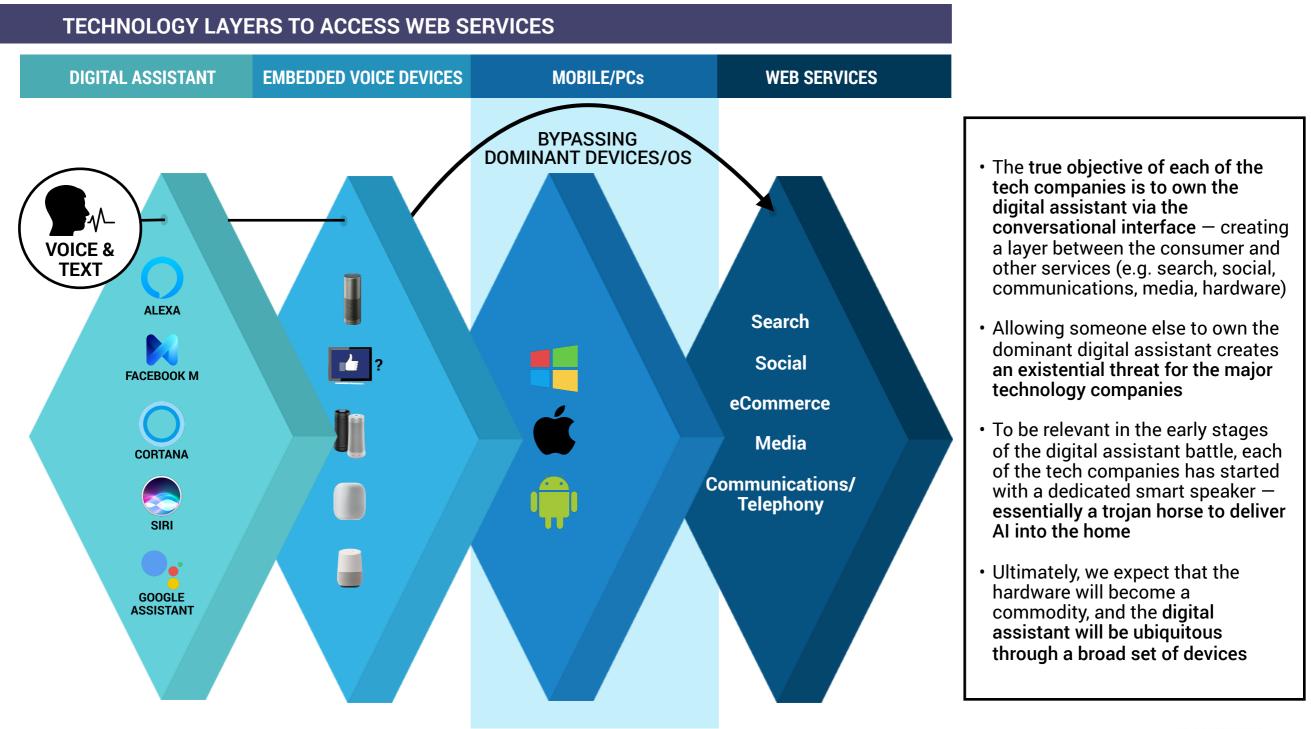




Sources: Activate analysis, Business Insider, Consumer Intelligence Research Partners, Edison Research, eMarketer, Evercore, KGI Securities, MIDiA, Morgan Stanley, Voicebot.ai



The smart speaker battles are really the digital assistant war; the stakes are high



Source: Activate analysis

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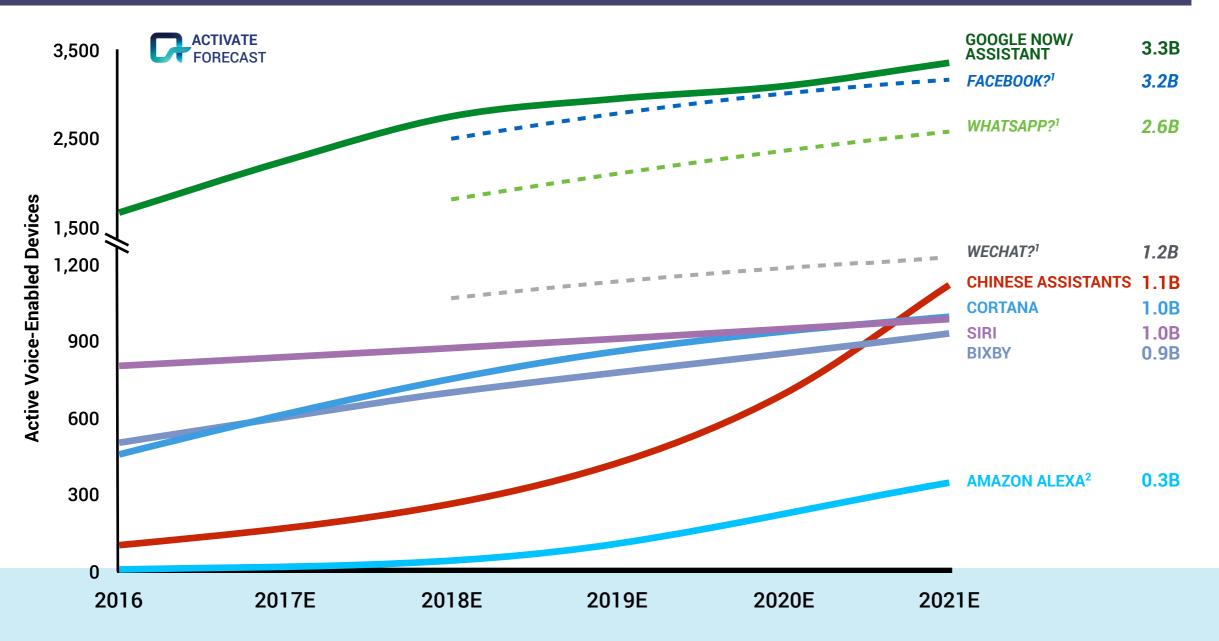
Most of the digital assistants are already messaging bots – enabled through either a voice or text conversational interface

VIRTUAL ASSISTANCE IN MESSAGING **DIGITAL ASSISTANCE IN MESSAGING CONVERSATION** SEARCH VIA DIGITAL ASSISTANT 🗸 🕇 90% 🔳 Search at 🔊 12:45 PM Digital assistants on mobile • Hi, how can I help? o C ~ use familiar messaging What time are we going tomorrow? interfaces to build user Where is the closest italian restaurant? comfort, while capturing Maybe 8 at Milo's restaurant? **•**• valuable data and improving I found this How about McDonalds? conversational understanding ł 15 W 21st St, New York, NY 10010 @google McDonald's restaurant Zero Otto Nove, Address Listings for McDonald's around Nev 27 \odot York, here they are. G Search Call Directions Street vi... Website Digital assistants also HEIGHTS Empire State Building O provide relevant and timely Hoboken What time does it open? Washin An Square suggestions mid-VB NEWPORT (A . O. conversation Here's what I found Columbus Day might affect these hours McDonald's 法 12-3PM, 5-10PM L Fast Food Zero Otto Nove, Thursday hours 39 Union Square W CALL 😴 GIF ••• 0 0 6 × < G 2 Users can interact with digital Call Directions Street vi... Menu Search Web assistants either through 0 \bigcirc Say something.. voice or text, and on multiple J Type a message mobile platforms

Gactivate Source: Activate analysis

We forecast that digital assistants will reach escape velocity as they are embedded in messaging and available across the largest population of devices

VOICE ASSISTANT INSTALL BASE ON ACTIVE DEVICES, GLOBAL, 2016-2021E, MILLIONS



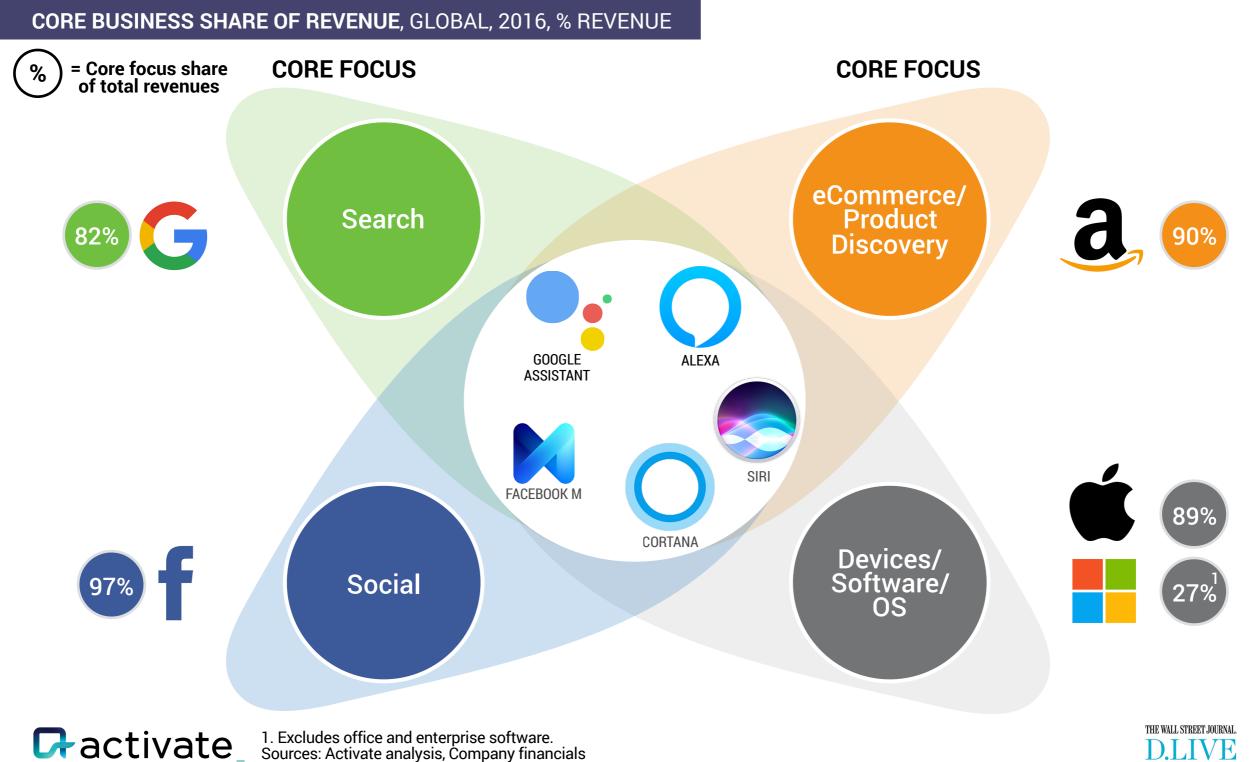
1. Monthly active users on each platform, though none currently have digital assistants. 2. Amazon Alexa is exclusive to Alexa-only devices and does not include Cortana integration.

D-activate Sources: Activate analysis, eMarketer, Facebook, Google, IHS, Microsoft, Ovum, RBC, ŠNL Kagan, Strategy Analytics,

TechRepublic, Voicebot.ai



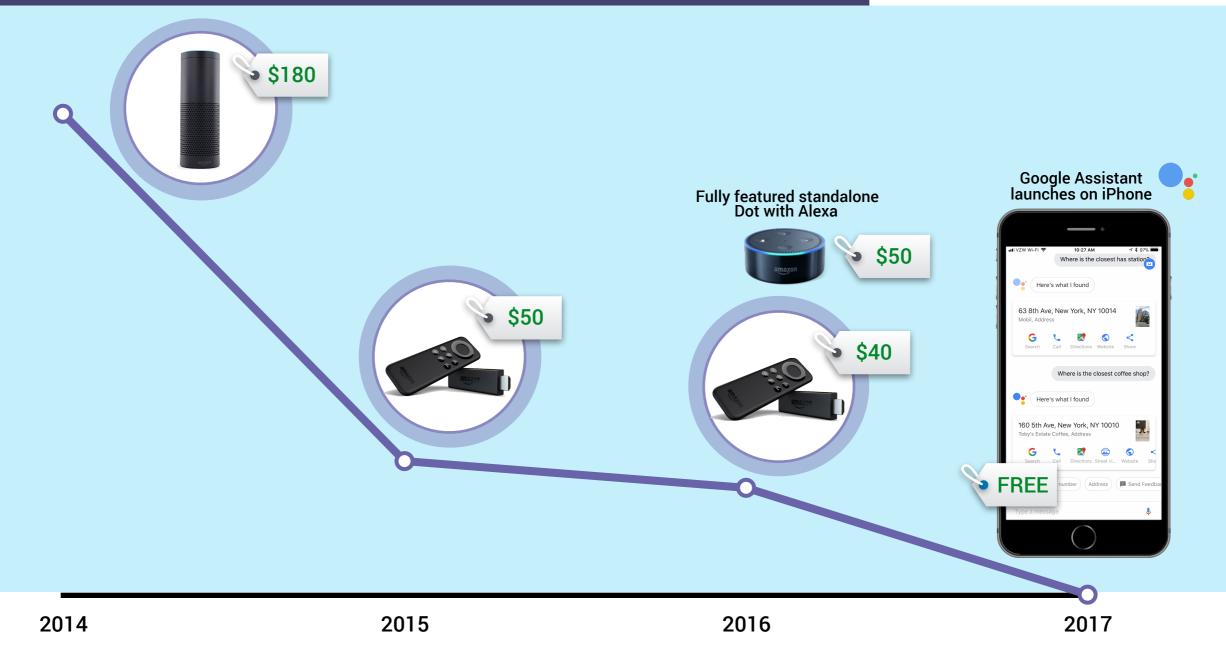
Each of the tech companies views owning their digital assistant as part of their manifest destiny – protecting their core and tapping into new growth dollars



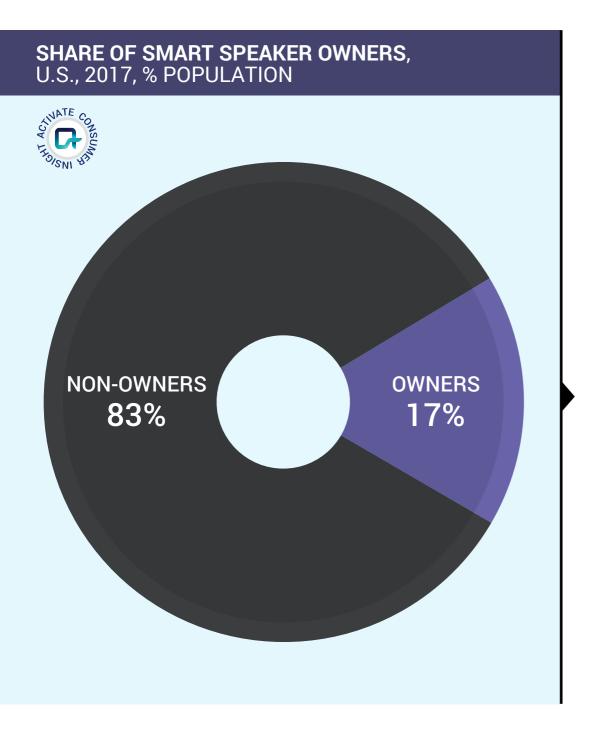
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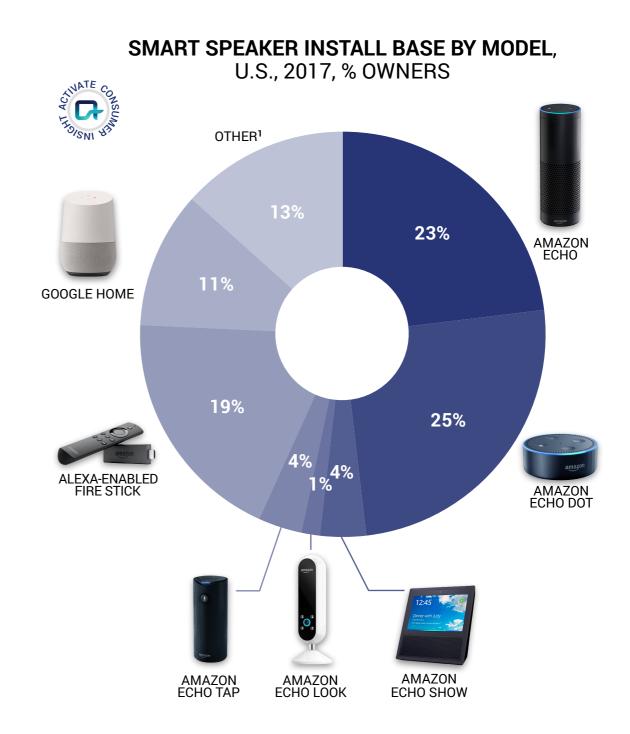
Sales of high-end devices will continue but we forecast that the cost of accessing a digital assistant will head to zero

ENTRY PRICE POINTS FOR DIGITAL ASSISTANT-ENABLED DEVICES, U.S., 2014-2017, USD



Today, 17 percent of US consumers own a smart speaker; the great majority are Amazon Echo

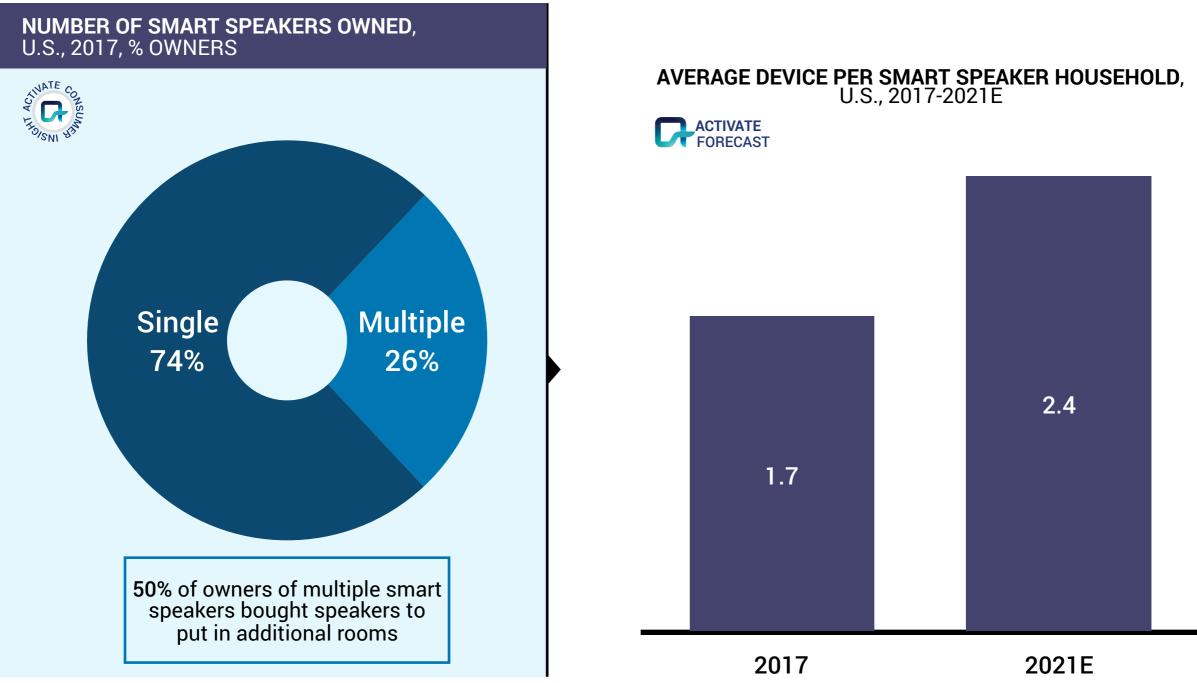




1. Includes Kinect and other devices. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (Left: n=4,900; Right: n=820)

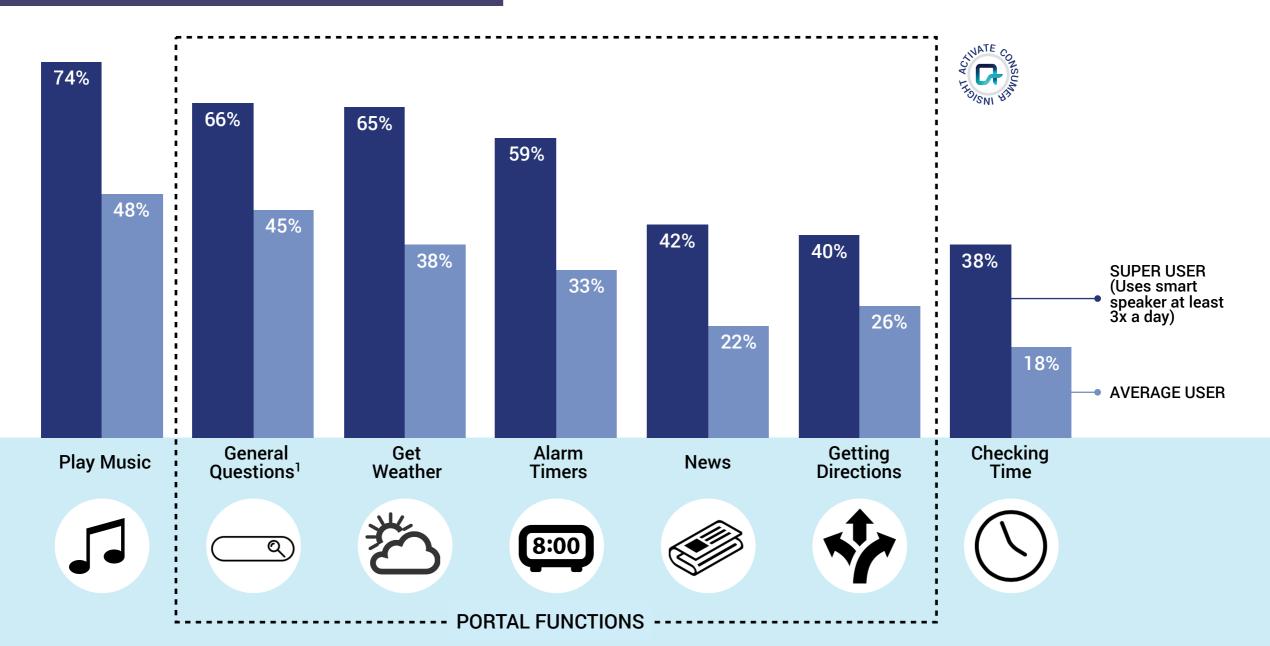


Already, over a quarter of existing smart speaker owners say that they are using more than one device; it is likely that the average U.S. 'Smart Speaker Household' will have 2.4 devices



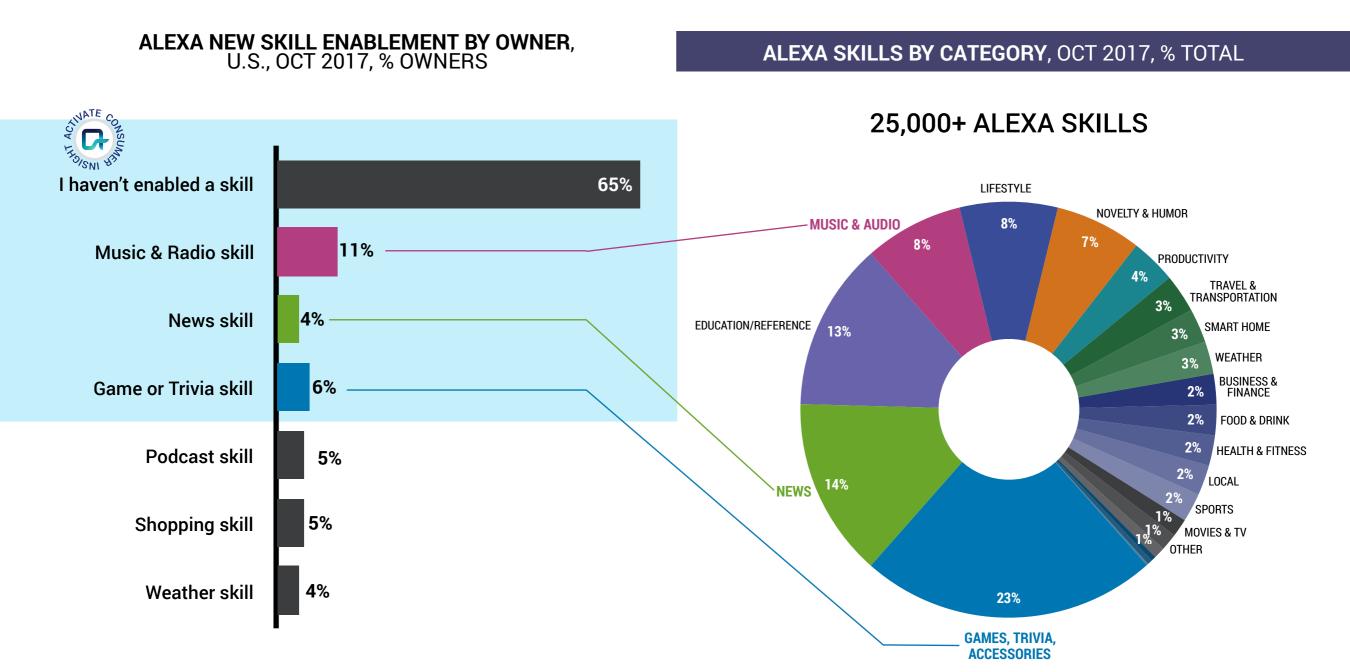


The majority of owners (even Super Users) primarily use smart speakers for music and a small set of 'portal functions'



TOP WEEKLY USE CASES, U.S., 2017, % OWNERS

Our research shows that 65 percent of users have not yet enabled a third-party skill; today, skill discovery is difficult

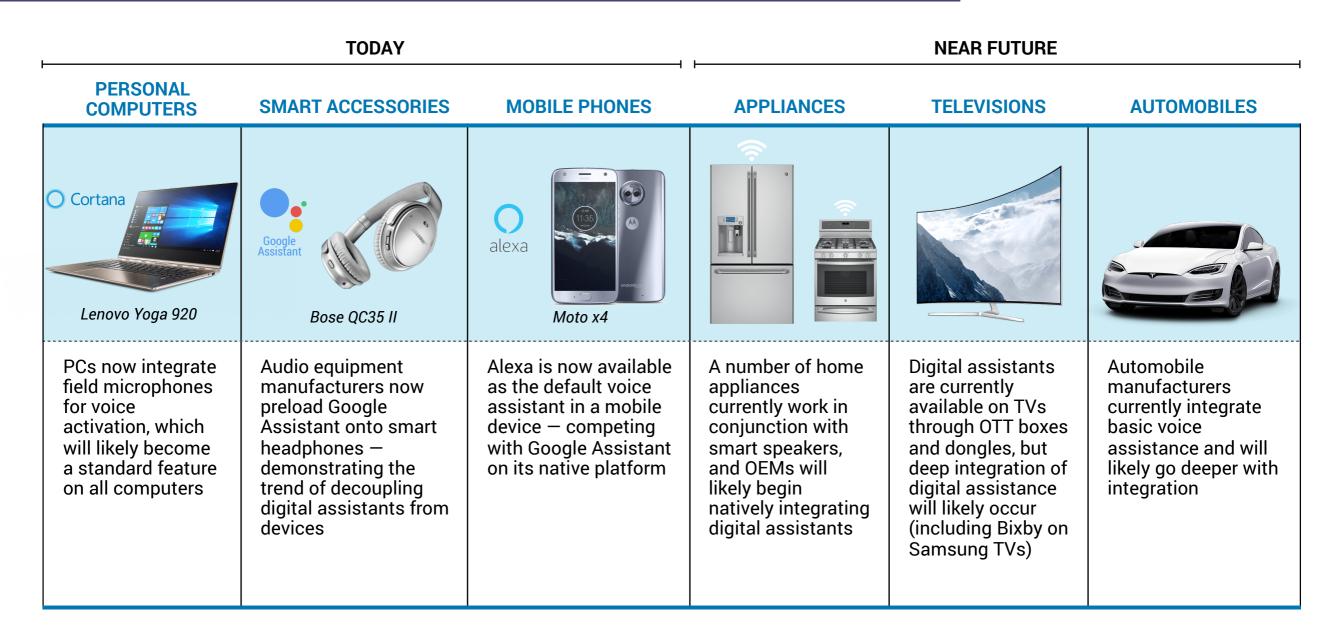


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Skill usage is likely to be native to each user's device; "always listening" features will be baked into practically every major consumer electronics product

AREAS OF NATIVE INTEGRATION FOR DIGITAL ASSISTANT BEYOND THE SMART SPEAKER





What could change the rules of the game in digital assistants/ smart speakers?

POTENTIAL GAME CHANGERS

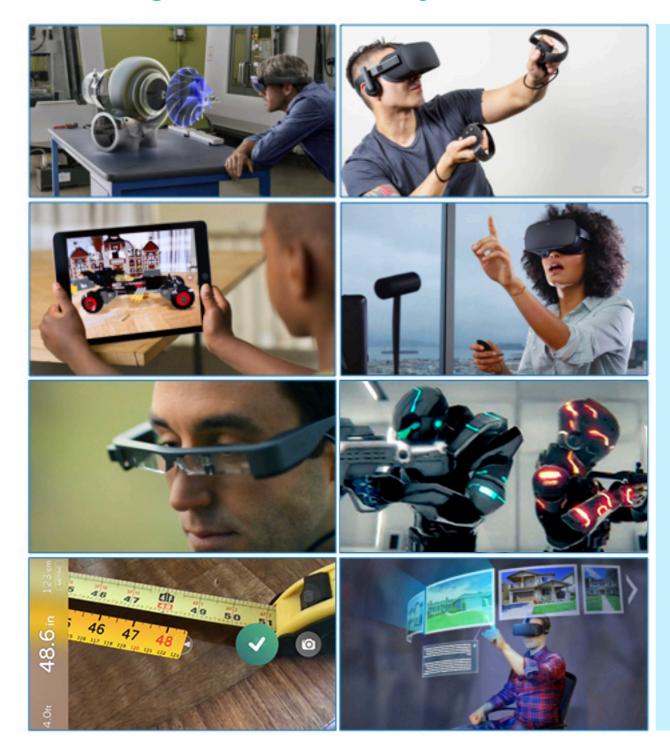
SECURITY BREACH	ACCELERATION OF AI	PLATFORM PORTABILITY	SCALING GLOBALLY	CROWD-SOURCED DATA	REGULATION
A scaled attack that hacks and releases user data and conversations captured through smart speakers could prove disastrous for voice assistance	Rapid advancements in voice technology, including improved recognition of intonation and voiceprint as a method of identification will greatly enhance the user experience	Google Assistant and Alexa are openly accessible to third- party developers and OEMs, who in turn have integrated and distributed these digital assistants across a wide range of devices	Reaching global scale and adoption will require expansion into growth markets (e.g. Alexa seeing faster growth in non- English speaking countries)	Open access to new and crowd-sourced data will greatly enhance the user experience, and could potentially level the playing field for assistants that are starved for data	Government regulation could place limits on platform control and potentially stifle expansion of voice assistance, similar to what has occurred with Google's antitrust case with the EU

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There is a great deal of hype and confusion about Virtual Reality and Augmented Reality



Merged Reality **Transmogrified Reality Immersive Computing Extended Reality Mediated Reality Immersive Devices** Digital Reality Diminished Reality Mixed Reality¹ **8** Hyper Reality **Cinematic Reality** Holographic Computing ⇒Augmented Virtuality **B** Spatial Computing **Holographic Devices** CG Virtual Reality ≥ RV (Reality-Virtuality) Continuum

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1. MR (Mixed Reality): sometimes used to refer to more "immersive" AR. However, this term has been defined inconsistently between different tech and media companies, recently even being used to describe VR. Sources: Activate analysis, "Karl Guttag on Technology" blog, TechCrunch, The Verge

Reality Computing enables rich, immersive experiences that will lead to the next big computing platform

- TODAY -

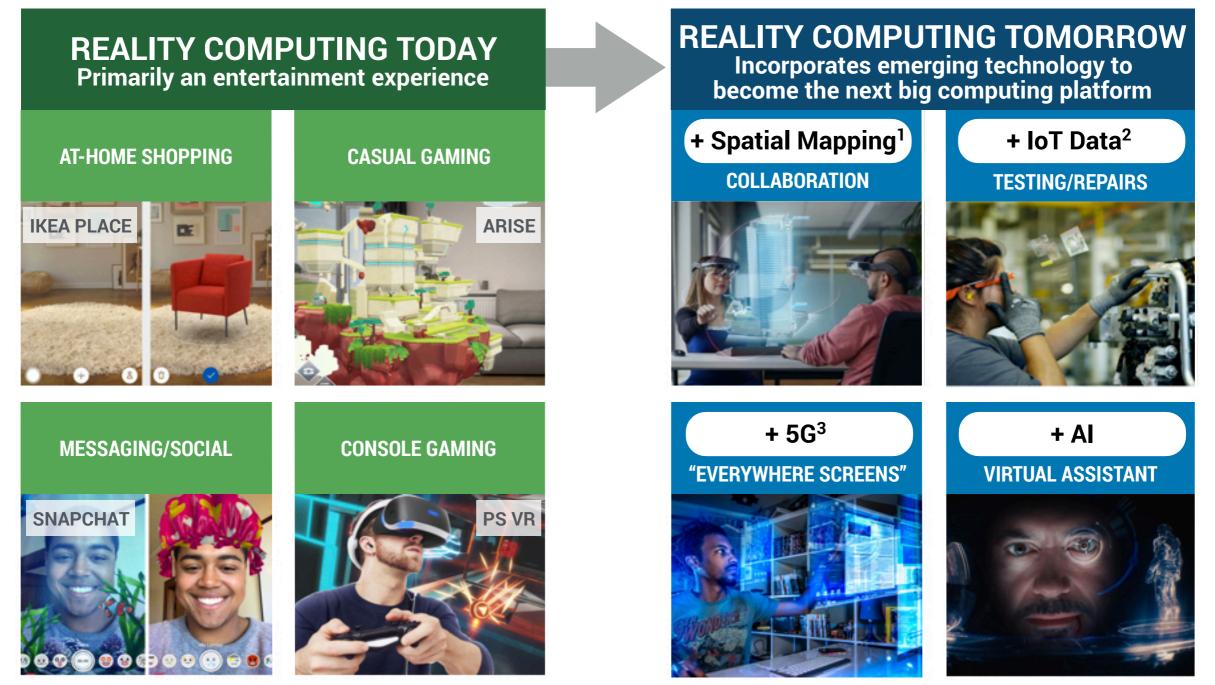
REALITY COMPUTING

VR	AR	THE NEXT BIG COMPUTING
(VIRTUAL REALITY)	(AUGMENTED REALITY)	PLATFORM
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TOMORROW

Reality Computing is primarily entertainment today, but will become the next big computing platform, incorporating sophisticated technology

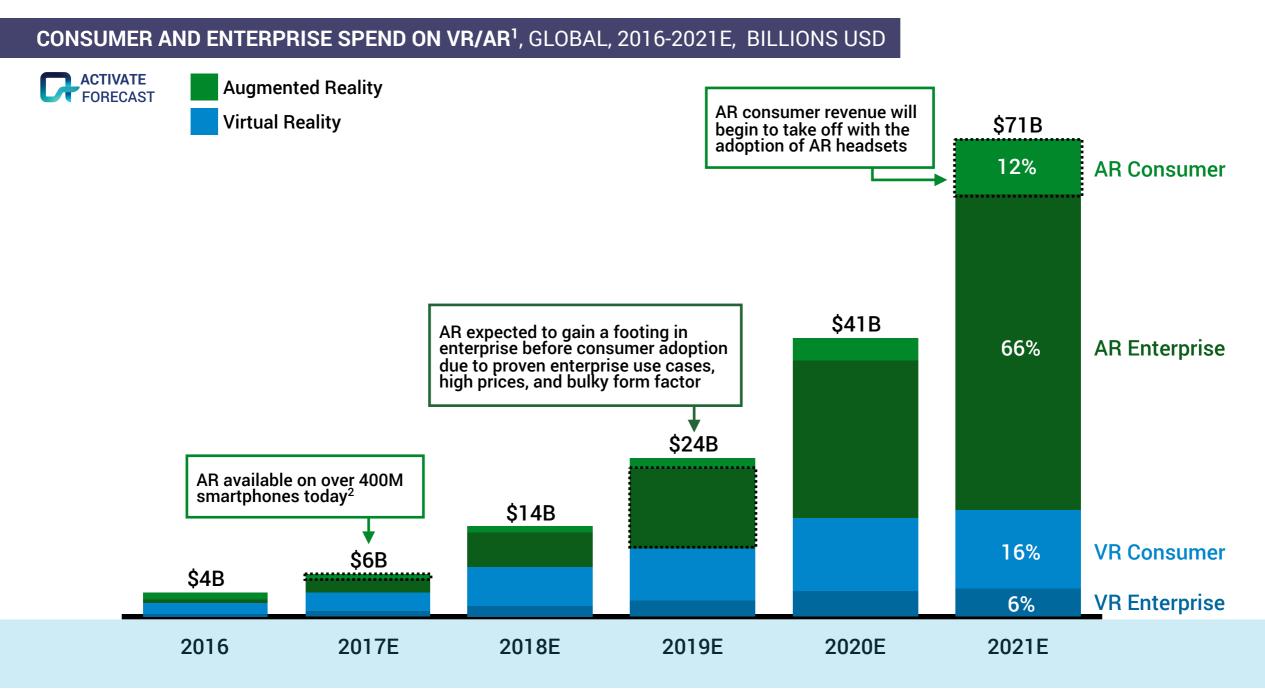


1. 6DoF (6 degrees of freedom, which includes x, y, z, roll, pitch, yaw) tracking enabled by SLAM (simultaneous location and mapping). 2. Internet of Things will provide contextual data on machines and appliances, enabling repairs and testing in enterprise settings as well as smart homes. 3. Increased bandwidth will enable multiple digital screens with simultaneous video and information without lag.

Sources: Activate analysis, "Karl Guttag on Technology" blog, TechCrunch, The Verge

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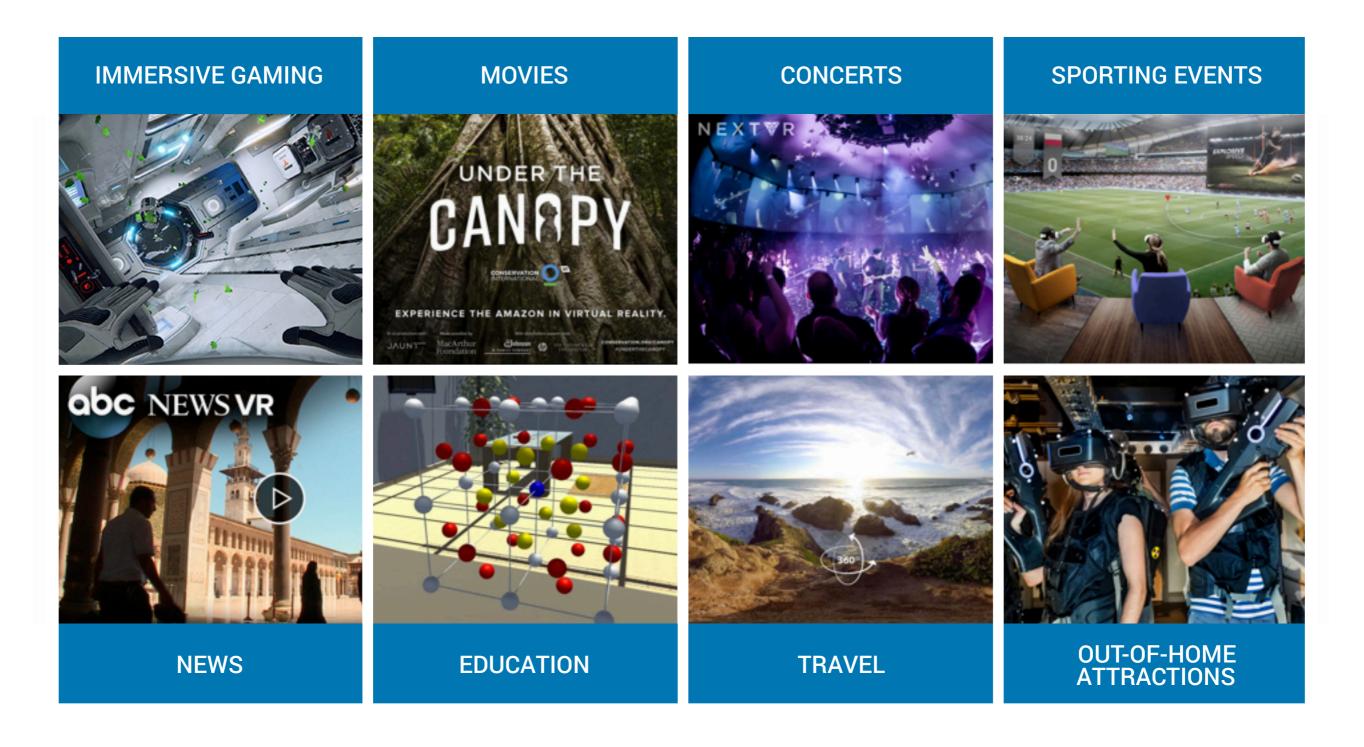
We forecast that Reality Computing will be a \$70 billion business by 2021



1. Excluding advertising revenues, government military spending, and head-up displays (e.g. Tesla dashboard). 2. Apps enabled by Apple's ARKit (iPhone 6s and later) and Google's ARCore (Galaxy S8, Pixel, and others expected in 2018). Sources: Activate analysis, Amazon, Apple, Ars Technica, Canalys, Consumer Intelligence Research Partners, CNet, Credit Suisse, Digi-Capital, eMarketer, Gartner, Gizmodo, Goldman Sachs, Greenlight Insights, IDC, Merrill Lynch, SquareTrade, Strategy Analytics, Superdata, TechCrunch, U.S. Census, Venture Beat, Vgchartz, Wall Street Journal, ZDNet

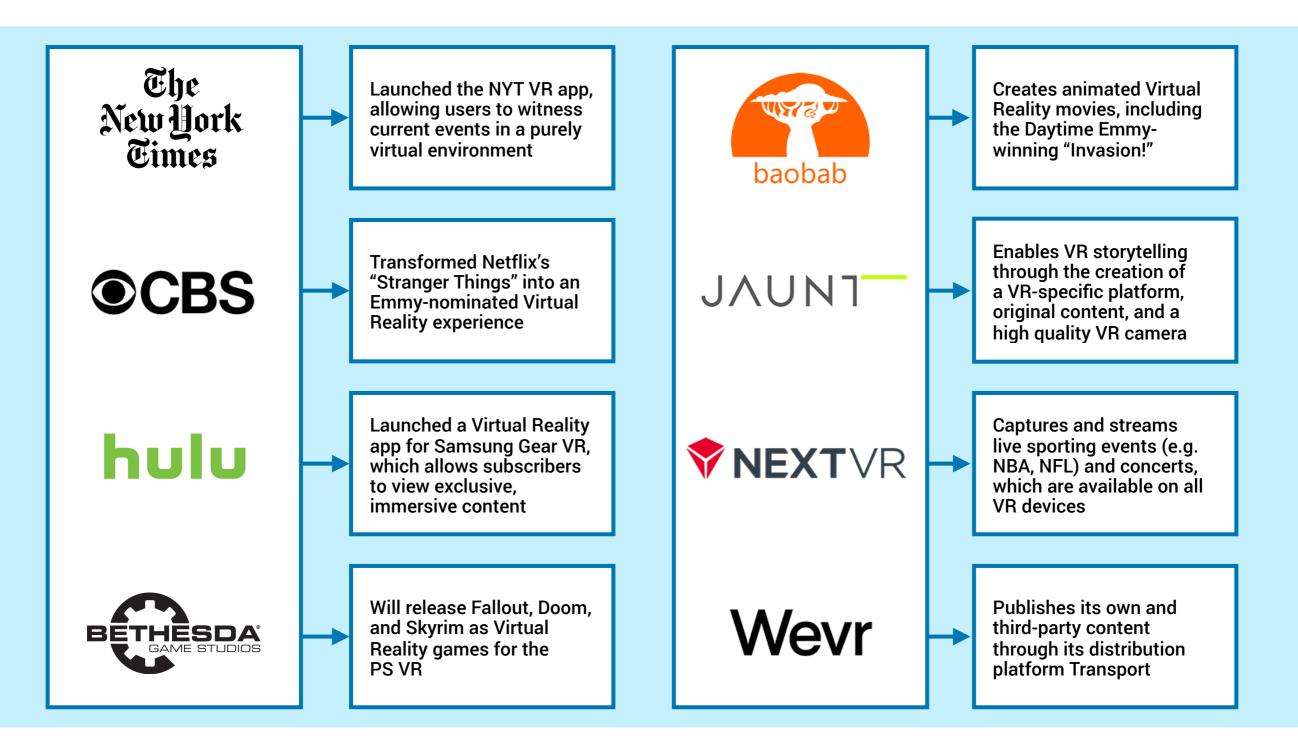
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Today, VR is an innovative media, information, and entertainment medium



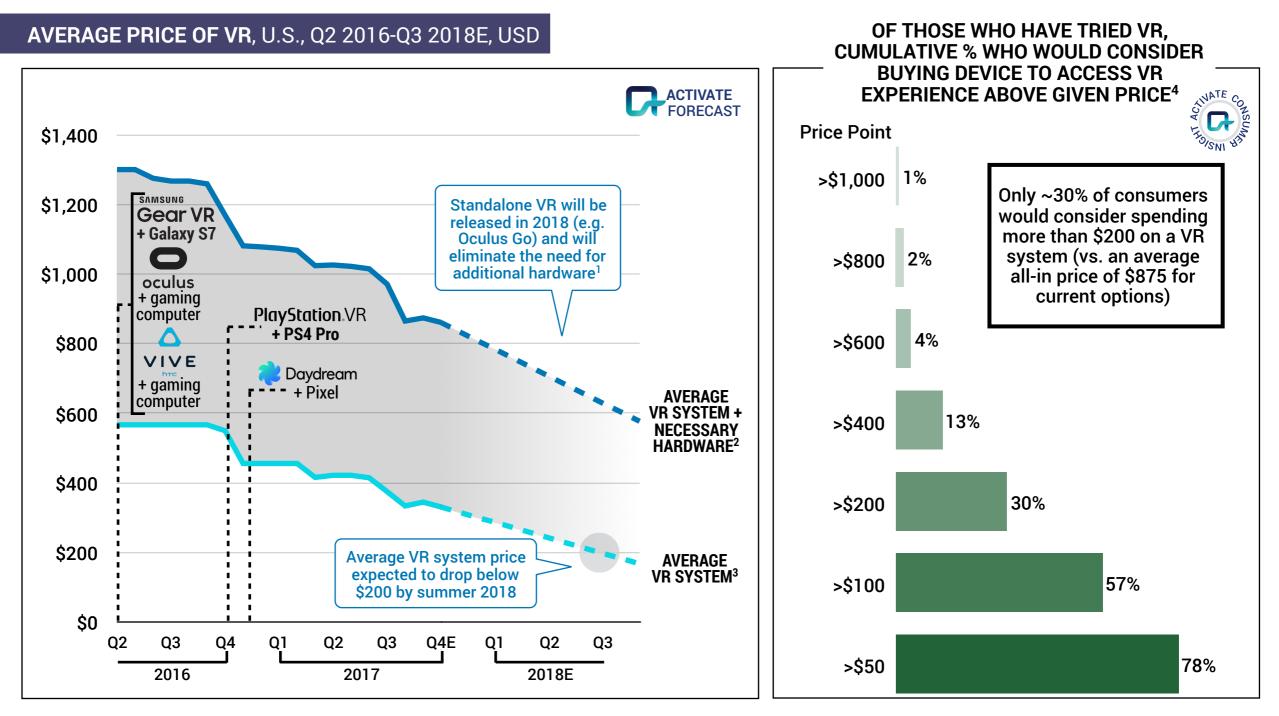


Media and entertainment companies have invested in VR to create new forms of experiential content



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VR device companies are lowering prices to reach larger audiences

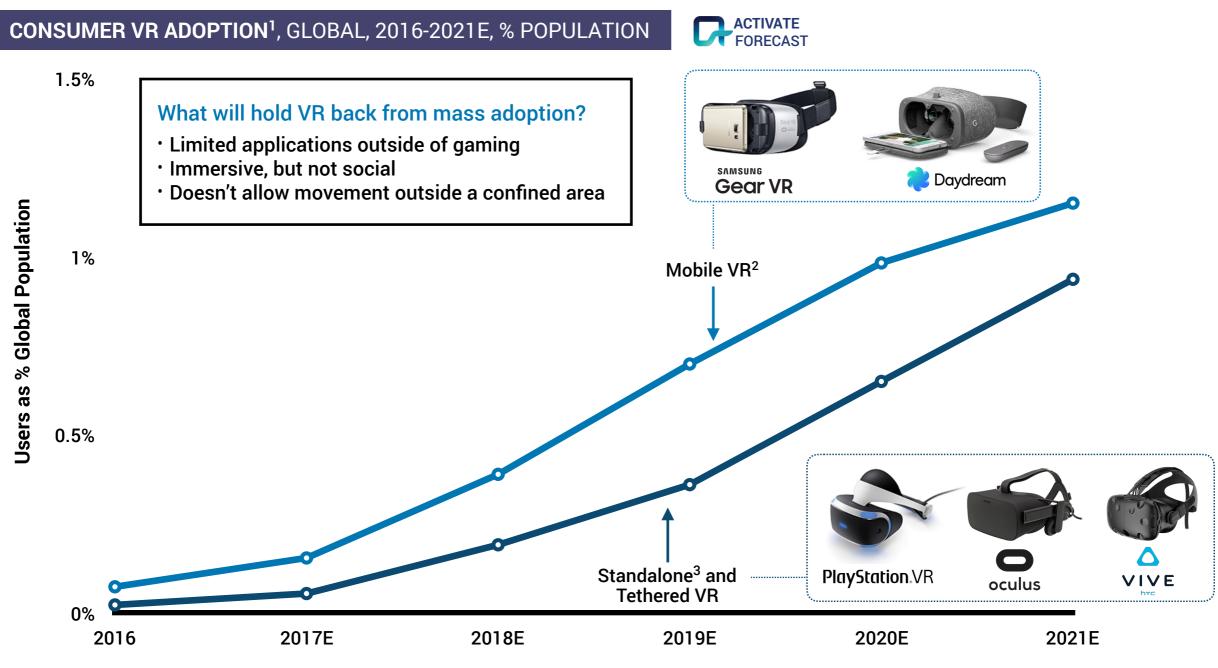


1. Standalone VR does not require a phone, computer, console, or any external sensors or wires. Announced by Vive and Oculus, and already exists in the form of Pico Goblin. 2. Includes VR system, plus: low-end compatible PC (Vive & Oculus); PS4 Pro (PS VR); Samsung Galaxy S7 (Gear VR); Pixel (Daydream View). 3. Includes HTC Vive, Oculus Rift, PS VR, Samsung Gear, and Google Daydream View, plus all required controllers and sensors. 4. Distribution of users who have tried VR; price includes any new hardware. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=210), Amazon.com, Google, Superdata, TechCrunch, UploadVR, Wall Street Journal

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Nevertheless, we forecast that VR will not reach scaled global adoption



1. Modeled after 7th generation gaming consoles (Wii, PS3, Xbox 360, DS, and PSP). 2. Excludes Google Cardboard (and thirdparty cardboard viewers). Assumes some cannibalization from standalone VR as price drops in later years. 3. Standalone VR does not require a phone, computer, console, or any external sensors or wires.

Sources: Activate analysis, Amazon, Apple, Ars Technica, Canalys, Consumer Intelligence Research Partners, CNet, Credit Suisse, Digi-Capital, eMarketer, Gartner, Gizmodo, Goldman Sachs, Greenlight Insights, IDC, Merrill Lynch, SquareTrade, Strategy Analytics, Superdata, TechCrunch, U.S. Census, Venture Beat, Vgchartz, Wall Street Journal, ZDNet



Smartphones will make Augmented Reality accessible to largescale customer bases



INSTANT USER BASE

Smartphones have a huge user base with relatively quick refresh cycles



FREE HARDWARE

AR-optimized smartphones already have the required hardware for no additional cost to consumers



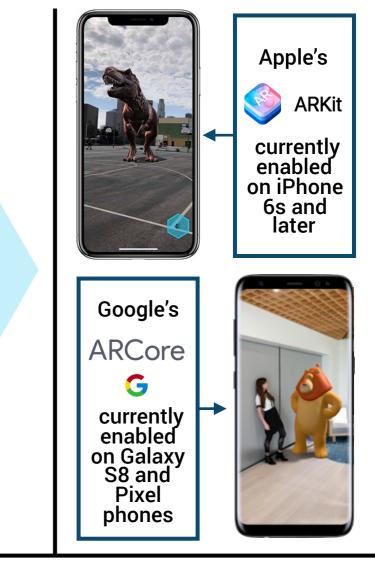
STANDARD TOOLKIT

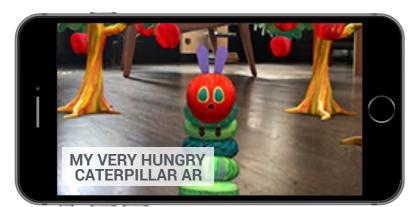
Standard software development kits allow developers to use one tool to potentially reach billions



DEVELOPER COMMUNITY

A critical mass of developers can help establish techniques and best practices









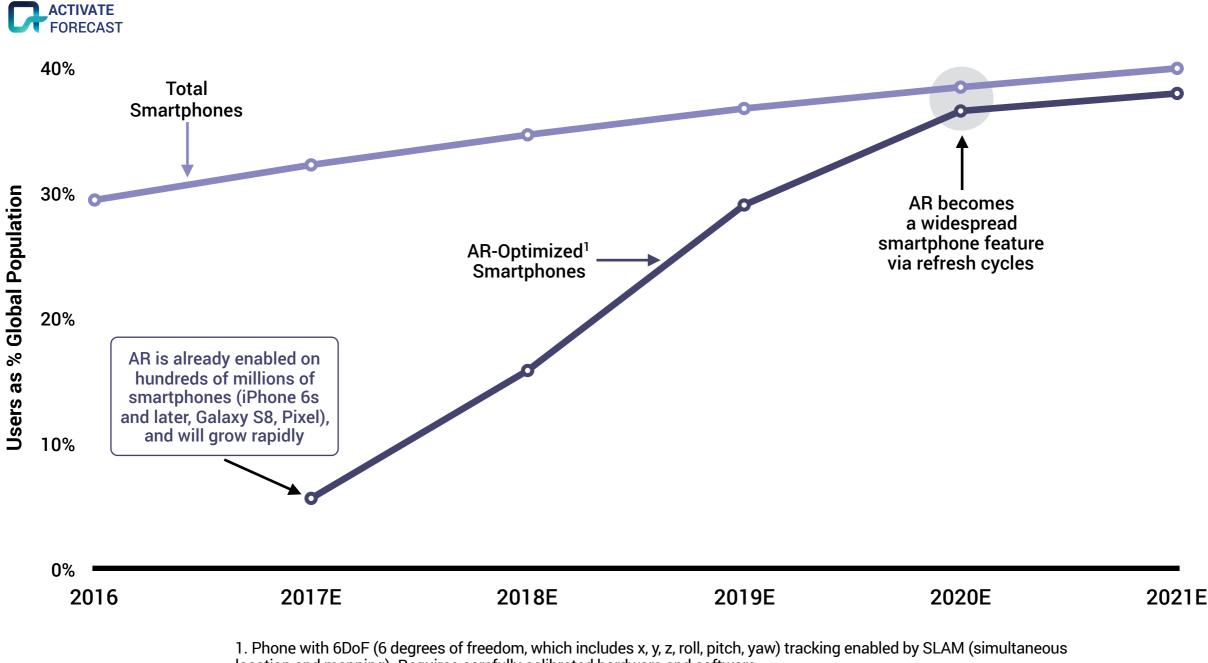


Cactivate _ Sources: Activate analysis, Apple, Google

D-activate

We forecast that AR will rapidly become a ubiquitous feature on smartphones, bringing Reality Computing to the mainstream

AR-OPTIMIZED SMARTPHONE AND TOTAL SMARTPHONE INSTALL BASE, GLOBAL, 2016-2021E, % POPULATION



location and mapping). Requires carefully calibrated hardware and software.

Sources: Activate analysis, Amazon, Apple, Ars Technica, Canalys, Consumer Intelligence Research Partners, CNet, Credit Suisse, Digi-Capital, eMarketer, Gartner, Gizmodo, Goldman Sachs, Greenlight Insights, IDC, Merrill Lynch, SquareTrade, Strategy Analytics, Superdata, TechCrunch, U.S. Census, Venture Beat, Vgchartz, Wall Street Journal, ZDNet



AR will gain increasingly more sophisticated functionality enabling advanced enterprise and consumer applications

REALITY COMPU	TING ROADMAP	DIFFERENTIATING FUNCTIONALITY	APPLICATIONS
GOOGLE GLASS	AR PROOF OF CONCEPT	 Can overlay a 2D digital screen over viewing area GPS integration 	 Notifications on head-up display Location pinning via GPS
ARISE	AR ENTERTAINMENT	 Tracking and mapping environment^{1, 2} Facial recognition Physics engines/light estimation 	 Games anchored in the real world (e.g. Minecraft on a table) Retail: digitally trying on clothes and placing furniture before purchase Ability to apply filters to face
	ENTERPRISE SUPER WORKERS	 Significant increases in reliability, durability, and accuracy Headsets allowing free use of hands and larger field of view 	 Enterprise applications where overlaid content significantly enhances performance (e.g. surgery, oil & gas fieldwork, assembly lines)
P5 P5 STAY INDOORS	SOPHISTICATED COMPUTING PLATFORM	 Usability improvements: longer battery life, improved field of view via consumer headsets Integrating other technologies: 5G, IoT, data contextualization via AI Lower price and improved form factor ich includes x, y, z, roll, pitch, yaw) tracking enabled 	 Consumer-specific applications: communication, navigation, fitness, real-time health diagnostics, etc. Multiple virtual screens that can be overlaid on any surface Intuitive 3D data modeling (e.g. weather, traffic)

1. 6DoF (6 degrees of freedom, which includes x, y, z, roll, pitch, yaw) tracking enabled by SLAM (simultaneous location and mapping). 2. Pokémon Go originally did not map environment, but used GPS as a rough approximation. App has recently announced plans to use ARKit to map environment. **C**-activate

Sources: Activate analysis, "Karl Guttag on Technology" blog, TechCrunch, The Verge



AR applications will move beyond the smartphone and become more sophisticated through headsets, starting with enterprise

ENTERPRISE-GRA WILL ARR (Prices as o	IVE FIRST	CONSUMERS WILL TAKE LONGER TO ADOPT AR HEADSETS DUE TO THE FOLLOWING:
ODG R-7	MICROSOFT HOLOLENS	USE CASES AR headset applications are already proven in enterprise, which will facilitate the technology's development
Price: \$2,750	Price: \$3,000	PRICE With prices exceeding \$2,000, AR headsets are too expensive for the average consumer
META 2	DAQRI SMART GLASSES	FORM FACTOR Consumers are unlikely to wear bulky, heavy, and unsightly headgear in public
Price: \$1,495	Price: \$4,995	TECH CONSIDERATIONS Consumer adoption will require longer battery life, larger viewing area, and greater mobility than enterprise ¹

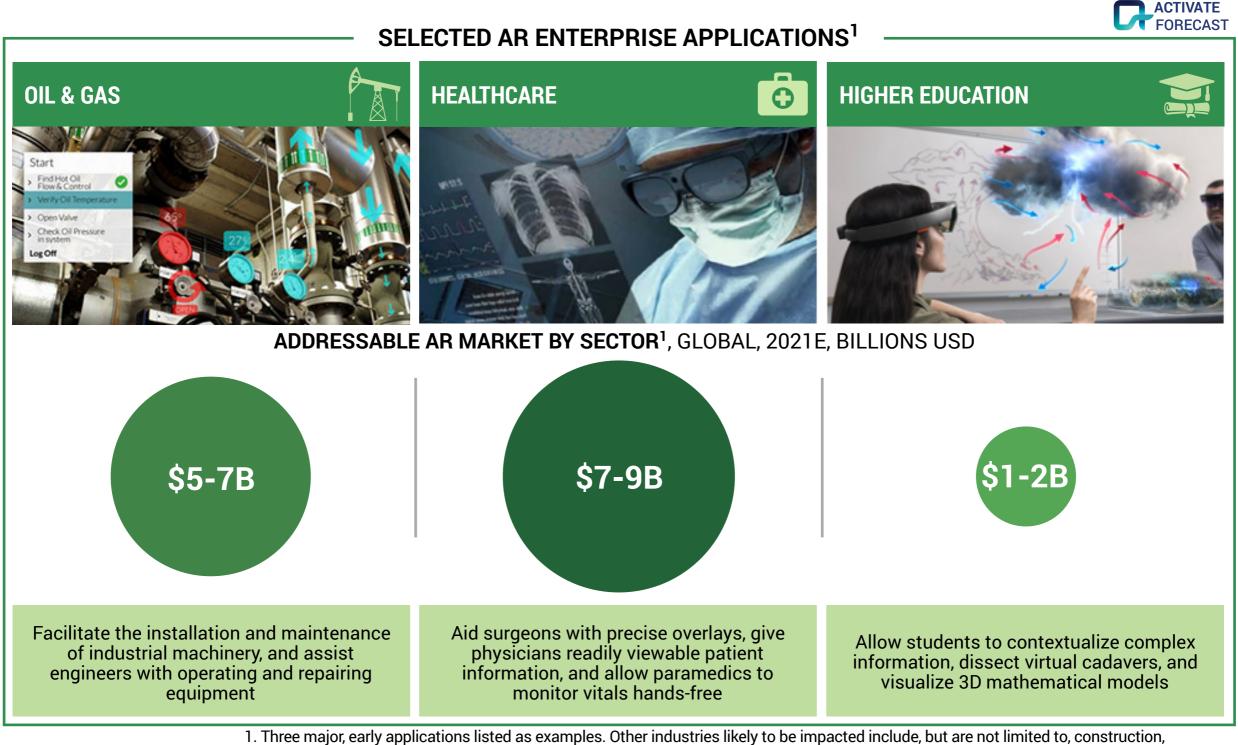
1. Other factors include resolution, 2D vs. 3D, digital image brightness, local spatial mapping and tracking, heat dissipation, mobility, durability, peripheral vision, rendering speed, eye box size, multiple focal planes, color accuracy (rendering black, contrast, chromatic aberrations, etc.), and how dark the outside world appears. Companies are investing to address technical challenges for AR. Developments in chips, batteries, and 5G connectivity will also advance development. Sources: Activate analysis, DAQRI, "Karl Guttag on Technology" blog, Meta, Microsoft, ODG, Virtual Reality Pop



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Enterprise-grade AR will augment expertise, improve workflow, and enhance worker collaboration

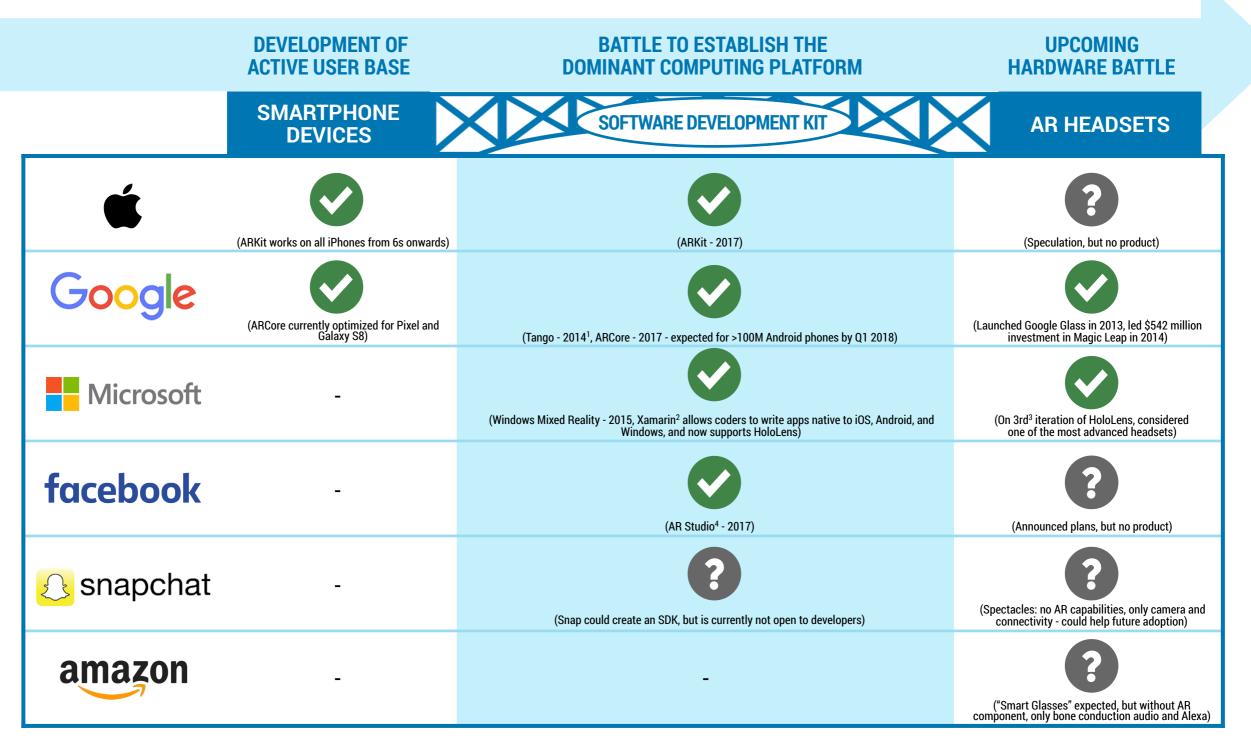


1. Three major, early applications listed as examples. Other industries likely to be impacted include, but are not limited to, con manufacturing, engineering, architecture, retail, data science, real estate, defense contracting, marketing, and advertising. Sources: Activate analysis, American Petroleum Institute, Apple, BBC Research, Bureau of Labor Statistics, Council of Economic Advisers, IHS, International Trade Administration, Kaiser Family Foundation, OECD.com, Redi-Data, Reuters, SIIA, TechCrunch, UN Comtrade

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The tech players' Reality Computing battle goes beyond phones – it is about the software to power future computing applications

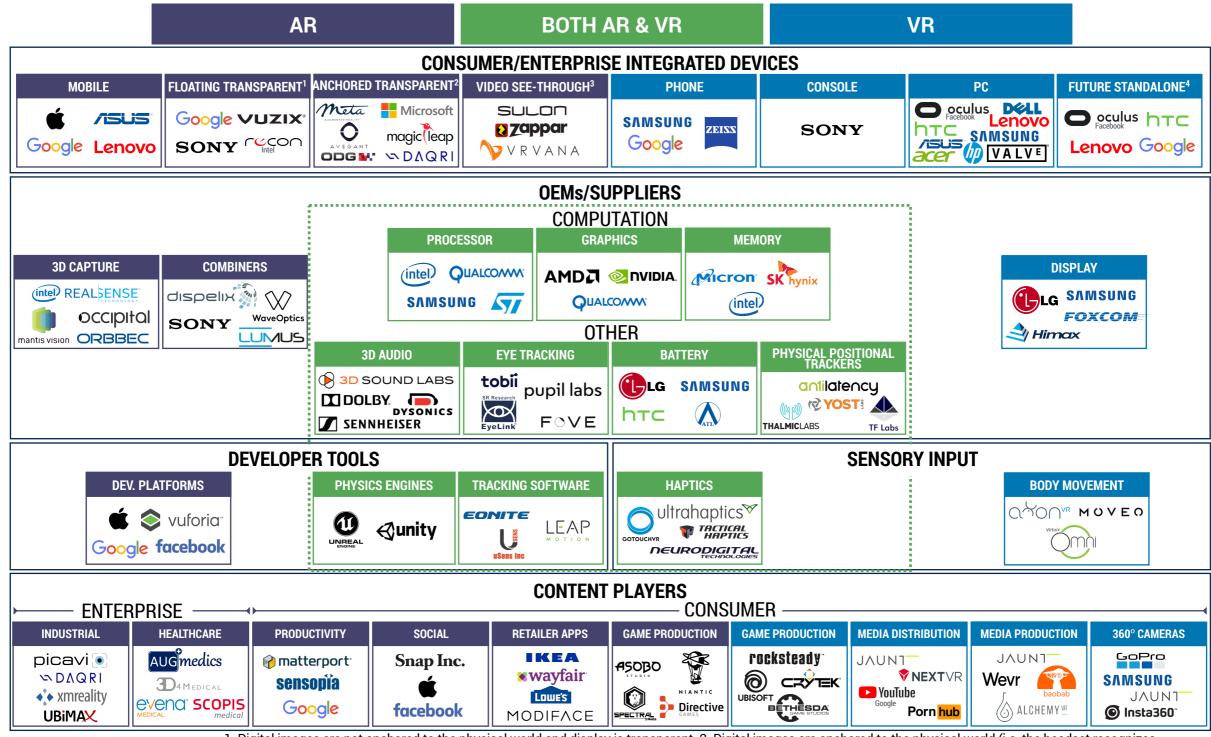


 But not commercially available until 2017, and then only on Lenovo Phab 2 Pro and Asus ZenFone AR.
 Acquired by Microsoft in February 2016. 3. Skipped 2nd iteration to focus on 3rd. 4. Part of Camera Effects Platform. Sources: Activate analysis, Apple, Ars Technica, Facebook, Google, Microsoft, QZ, The Verge



The winners in Reality Computing are far from decided – players will emerge to fill new opportunities

REALITY COMPUTING LANDSCAPE –



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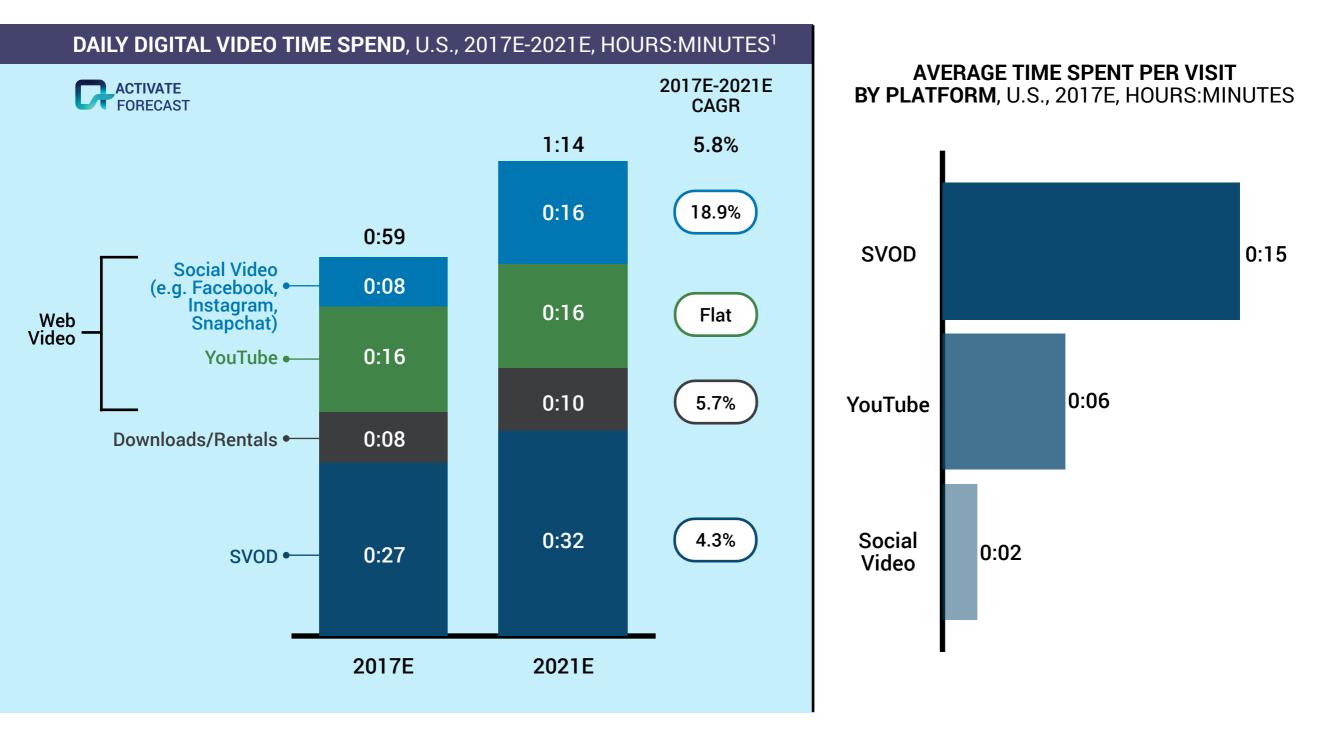
1. Digital images are not anchored to the physical world and display is transparent. 2. Digital images are anchored to the physical world (i.e. the headset recognizes surfaces and distances accurately). 3. Physical world is recorded via camera and the feed and digital images are shown via an opaque screen. 4. Standalone VR does not require a phone, computer, console, or any other separate hardware or wires. Expected 2018 release.

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Overall, consumers will dramatically increase their time spent watching digital video

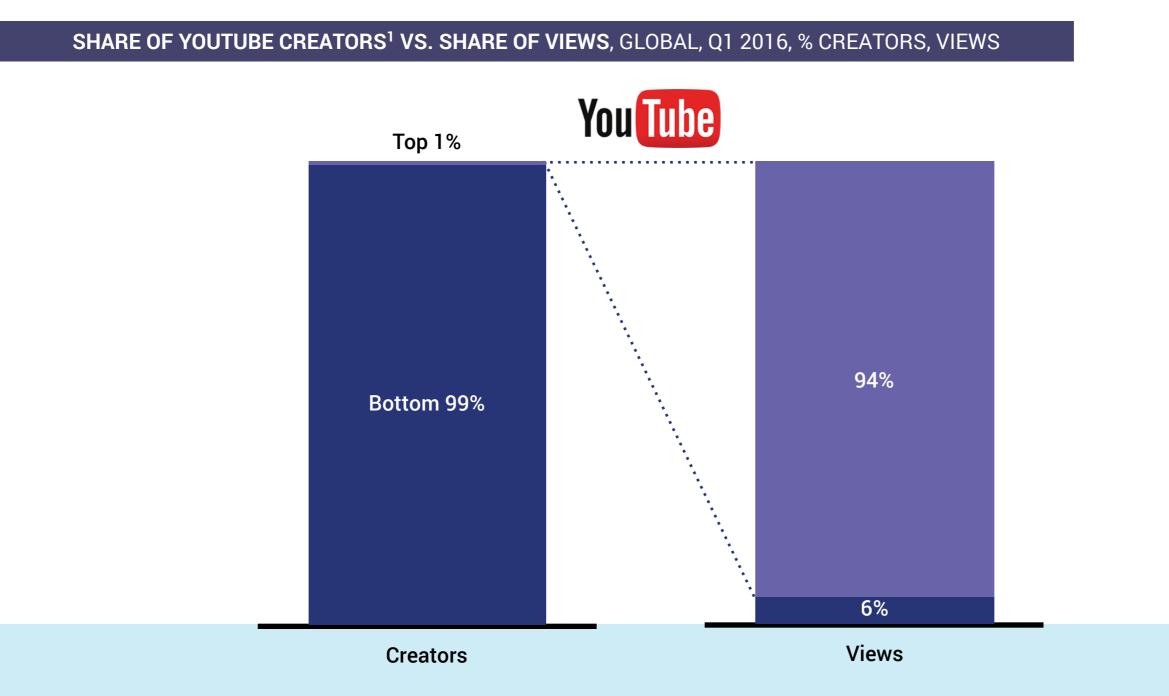


1. Among U.S. population.



Sources: Activate analysis, Business Insider, Cisco, Company press releases, eMarketer, MediaKix, Netflix, Sandvine, Sensor Tower

A small percent of creators drive the majority of views on YouTube



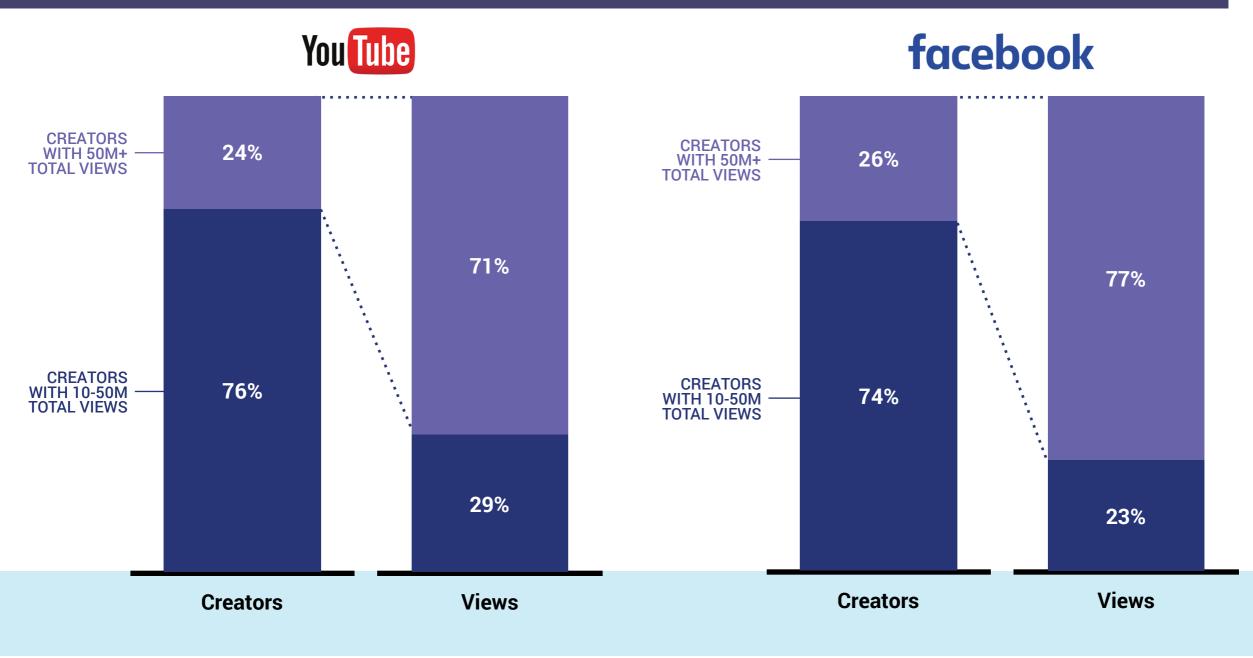


1. Every YouTube channel is considered a unique creator. Sources: Activate analysis, AllianceBernstein



Evaluating extensive Tubular Labs data on creators with over 10M views, approximately 25 percent of the creators account for over 70 percent of views

SHARE OF TOP¹ YOUTUBE AND FACEBOOK CREATORS VS. SHARE OF VIEWS BY PLATFORM, GLOBAL, Q2 2017, % TOTAL



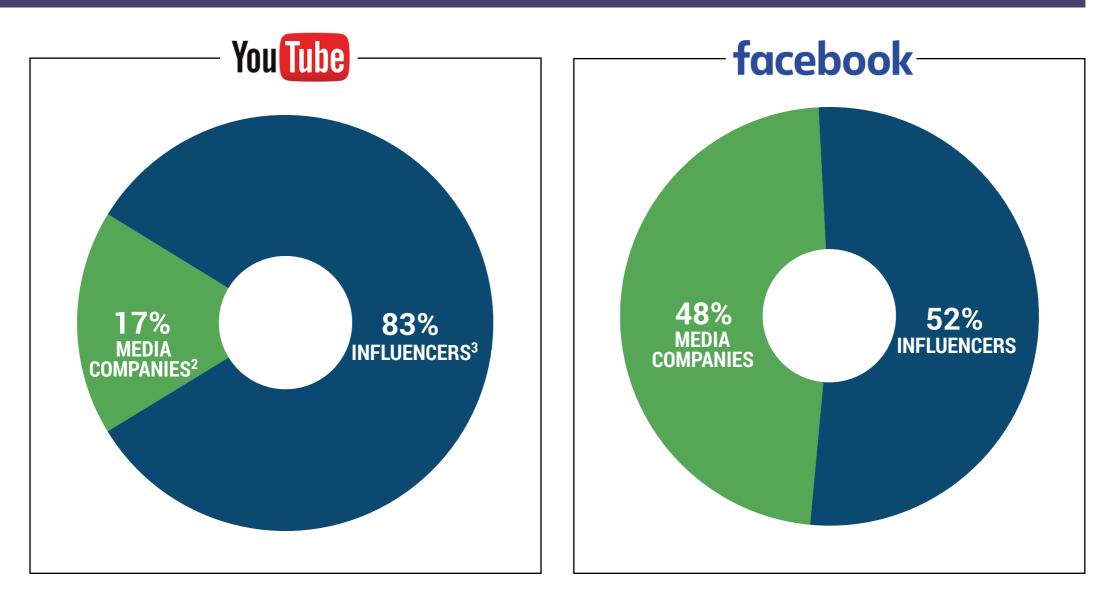


1. Top creators defined as those with over 10M total views. Sources: Activate analysis, Tubular Labs



The web video head is primarily influencers and media companies; Tubular Labs data shows that there is a greater ratio of influencers to media companies on YouTube and a roughly even ratio on Facebook

SHARE OF VIEWS FROM TOP CREATORS¹ BY PLATFORM, GLOBAL, Q2 2017, % TOTAL



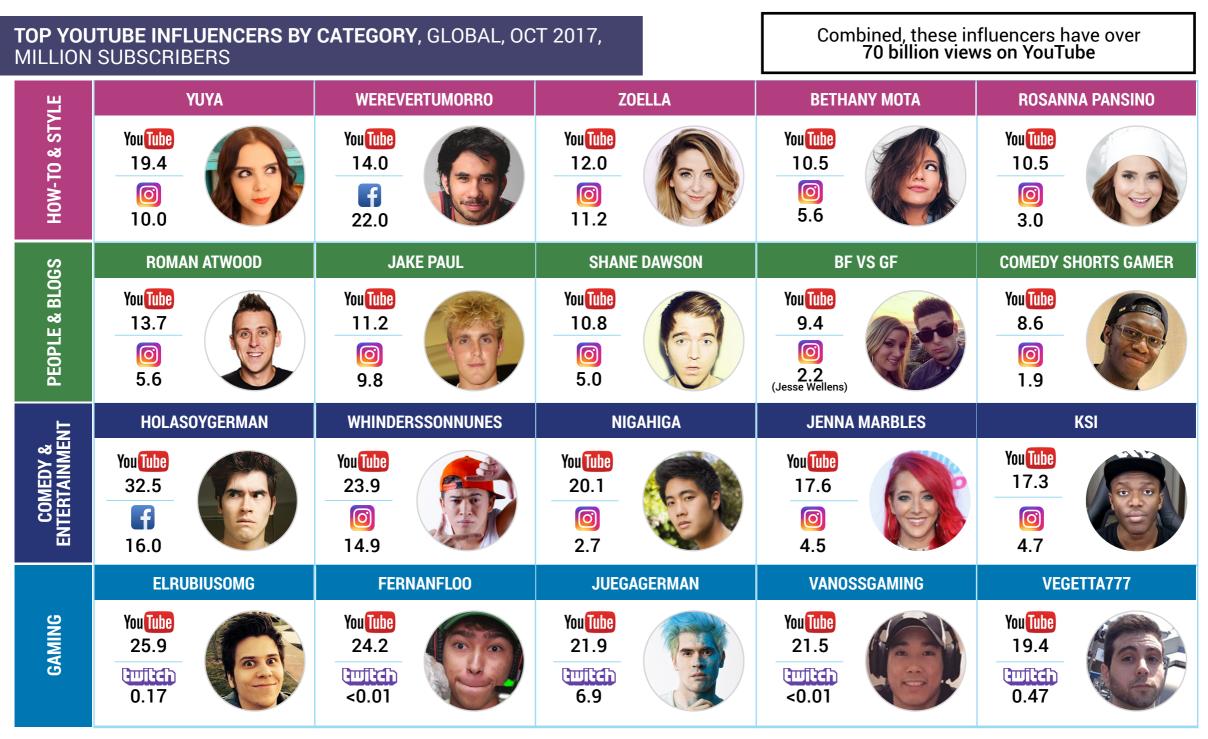
Top creators defined as those with over 50M total views. Influencers and media companies make up 97% of YouTube views in this group and 98% of Facebook views in this group, brands make up 3% in each.
 Media companies defined as organizations whose primary business model is in production and/or distribution of content. Includes some professional influencer entities that have moved upstream.

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Influencers defined as personalities, celebrities or public figures with significant social presence.
 Sources: Activate analysis, Tubular Labs



Top web video influencers range across content areas and platforms

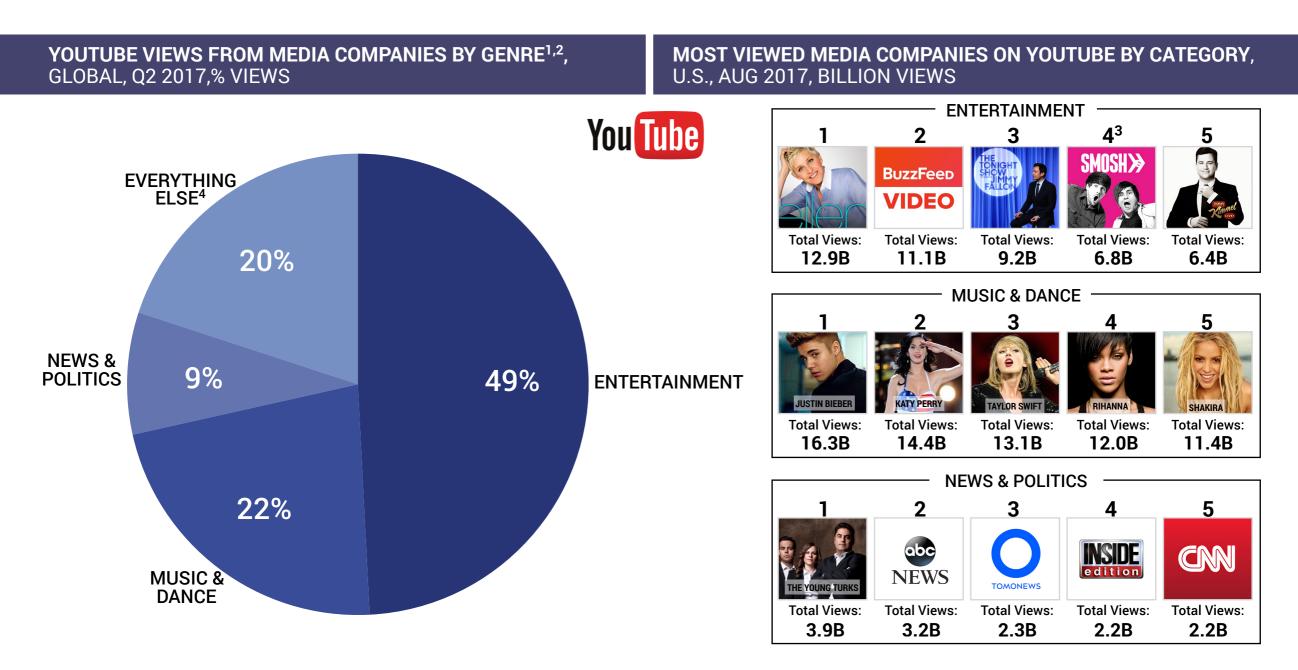


Cactivate _ Sources: Activate analysis, Instagram, Socialblade, Twitch

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The top U.S. media company creators on YouTube are TV shows, artists and TV networks



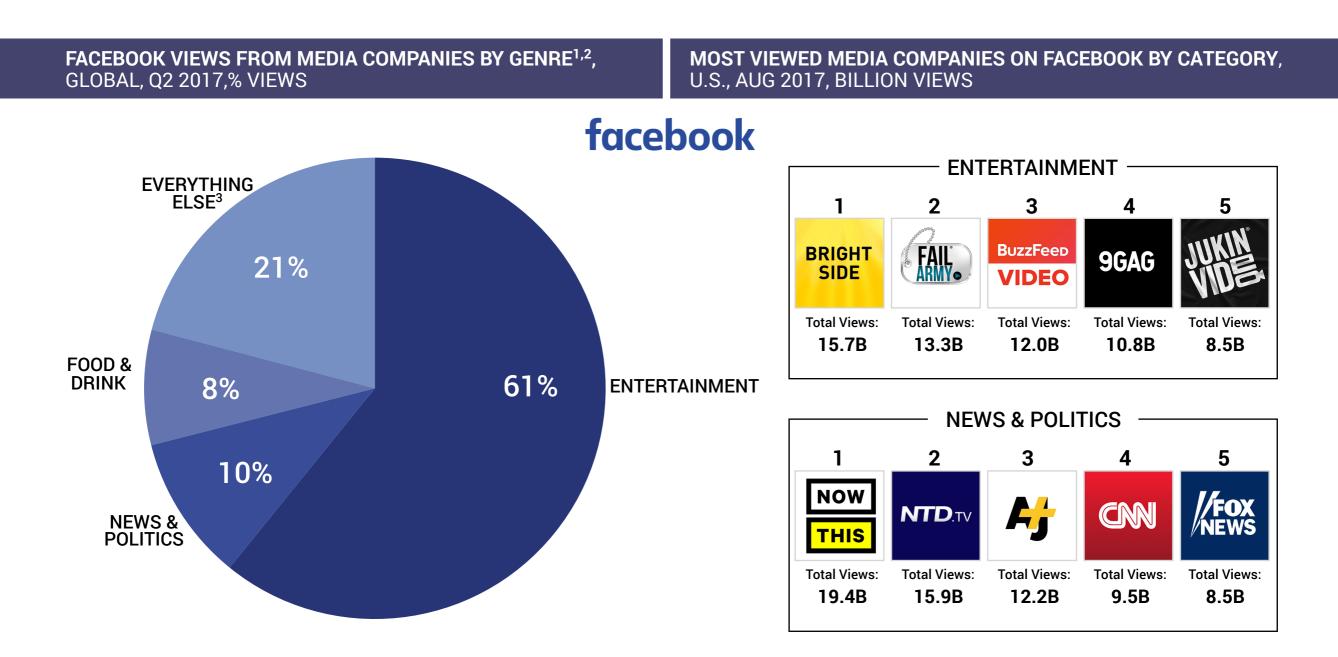
1. Among media companies with 10M+ views. Media companies defined as organizations whose primary business model is in production and/or distribution of content. Includes some professional influencer entities that have moved upstream. 2. Video category names were self-reported by creators. 3. Smosh used to be recognized as an influencer but has recently worked on films produced by Lionsgate and Columbia Pictures. 4. Other categories include Animals & Pets, Beauty, Cars, Education, Fashion & Style, Film & Movies, Food & Drink, Gaming, General Interest, Health & Fitness, Home & DIY, Kids Entertainment, People & Blogs, Science & Tech, Sports, Travel.

Sources: Activate analysis, Tubular Labs

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The top U.S. media company creators on Facebook are online publishers



 Among media companies with 10M+ views. Media companies defined as organizations whose primary business model is in production and/or distribution of content. Includes some professional influencer entities that have moved upstream.
 Video category names were self-reported by creators.
 Other categories include Animals & Pets, Beauty, Cars, Education, Fashion & Style, Film & Movies, Music & Dance, Gaming, General Interest, Health & Fitness, Home & DIY, Kids Entertainment, People & Blogs, Science & Tech, Sports, Travel.

Sources: Activate analysis, Tubular Labs

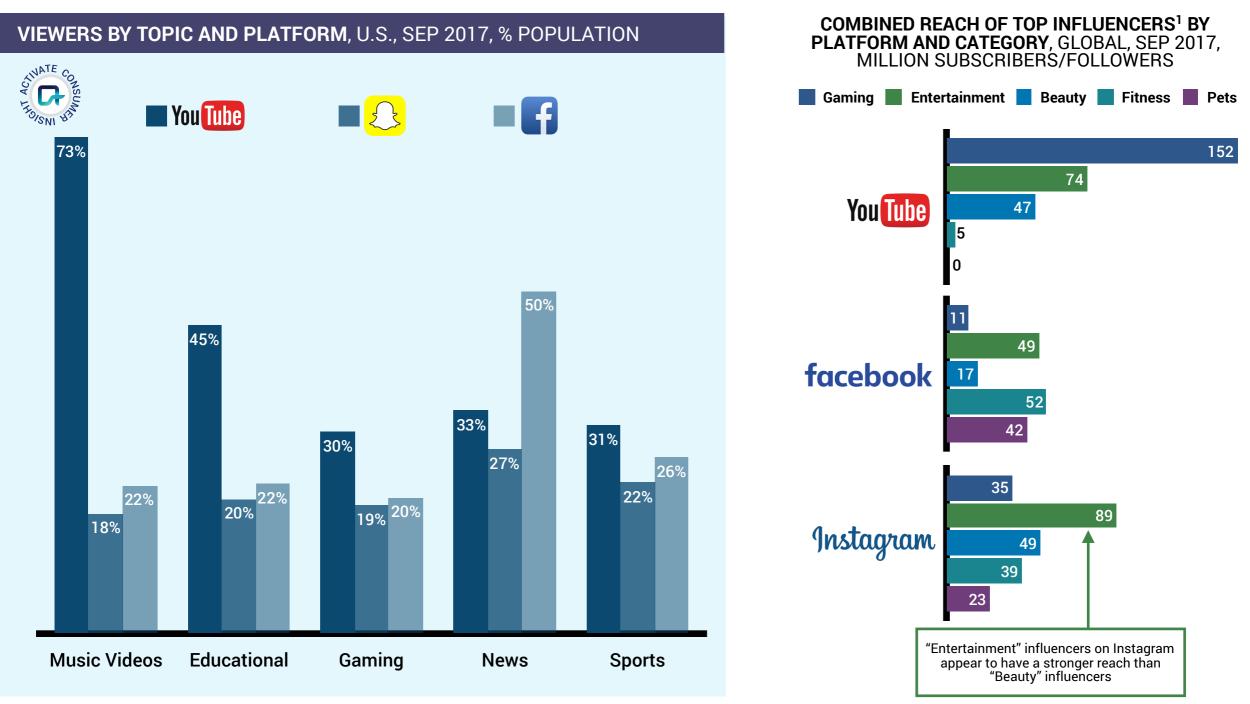


Influencers who start on a platform do not typically transfer success to another

TOP SUBSCRIBED INFLUENCER ACCOUNTS BY NATIVE PLATFORM, GLOBAL, SEP 2017, MILLION SUBSCRIBERS/FOLLOWERS

		You Tube	facebook	tritch
	SewdiePie PewdiePie	56	7.4	0.9
	Search HolaSoyGerman	32	16.2	NA
YOUTUBE NATIVE	🚯 El Rubius	25	<0.01	0.2
	Smosh S	23	6.9	<0.01
	🐲 Fernanfloo	23	5.3	NA
-	2 Logan Paul	12.1	12.8	NA
	Eh Bee	4.1	10.3	NA
FACEBOOK NATIVE	Lance Stewart	3.6	8.8	NA
	King Bach	1.6	8.3	NA
	📀 Curtis Lepore	0.8	8.0	NA
	Syndicate	10	1.5	2.5
	Nightblue3	2.1	0.3	1.7
TWITCH NATIVE	Summit1g	0.4	0.04	1.6
	EIRIK	0.2	NA	1.5
	PhantomL0rd	0.5	0.4	1.5

Web video platforms satisfy different content preferences – media companies will need to play to each platform's strengths



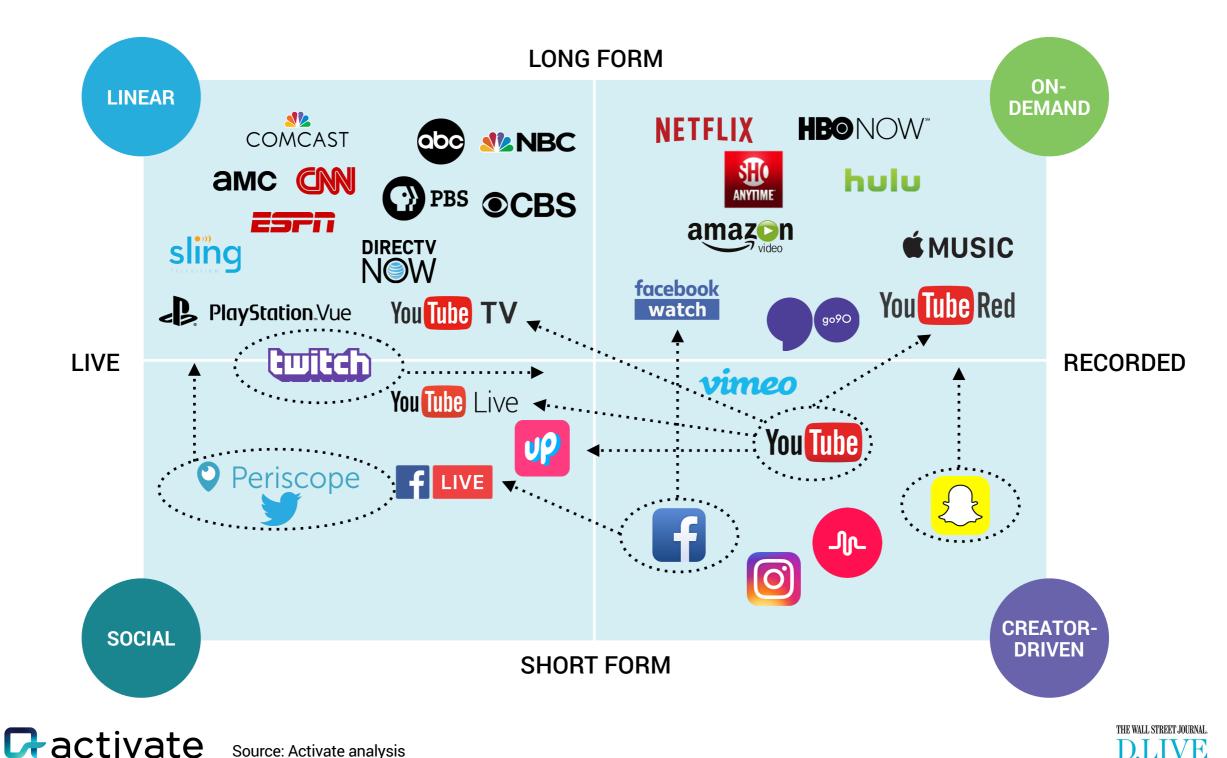
1. Top influencers is defined as Forbes Top 10 Influencers list. The list was generated along with Traackr and Captiv8 to measure reach, virality, engagement, earnings per post, outside endorsements, and reputation.

Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (Facebook: n=2,641, Snapchat: n=969, YouTube: n=2,940), Forbes

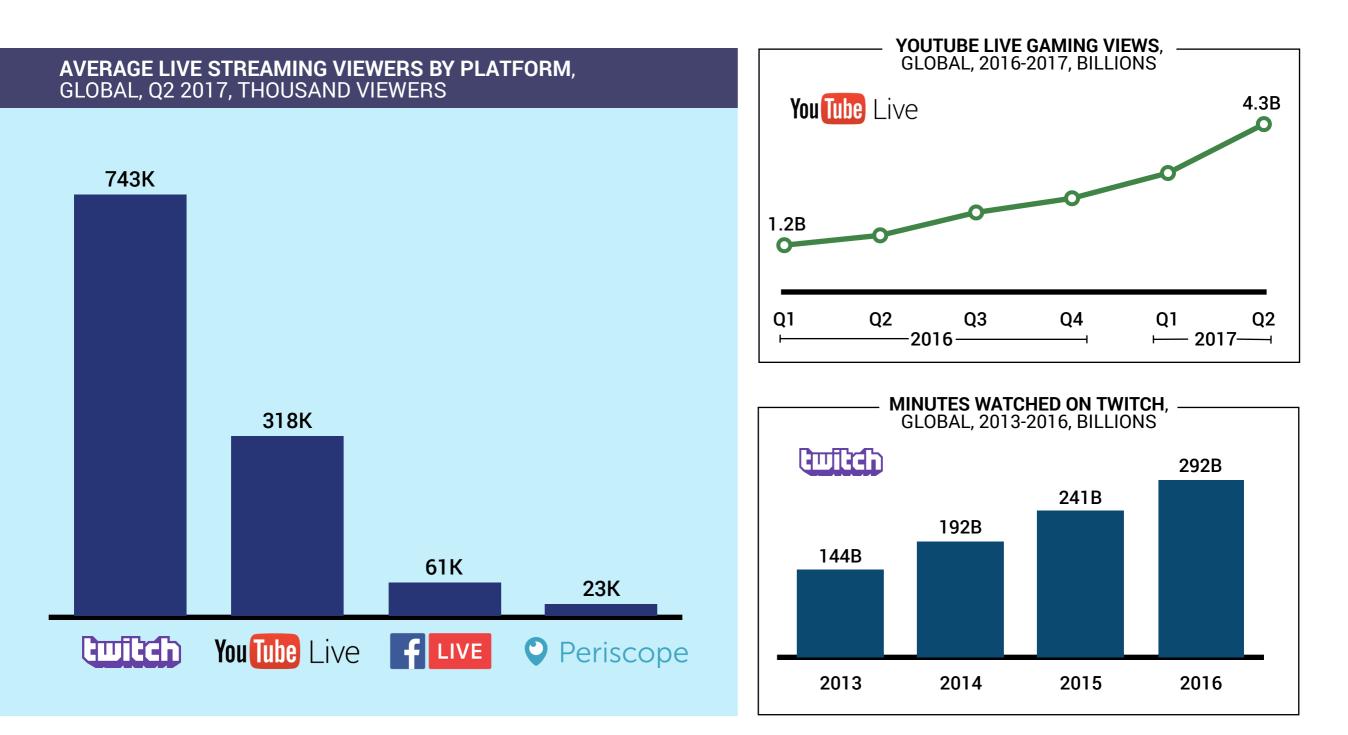


To attract these creators and capture user attention, web video platforms are attempting to move into each others' turfs

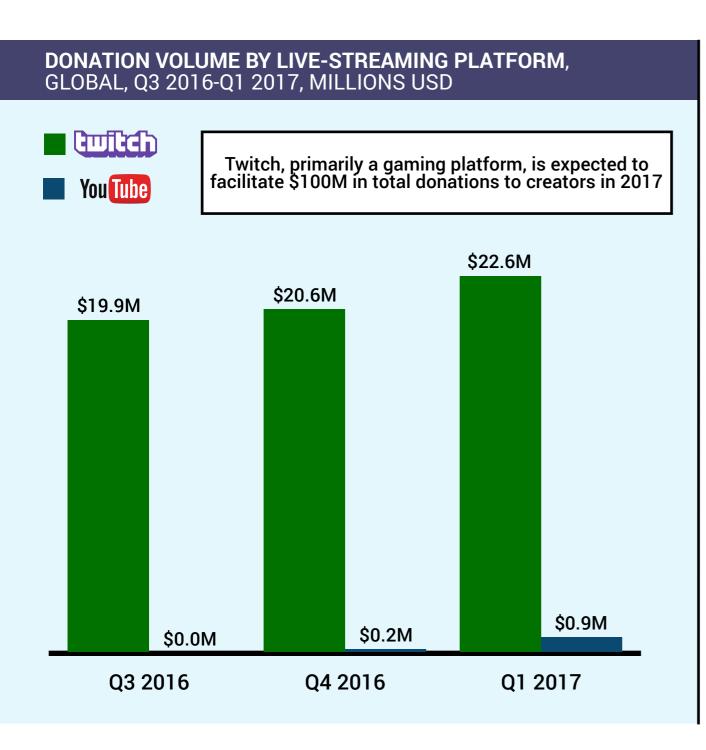


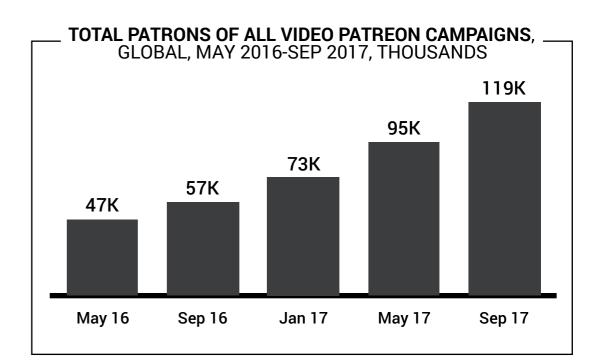


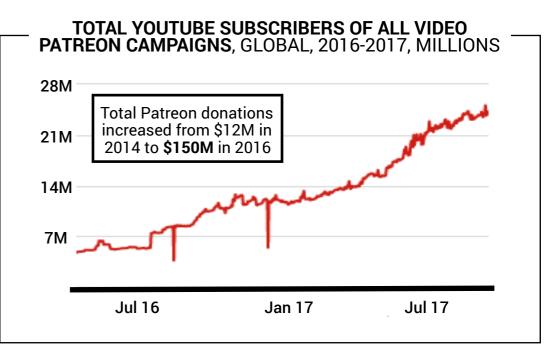
The platforms are also shifting into live streaming – this medium has exhibited rapid growth in views and time spent



Live-streaming creators will use crowdfunding platforms, such as Patreon, to monetize directly through fans





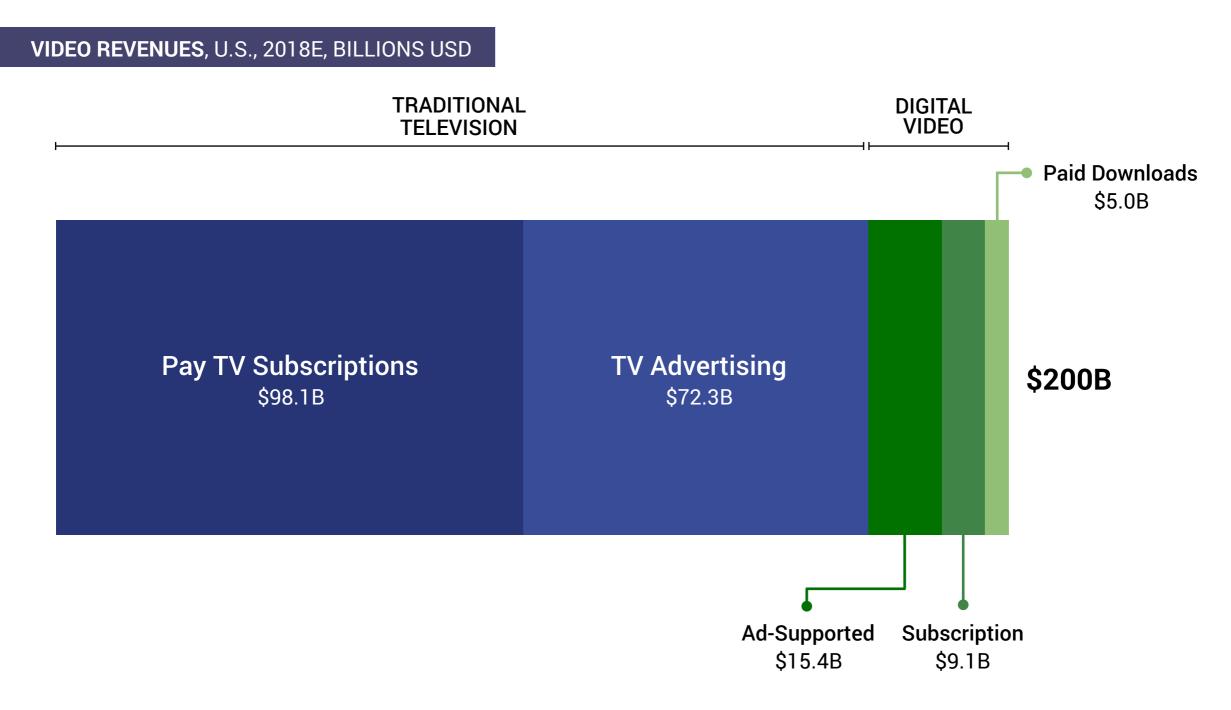


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U.S. video revenues will continue to expand, with Pay TV still the dominant segment, but digital surging in growth



Note: Paid downloads estimate updated to include rentals, leading to substantial increase over 2016 Activate Tech and Media Outlook estimates. Ad-supported video includes digital TV Everywhere viewing. Figures do not add to \$200B due to rounding.



Sources: Activate analysis, Digital TV Research, eMarketer, PricewaterhouseCoopers, SNL Kagan, Strategy Analytics



The future winners in television and video streaming will look quite familiar to consumers

PLAYER	RATIONALE
SVOD PLATFORMS	 Dominant SVOD platforms will expand their originals budgets and acquire major franchises in order to retain their existing fanbases and attract cord-cutters Niche SVOD services will face significant consumer acquisition obstacles, and will likely require distribution by the major players in order to find audiences
MAJOR MVPDS	 Virtual Pay TV will face a number of challenges, including low profitability, high churn, and misalignment with consumer behaviors The option value of the traditional cable bundle, as well as the cost-effectiveness of bundling, will limit cord-cutting in the near- and mid-term
LEADING BROADCASTERS	 The growth of ATSC 3.0 will provide broadcasters with a compelling offering for non-Pay TV viewers, combining streaming services and high-demand broadcast channels into a low-cost package
MOBILE CARRIERS	 Television delivery will be a key use case for 5G, particularly fixed wireless-to-the-home Carriers will be able to zero-rate high-value content over increasingly fast mobile connections
STUDIOS WITH DISTINCTIVE CONTENT	 As digital platforms look to retain customers through valuable franchise purchases, studios will find themselves in a seller's market

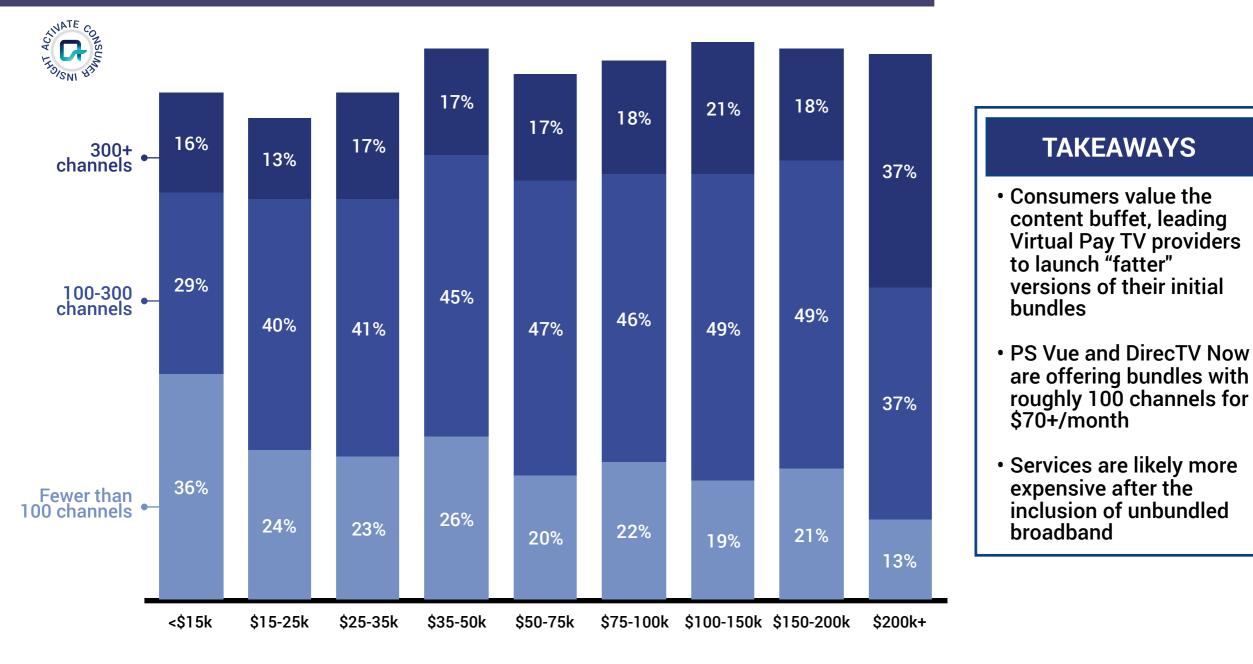
The digital premium video market is becoming more fragmented by the day – every player wants to be in everything

			LIVE/LINEAR VIDEO PROGRAMMING				NON-LINEAR VIDEO PROGRAMMING			
		SELECTED PLAYERS	Broadcast Networks	Cable Networks	Niche Networks	Live Sports	Live Events	DTC/Original Series	Aggregation	Sport Replays
VIRTUAL PAY TV	MVPD-Operated		•	•	•	•	•			
	Major Standalone	You Tube TV hulu 🕑	•	•	•	•	•			
N	Niche Standalone				•	•				
VOD	"Big 3"		•	•		•		•	٠	
SUBSCRIPTION VOD	Network Offerings	HBONOW" CBSOALL ACCESS4	•	•		•		٠		•
SUB	Niche Vertical Offerings	SHUDDERSpùulCuriosityStreamgaia							٠	
ATFORMS	Facebook	facebook				•	•	•		
SOCIAL PLATFORMS	Twitter	twitter		•		•				
PROVIDERS	Apple	Ú				•	•	•	٠	

TECHNOLOGY

Larger traditional Pay TV bundles are highly penetrated across all income levels, raising the bar for Virtual Pay TV offerings in terms of channel selection

PAY TV BUNDLE PENETRATION BY INCOME LEVEL, U.S., 2016, SIZE OF BUNDLE, % USERS



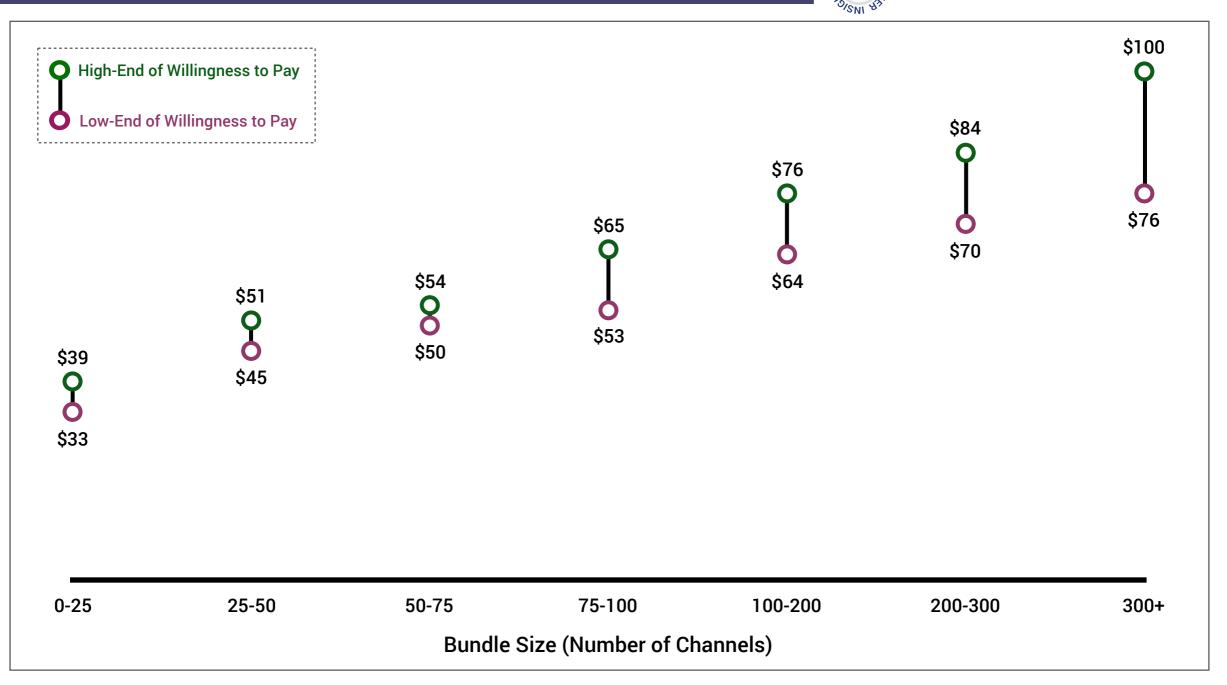
Chactivate Sources: Activate analysis, Activate 2016 Consumer Tech & Media Research Study (n=2,769)

Chactivate

Our research shows that consumers still value the content buffet, and are willing to pay more for a large selection of channels

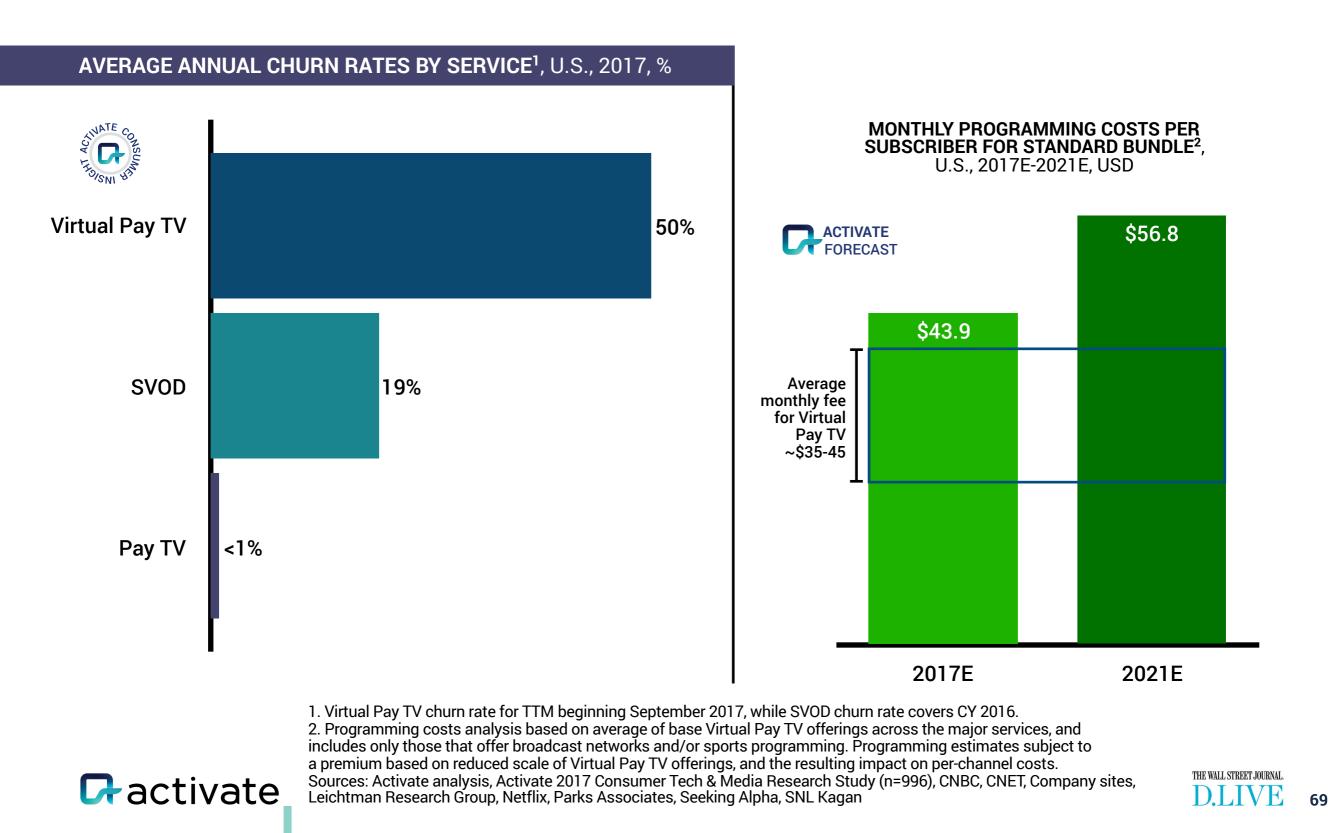
AINATE CO

WILLINGNESS TO PAY RANGE BY TV BUNDLE SIZE, U.S., 2016, USD, # CHANNELS



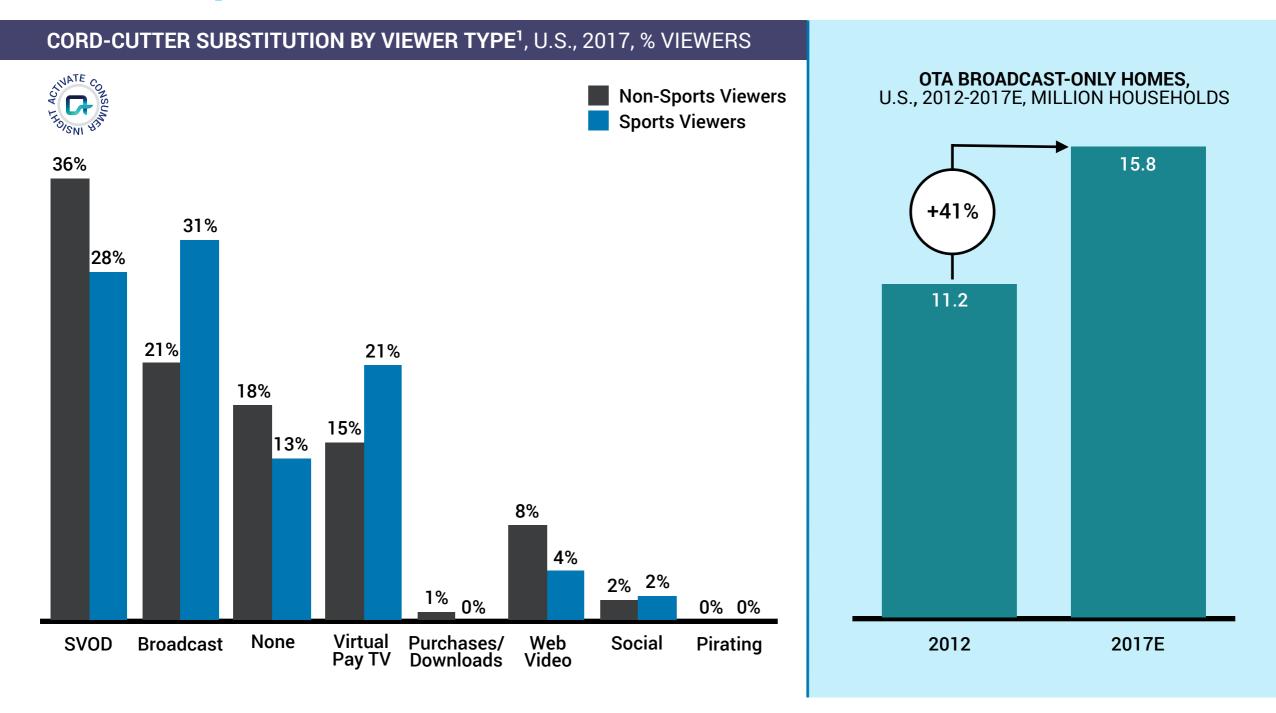
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Customer acquisition and content costs are a formidable challenge for Virtual Pay TV providers



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Broadcast has proven to be more attractive than Virtual Pay TV for cord-cutters that still want traditional live/linear programming – such as sports - at a low cost



1. Sports viewers defined as those watching more than five hours of sports programming per week. Non-sports viewers as those reporting watching no sports programming on a regular basis. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=1,172), Ion Media, Nielsen

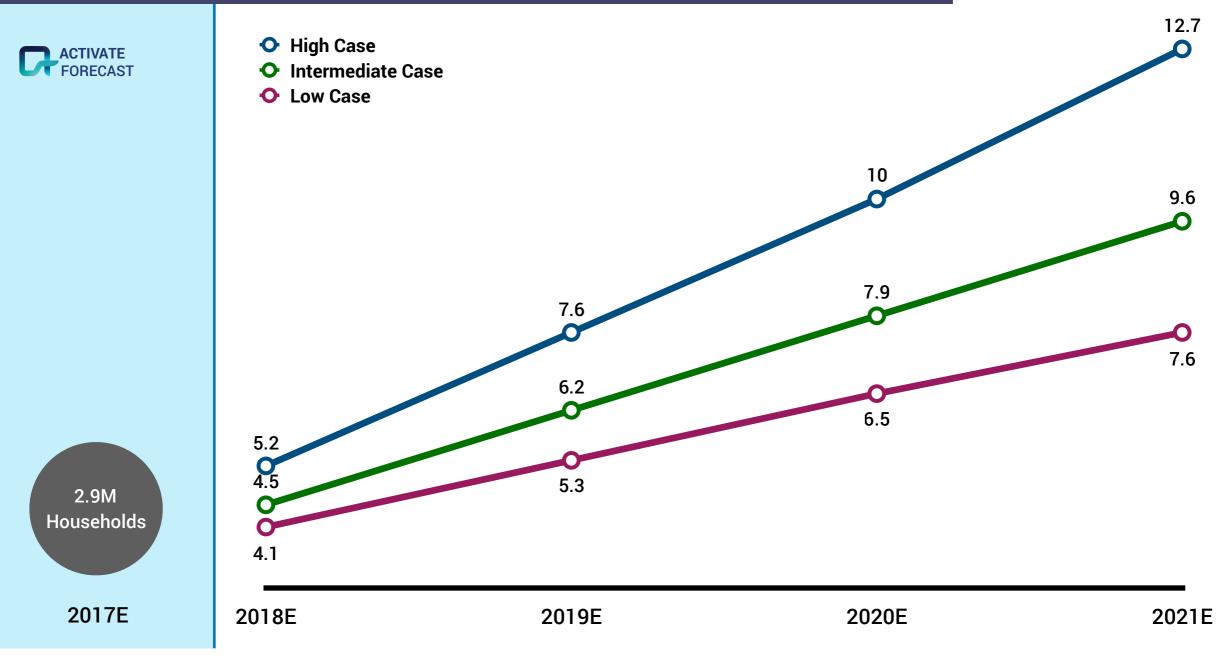
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The next generation broadcast standard – ATSC 3.0 – will unify broadcast channels and SVOD services, providing cord-cutters with a way to customize their own "skinny bundles"

BROADCAST STANDARD	DELIVERY	VIDEO QUALITY	CONTENT			
ATSC 1.0	Free Over-the-Air Broadcast	HD	NBC OCBS ODC FOX OPBS			
ATSC 3.0	Free Over-the-Air, IP-Enabled Broadcast		NBC OCBS OC FOX OPBS FOX OPBS TELEMUNDO POTENTIALLY ALSO NETFELIX amazon hulu			
 Access to ATSC 3.0 could be as simple as someone plugging a compatible dongle into a television, or connecting an OTT streaming box to also enable SVOD services A bundle of free OTA channels – including local affiliates – coupled with access to SVOD services via ATSC 3.0 gives cord cutters an attractive alternative to Virtual Pay TV 						

We forecast that Virtual Pay TV adoption is likely to remain low in the coming years





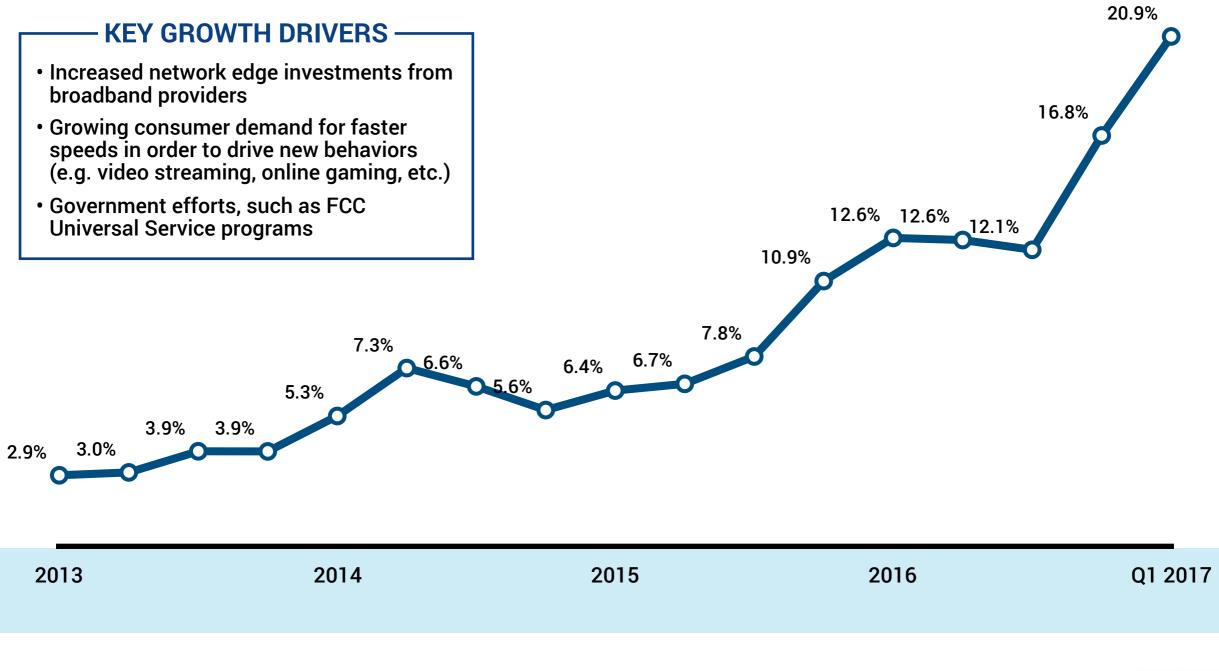


Sources: Activate analysis, Activate 2016 Consumer Tech & Media Research Study (n=4,000), Activate 2017 Consumer Tech & Media Research Study (n=4,047), Akamai, Company reports, SNL Kagan, UBS, U.S. Census Bureau



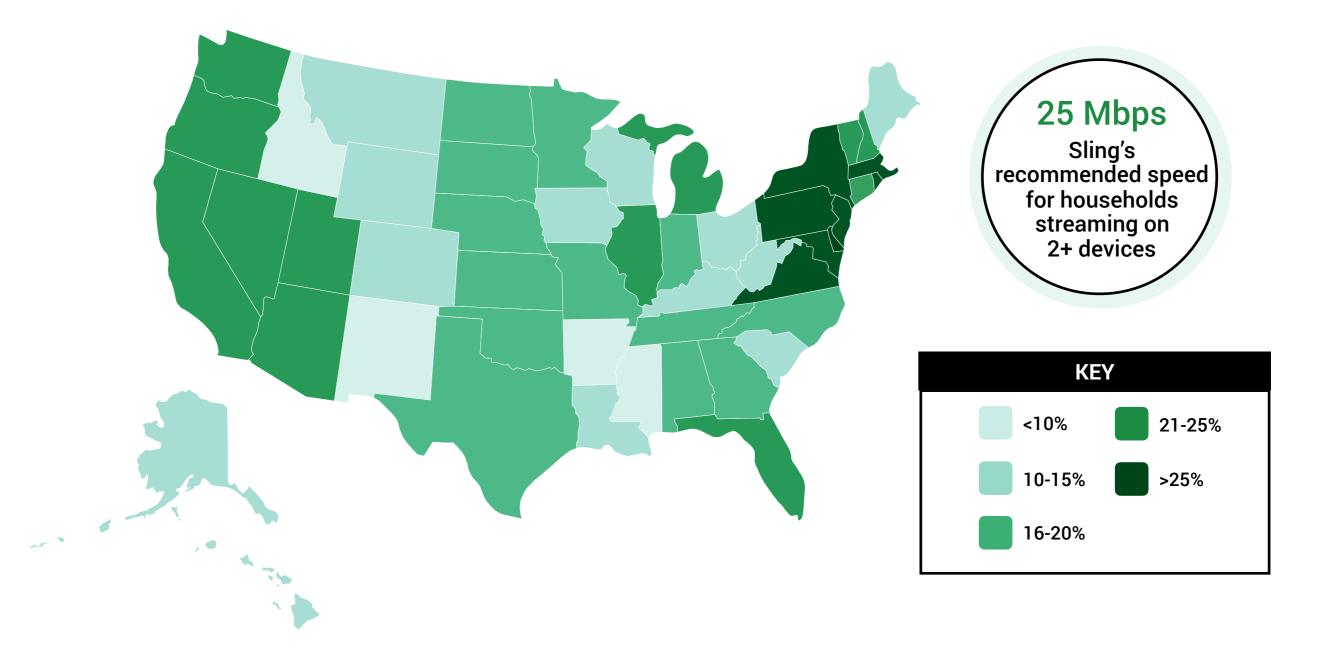
Only 21% of the country has sufficient bandwidth to receive multiple Virtual Pay TV streams, which will be required for the format to replace traditional television

ADOPTION OF 25+ MBPS BROADBAND, U.S., 2013-Q1 2017, % HOUSEHOLDS



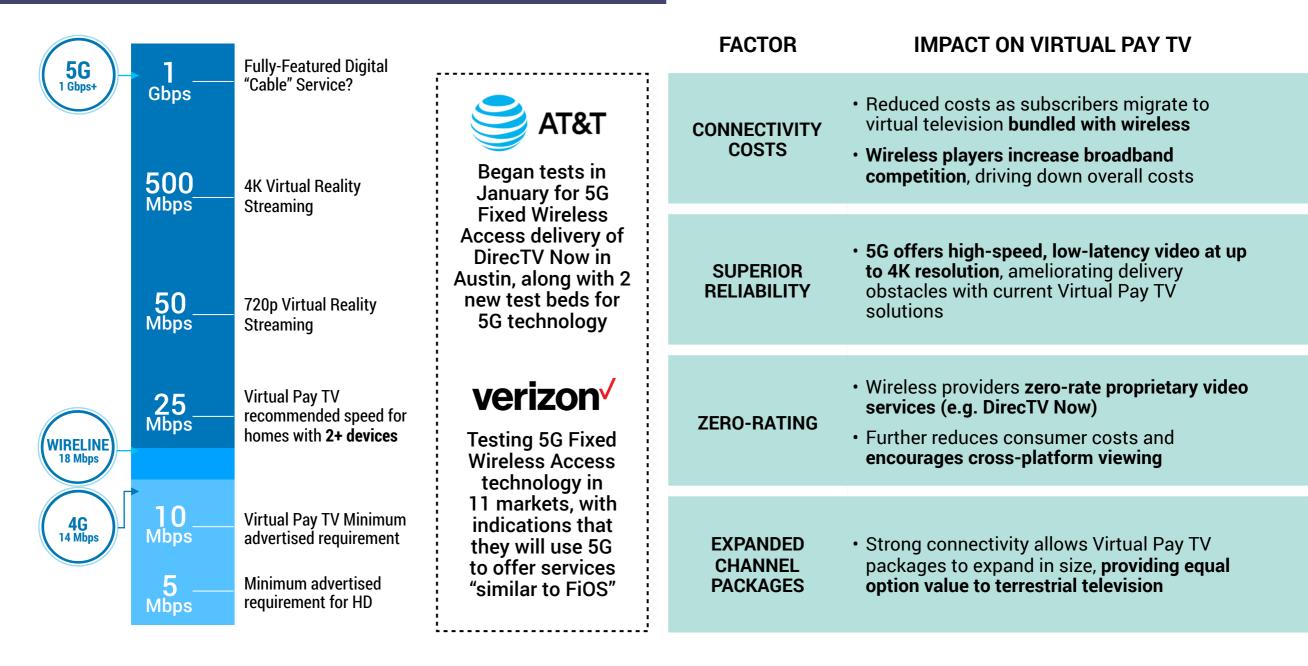
Differences in download speeds are not distributed evenly across the country, challenging Virtual Pay TV adoption

ADOPTION OF 25+ MBPS BROADBAND, U.S., Q1 2017, % HOUSEHOLDS

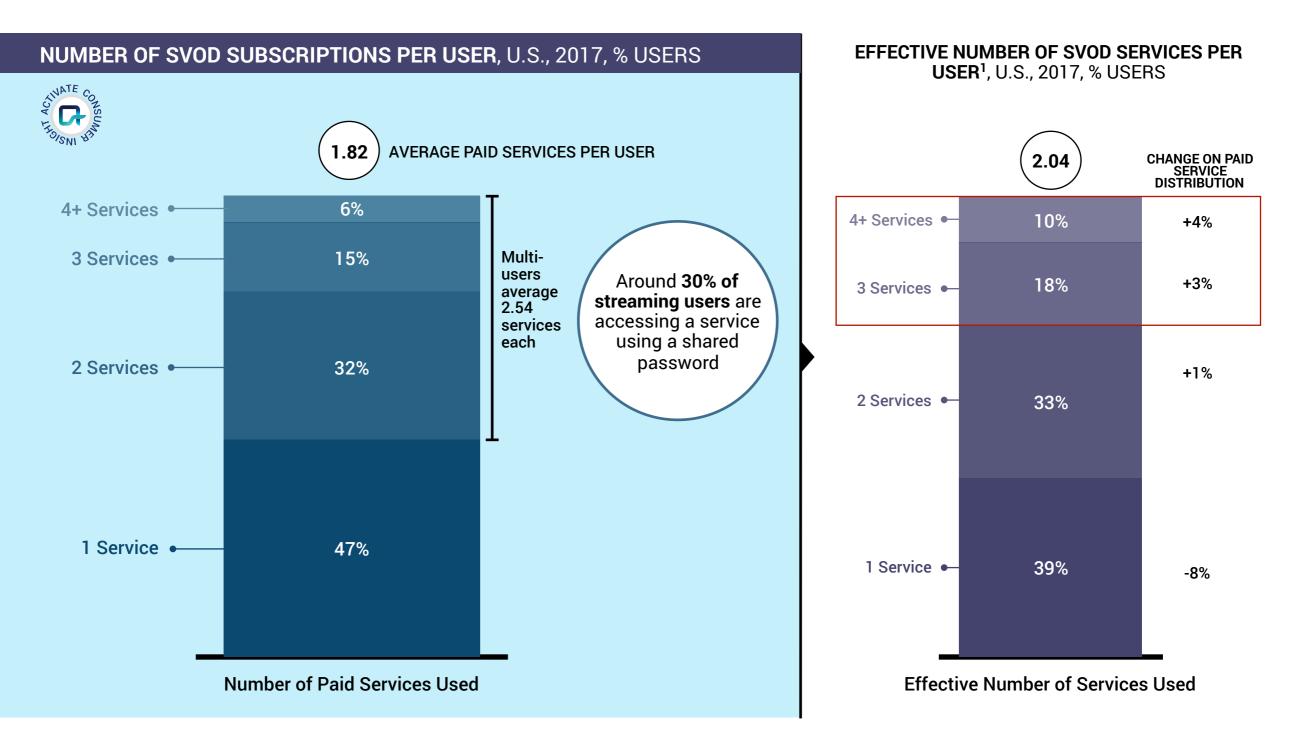


5G will likely expand Virtual Pay TV delivery, bringing broadened access, lower costs, and expanded channel packages

RANGE OF CONNECTIVITY USE CASES FOR VIDEO STREAMING



People are actually watching more streaming video than they are paying for as a result of password sharing

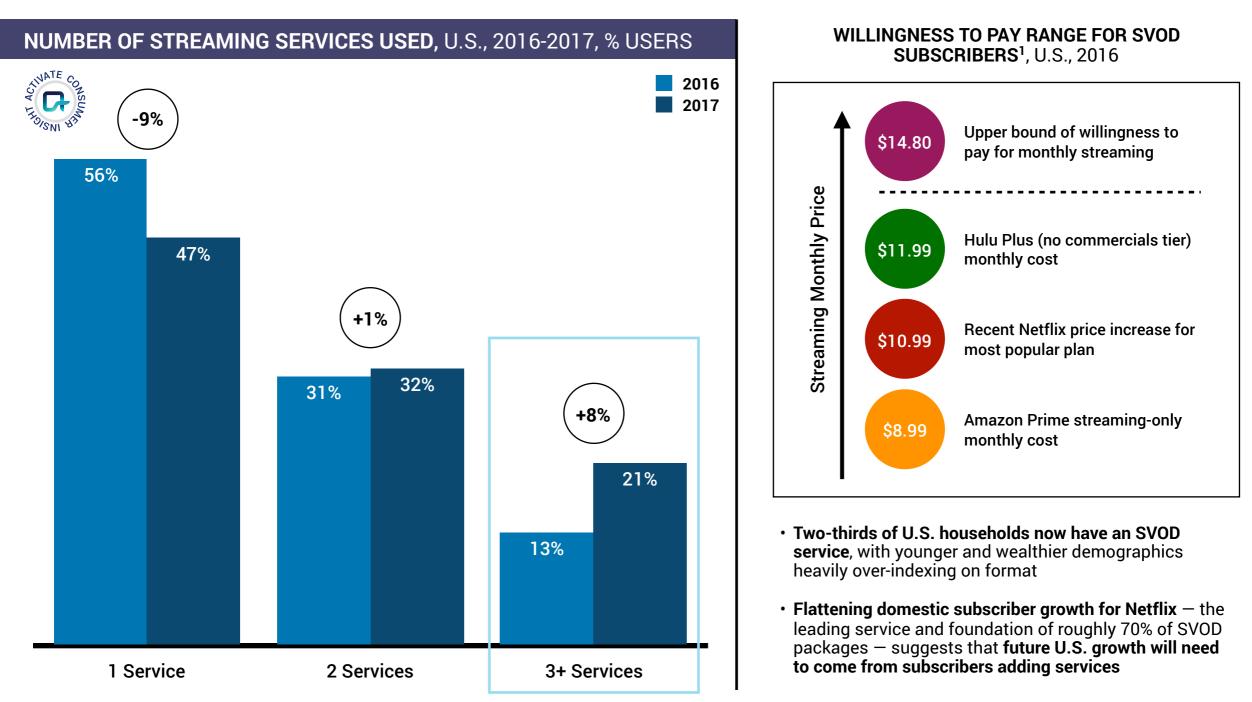


□ activate

 Effective bundle defined as total services used after factoring in paid subscriptions and password-sharing. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=3,023), GfK, Leichtman Research Group, Parks Associates

 $\begin{array}{c} \text{THe WALL STREET JOURNAL} \\ \hline D.LIVE \qquad \textbf{76} \end{array}$

With the domestic market saturating and consumer willingness to pay flat, the growth in SVOD will come from the most active users increasing their spend



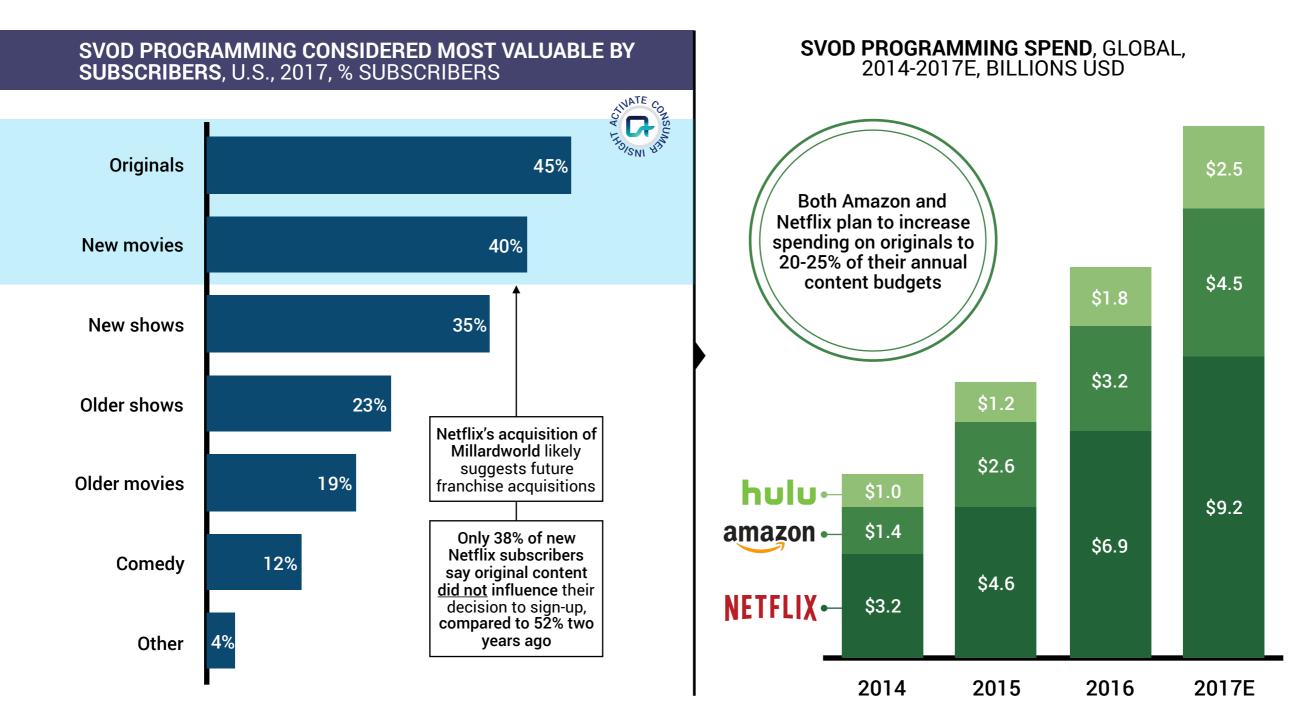
1. Aggregate across services.



Sources: Activate analysis, Activate 2016 Consumer Tech & Media Research Study (n=2,064), Activate 2017 Consumer Tech & Media Research Study (n=3,023), CNBC, GfK



For SVOD providers, library is a vehicle to acquire users, originals are to retain them

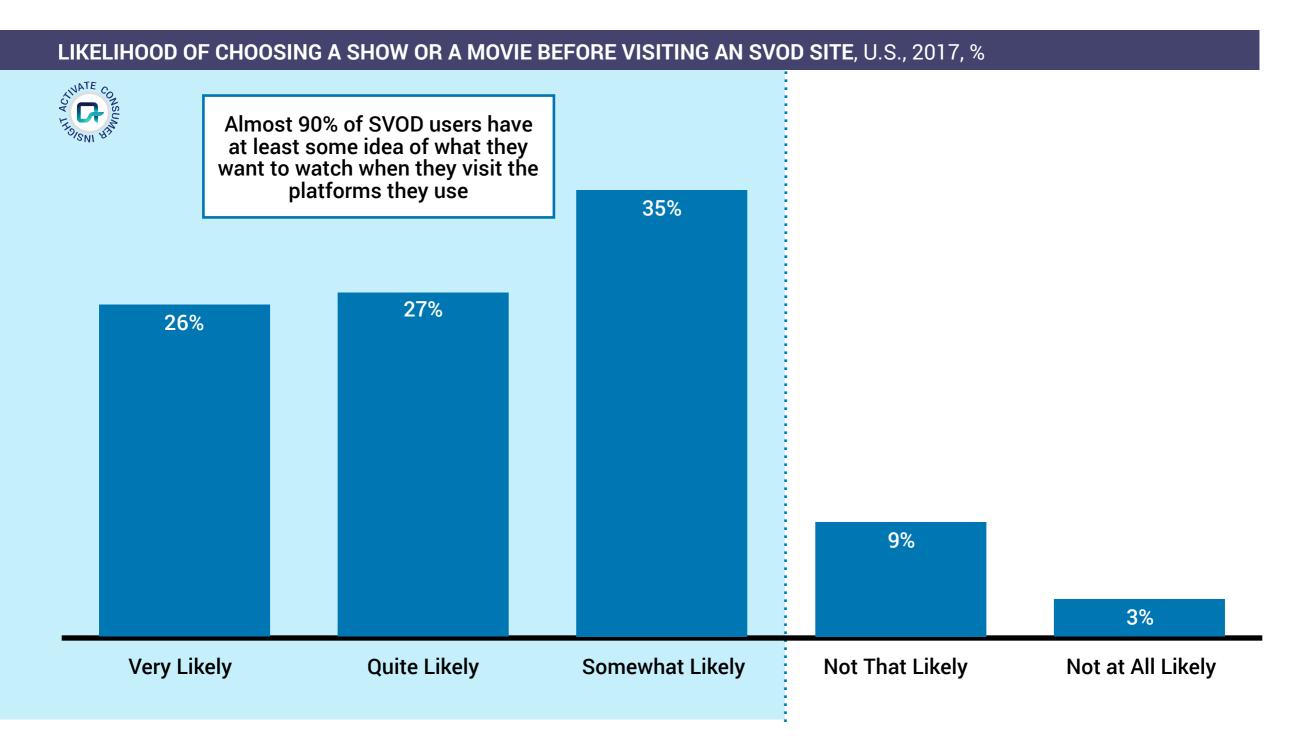


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Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=3,023), FBR, Hulu, J.P. Morgan, Netflix, RBC Capital Markets, SNL Kagan

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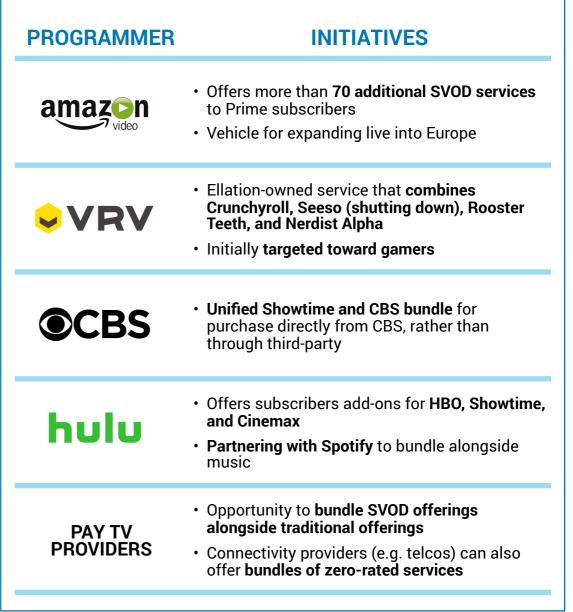
Content owners have the ability to launch DTC services because subscribers are discerning about what they want to watch



Smaller SVOD services will face extreme consumer acquisition challenges if not acquired or distributed by established players

SELECTED AVAILABLE SVOD SERVICES, U.S., 2017





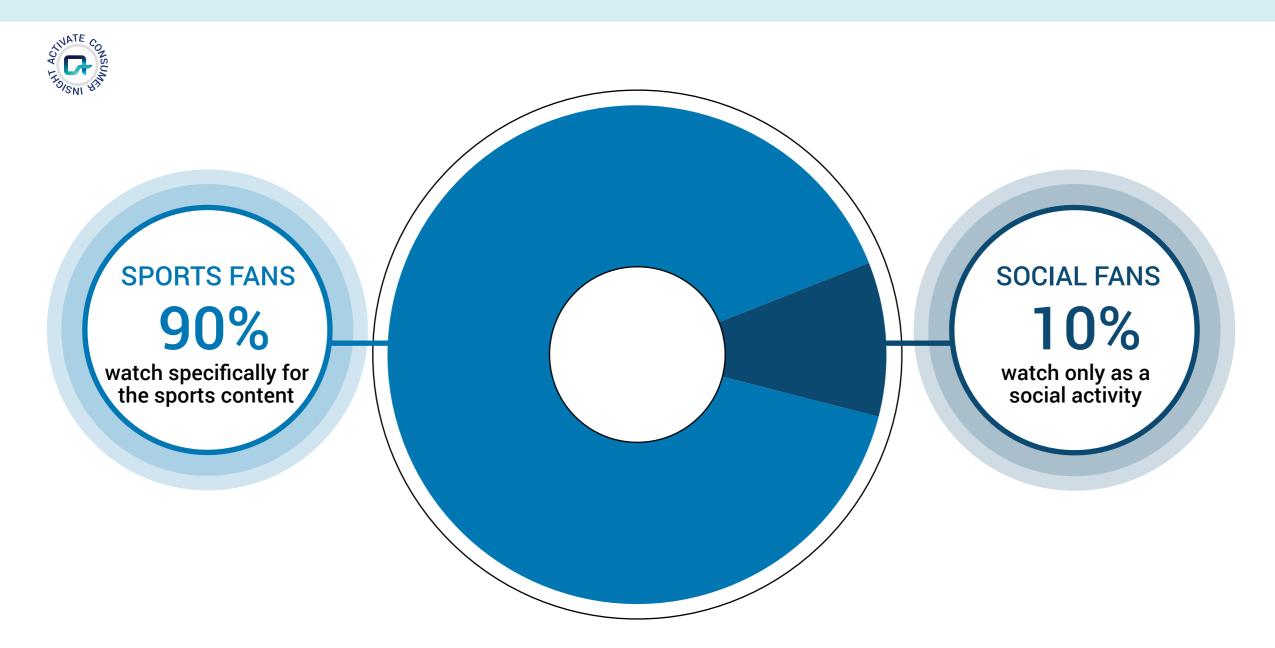
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The live TV ecosystem is built on sports: for 90% of sports viewers, there is no substitute

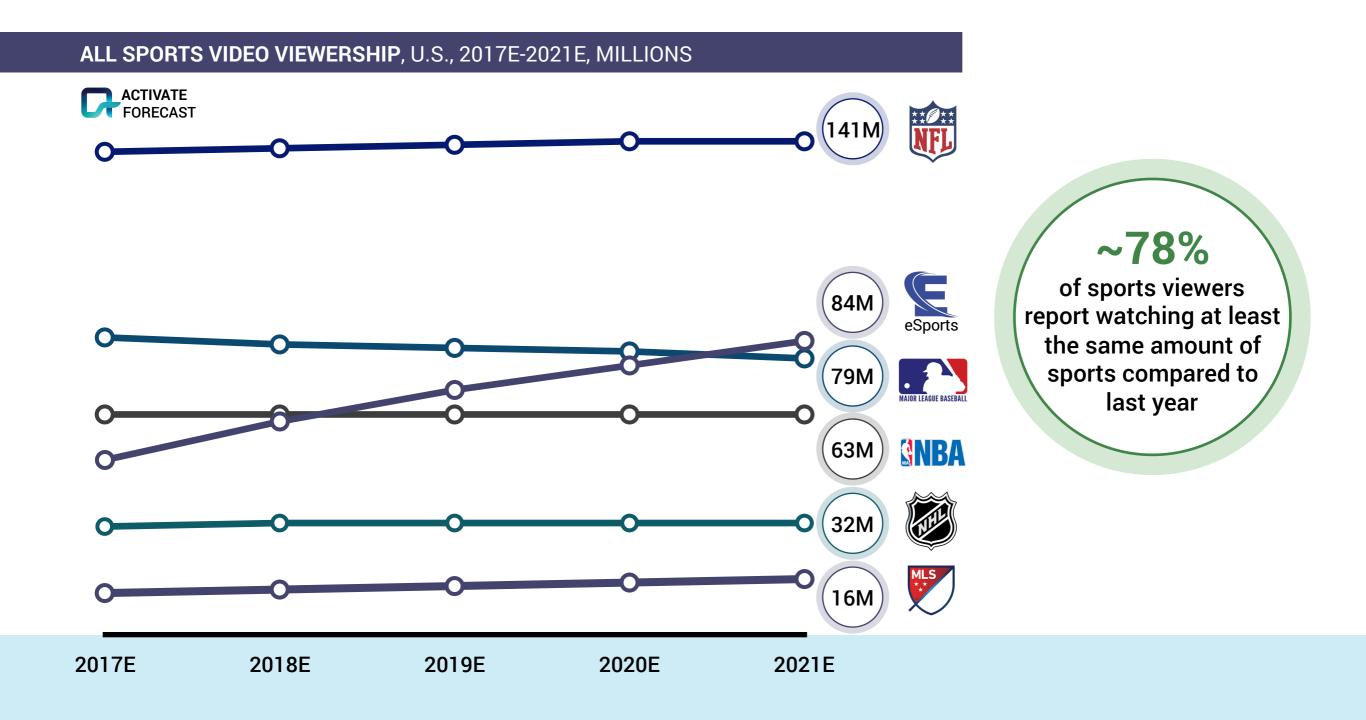
SPORTS VIEWER¹ SEGMENTS (ADULTS, AGE 18+, U.S., 2017)





1. Sports viewers defined as anyone who reported watching sports content in a given week. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=2,406)

Core sports audiences will remain strong in the near future; emerging sports such as soccer and eSports will be additive

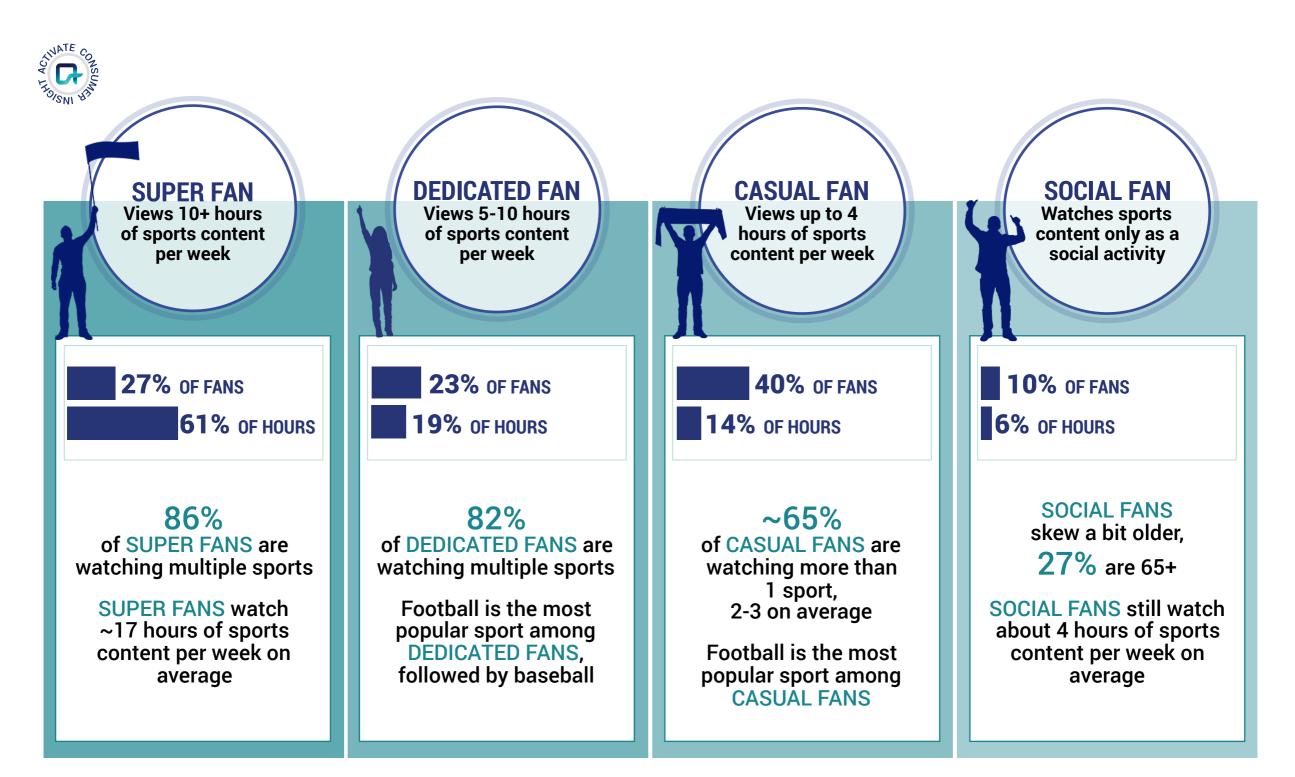


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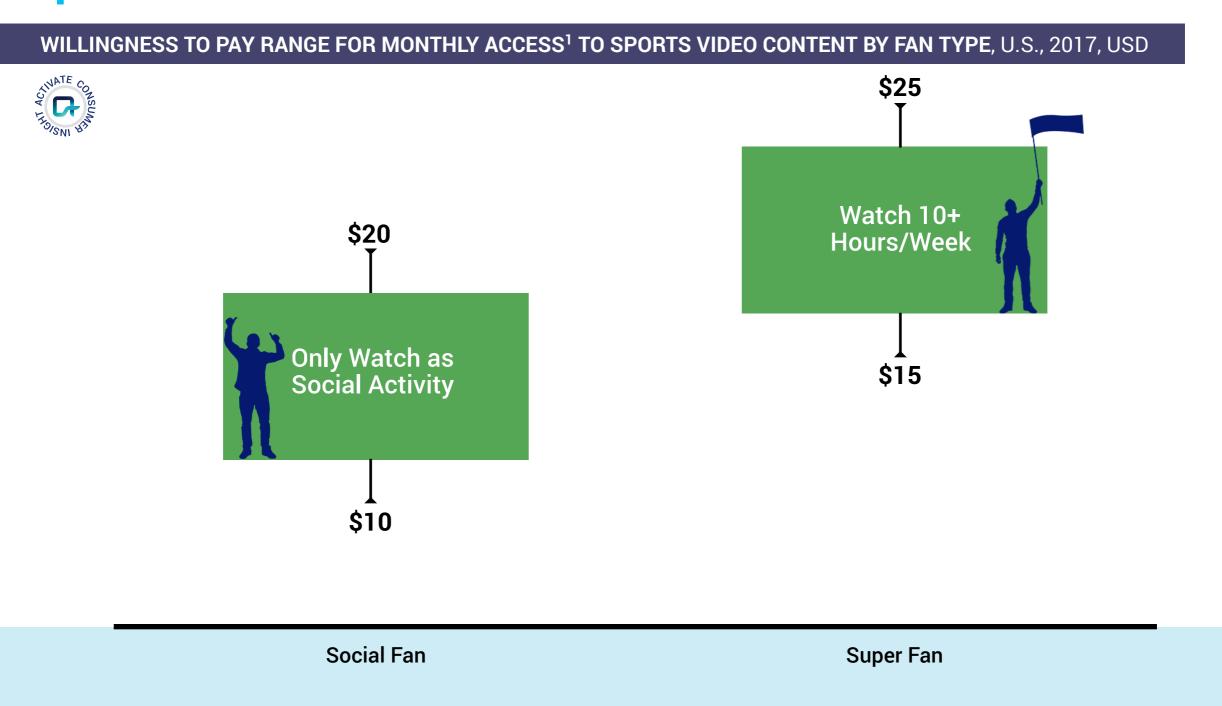
Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (Left: n=4,047; Right: n=2,406), ESPN, Forbes, THE WALL STREET JOURNAL NEW Zoo, Nielsen Scarborough, SuperData Research

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However, not all viewers are created equal



Willingness to pay aligns with fan engagement to sports: Super Fans are willing to pay over 30% more than Social Fans to access sports content

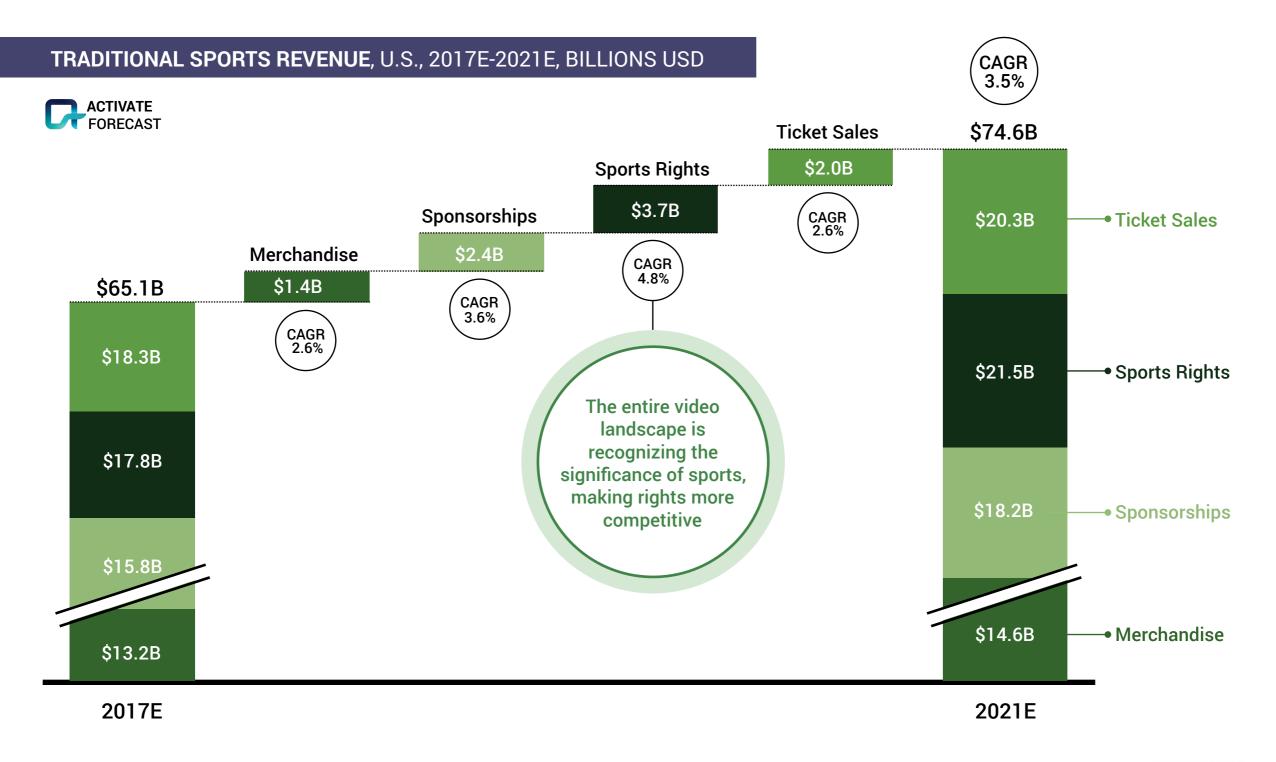




1. Access is defined as a bundle that allows viewers to watch all the sports programming across all devices. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=2,406)



Built on the strong demand of sports fans, sports rights will continue to drive revenue growth for sports

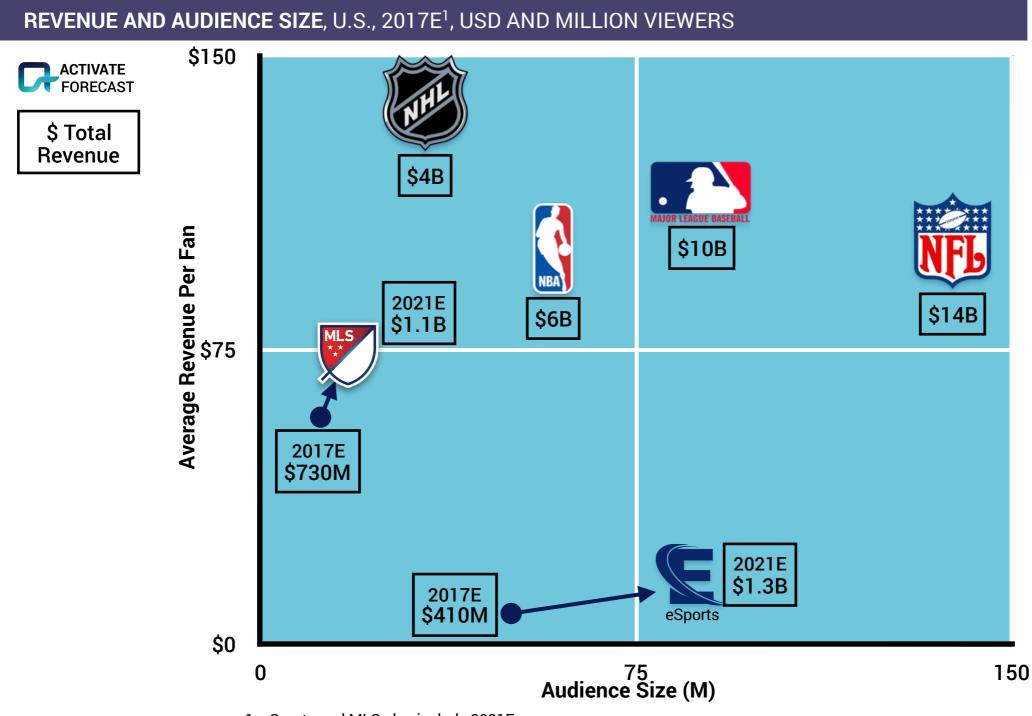




Sources: Activate analysis, Company financials, Company press releases, IEG, International Monetary Fund, PricewaterhouseCoopers, SNL Kagan, Wall Street Journal

THE WALL STREET JOURNAL **B6**

On top of today's growing sports revenues, new venues for further growth will include emerging leagues such as MLS and eSports



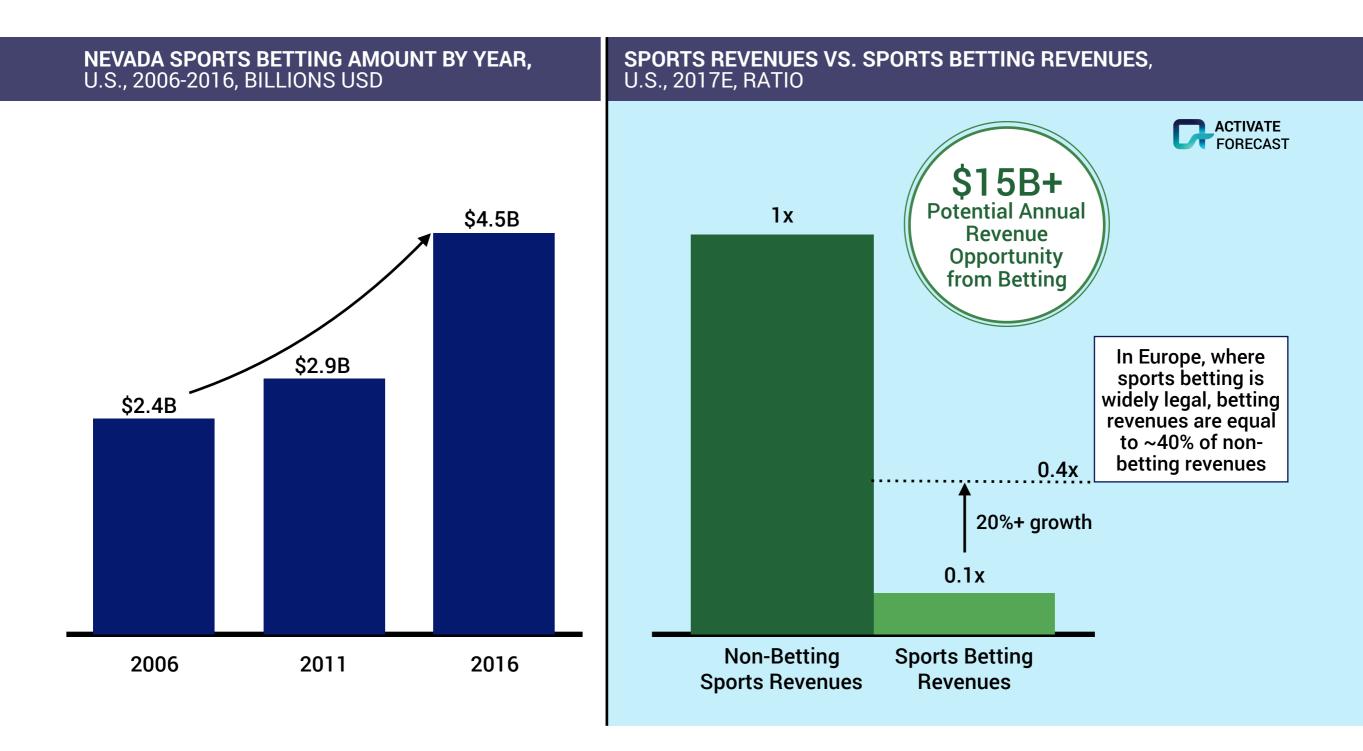
1. eSports and MLS also include 2021E.



Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=4,047), ESPN, Forbes, NewZoo, Nielsen Scarborough, SuperData Research



There is growing interest for sports betting in the U.S., we forecast that nationwide legalization could mean significant revenues

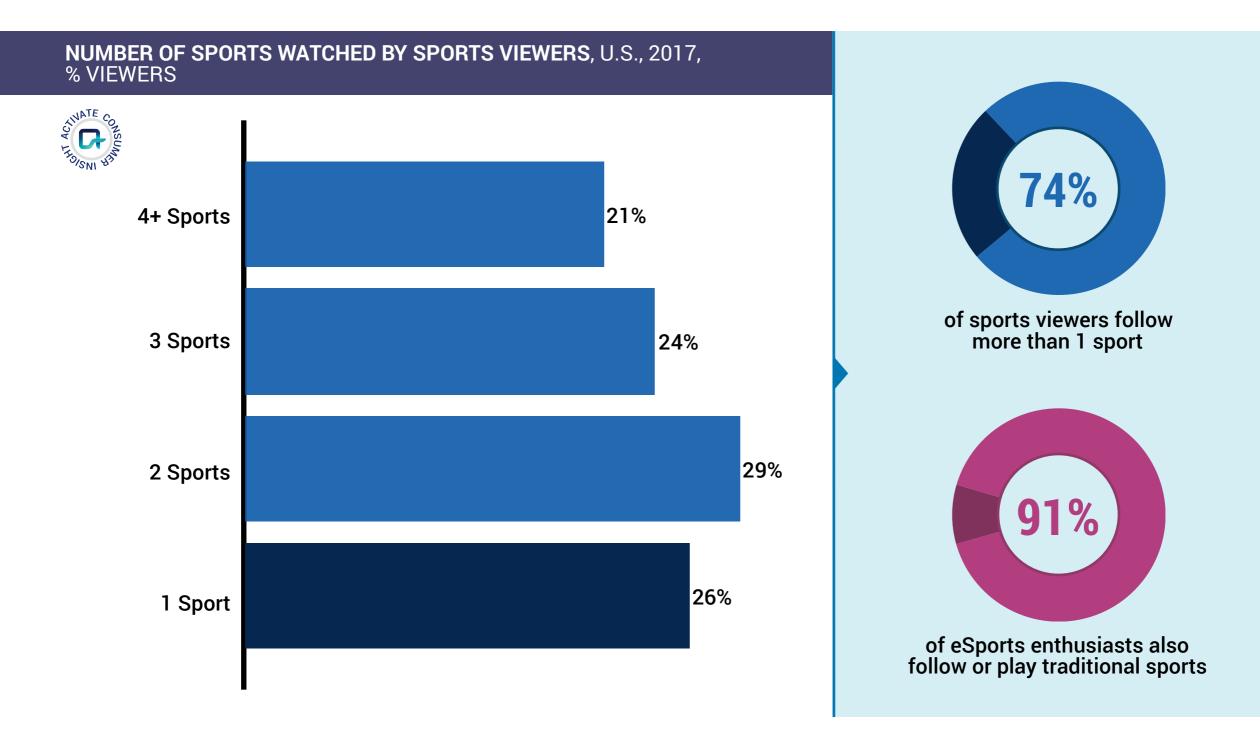


Cractivate analysis, American Gaming Association, H2 Gambling Capital, PricewaterhouseCoopers, University of Nevada

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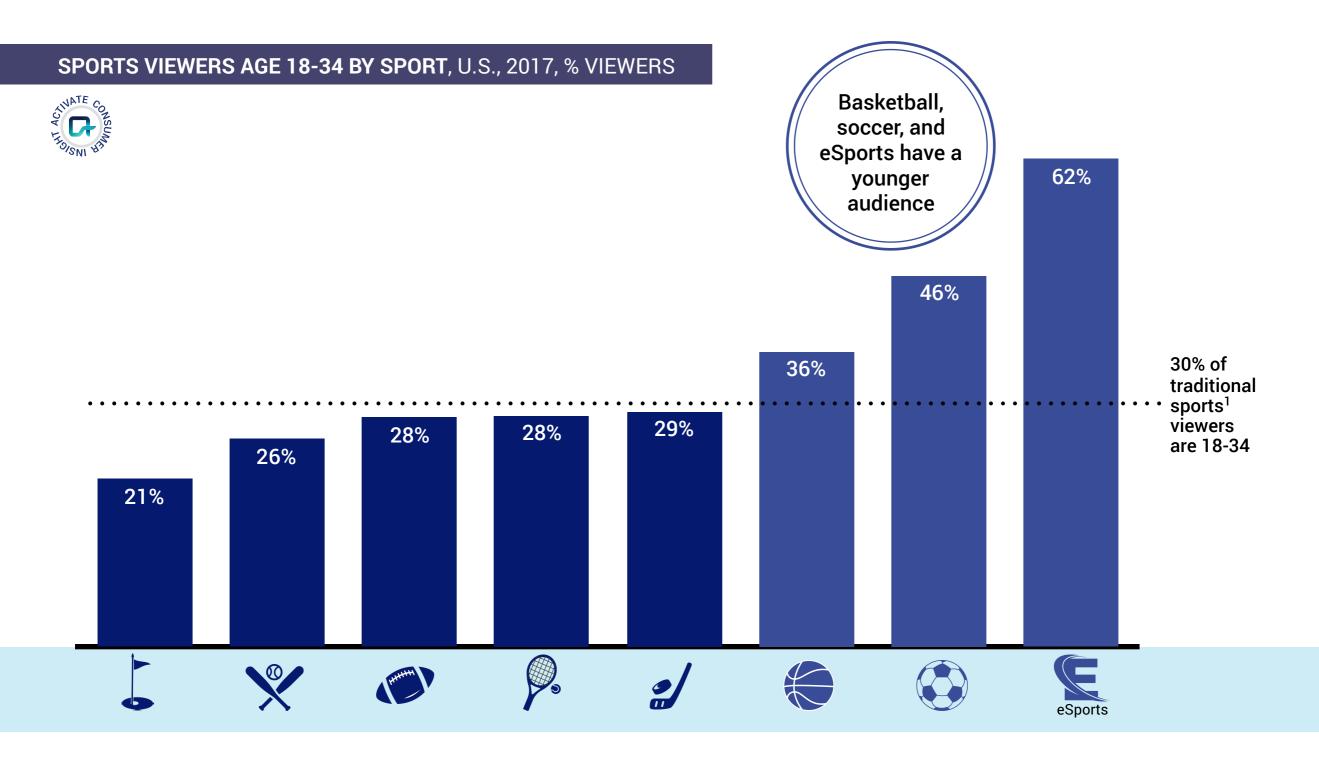
THE WALL STREET JOURNAL.

Most sports fans will continue to follow multiple sports





Younger fans will drive viewership towards emerging leagues such as MLS and eSports

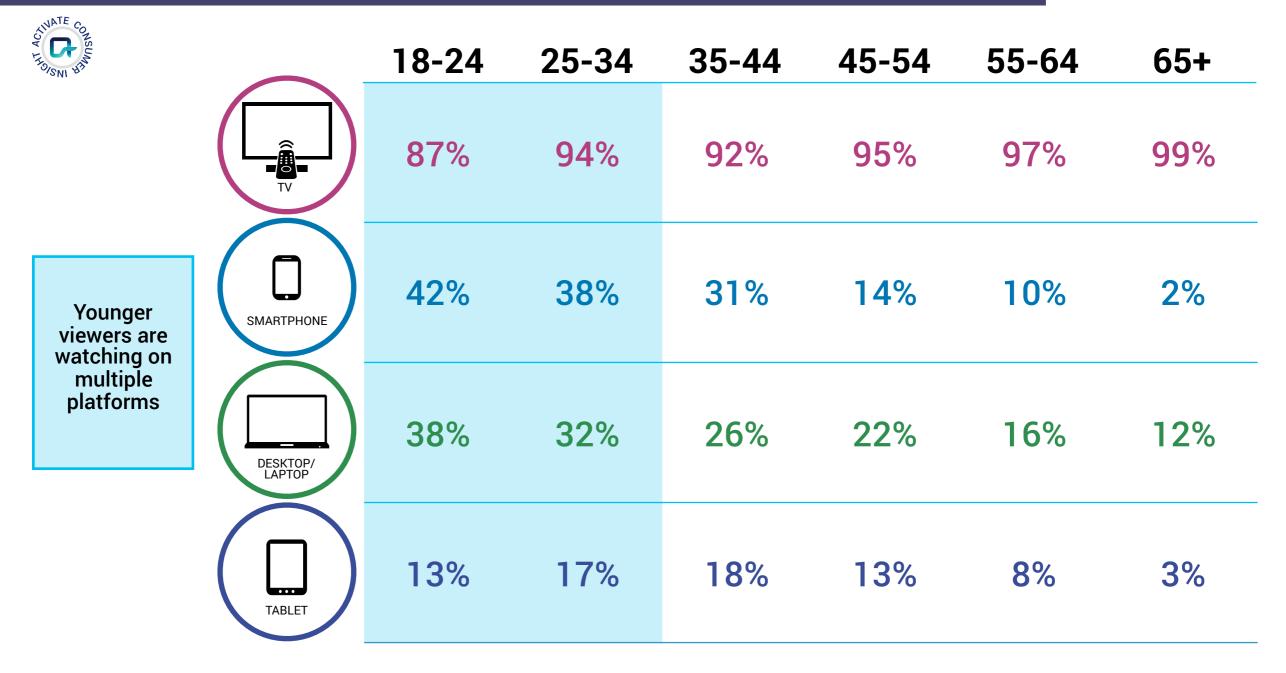


□ activate

1. Traditional sports are comprised of football, baseball, basketball, hockey, etc. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=2,406)

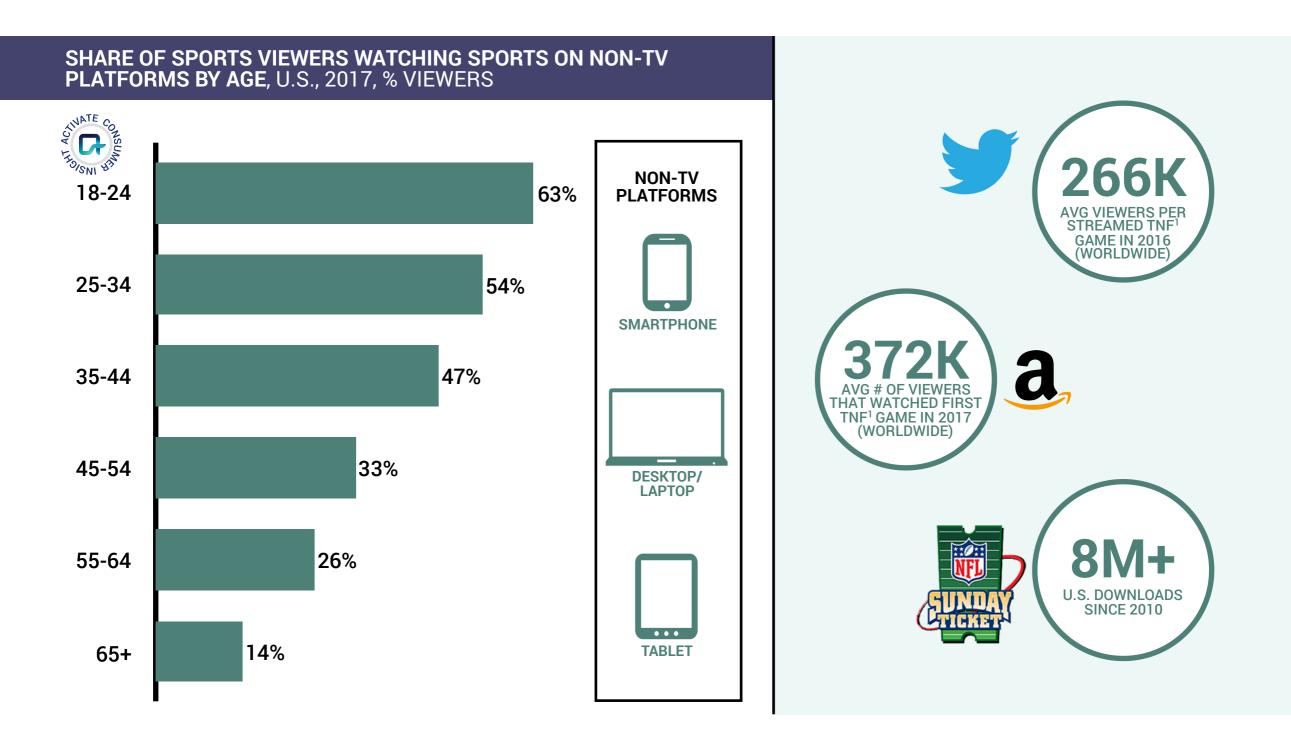
TV will continue to be the dominant platform for sports viewing, but digital platforms will gain importance as younger generations age

SHARE OF SPORTS VIEWERS WATCHING SPORTS ON EACH PLATFORM BY AGE, U.S., 2017, % VIEWERS





Audience reach will cross over multiple platforms, particularly for younger viewers

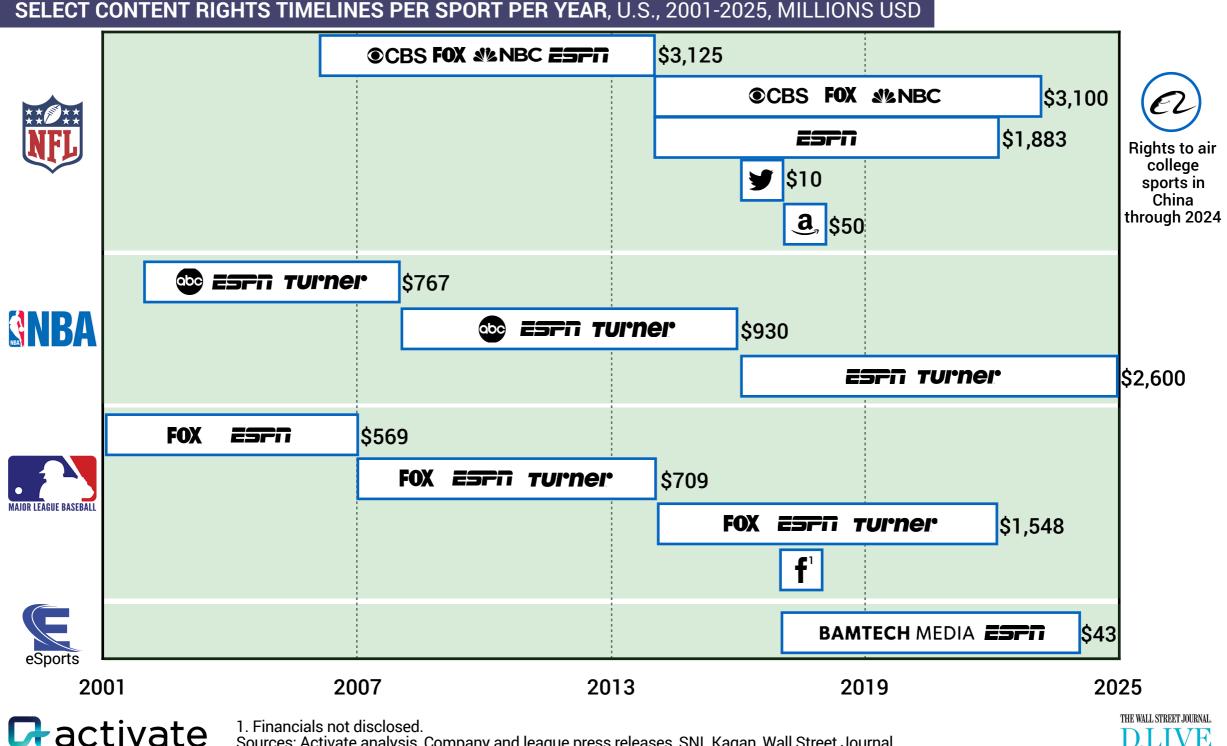




1. Thursday Night Football. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=2,406), AppAnnie, Bloomberg, CBS, comScore



The next years will see extreme competition for rights among media companies and digital platform insurgents



Sources: Activate analysis, Company and league press releases, SNL Kagan, Wall Street Journal

The Most Important Insights for Tech and Media in 2018

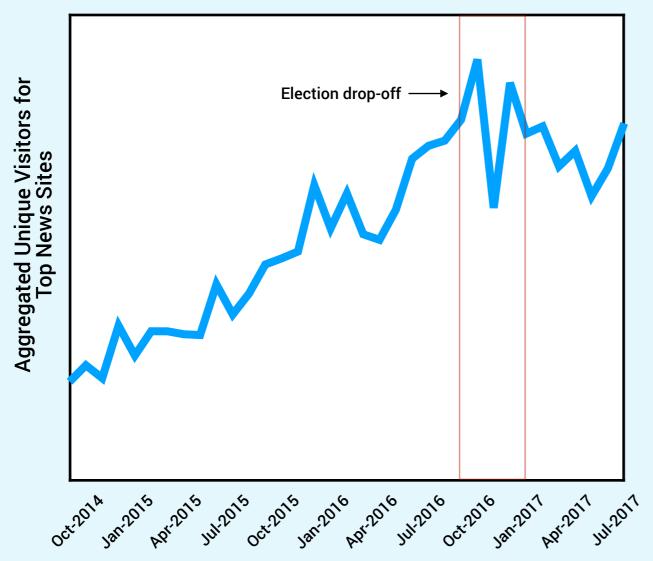
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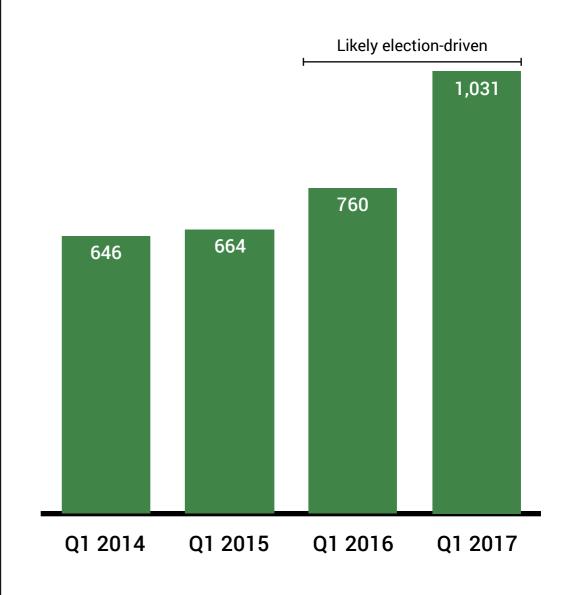
D-activate

Digital news consumption has grown over the last three years, while television news engagement has climbed — this is more than just the bump from the election

MULTI-PLATFORM TRAFFIC TO TOP NEWS PROPERTIES, U.S., OCT 2014-JUL 2017, BILLION AGGREGATED MONTHLY UNIQUE VISITORS¹



AVERAGE ENGAGEMENT FOR TOP NEWS CHANNELS, U.S., Q1 2014-2017, TOTAL MINUTES VIEWED²

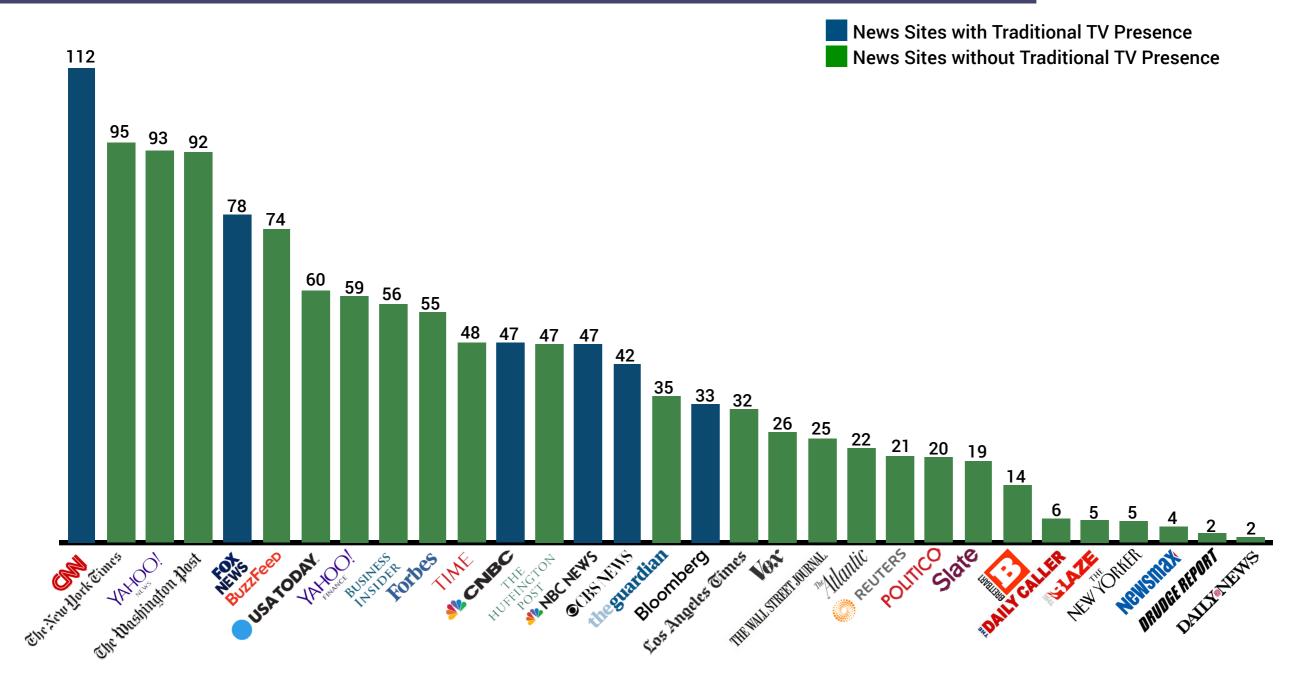


 Based on individual news properties in top 100 of comScore news rankings, includes desktop site, mobile site and mobile app. Aggregated monthly unique visitors defined as a sum of MUVs from comScore's top 100 news properties.
 Average viewership minutes measured for ABC, CBS, NBC, CNBC, CNN, Fox Business Network, Fox News Channel, PBS, and The Weather Channel for Q1 2014-2017. Sources: Activate analysis, comScore, Nielsen

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The digital properties that command the largest audiences have a strong presence on multiple platforms, particularly television

TRAFFIC TO SELECTED TOP NEWS SITES, U.S., AUG 2017, MILLION MONTHLY UNIQUE VISITORS¹



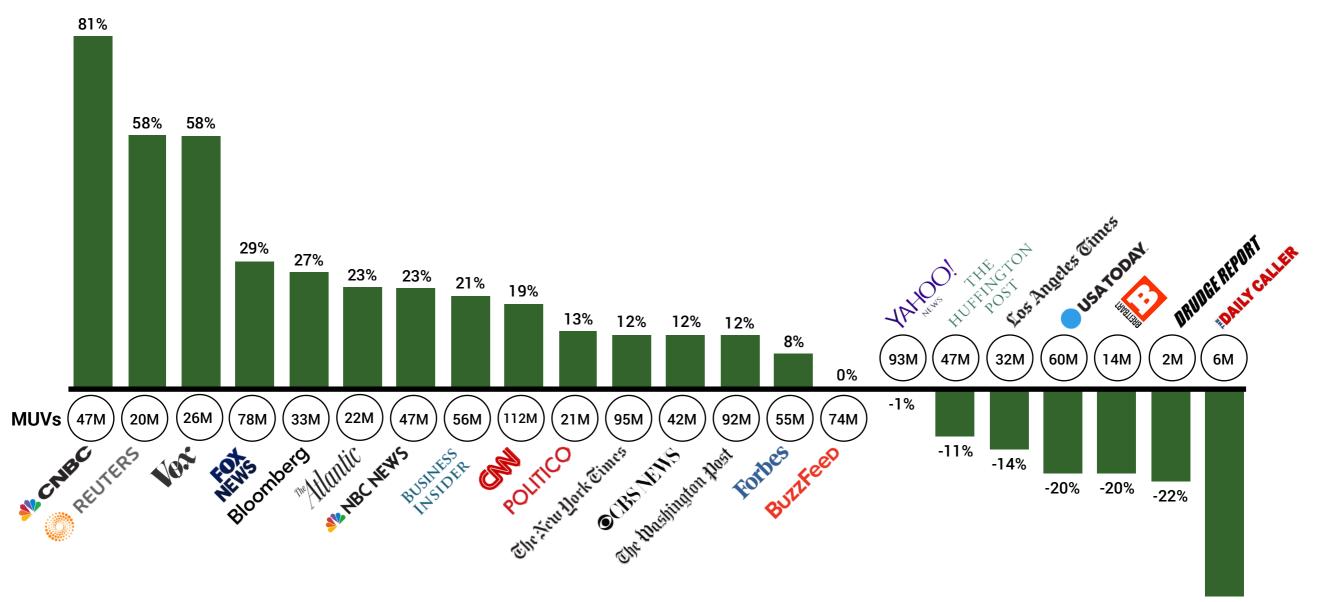
□ activate

1. Top news sites are selected from comScore's Top 100 digital news properties, all sites represent desktop and mobile site numbers only. Sources: Activate analysis, Alexa, comScore

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Over the last year, there have been major shifts in traffic across leading news sites

GROWTH FOR TOP NEWS SITES, U.S., AUG 2016-2017, % CHANGE IN MONTHLY UNIQUE VISITORS¹

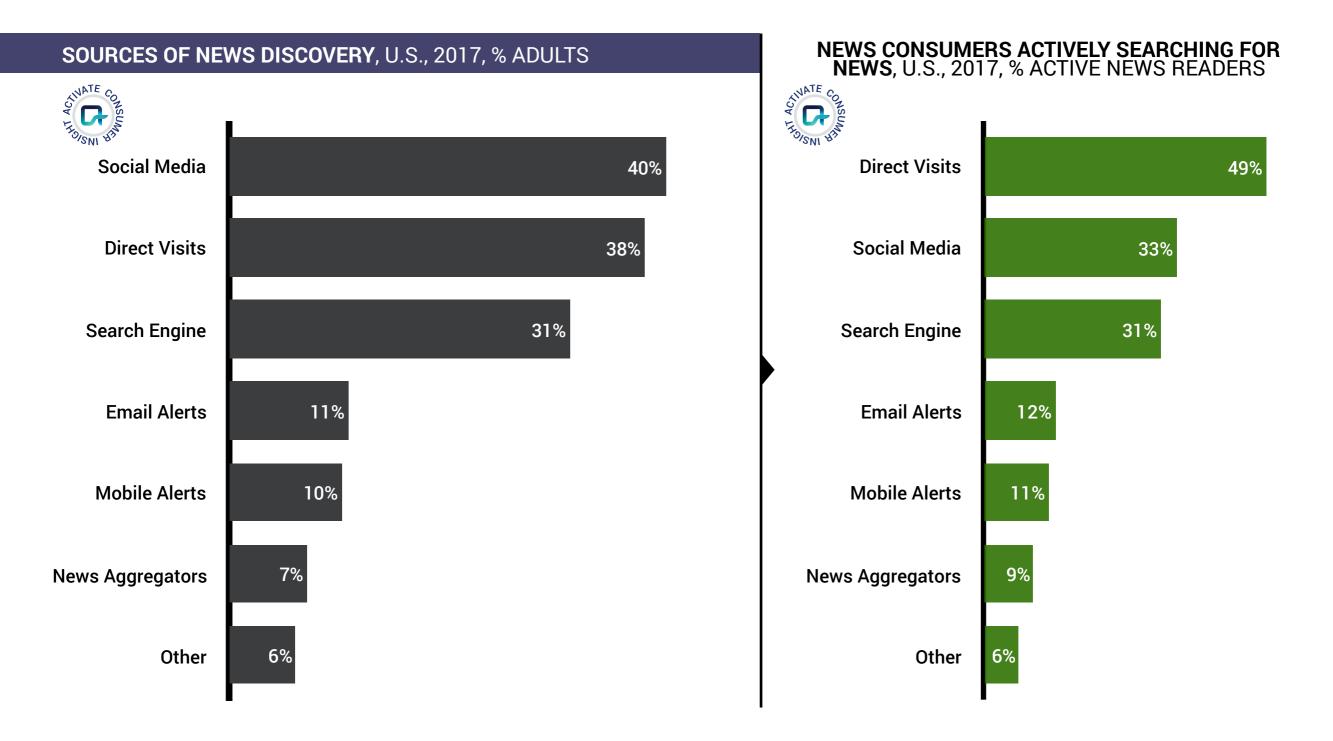


-48%



<u>Е</u> 97

Social has become the leading discovery source, but the importance of direct visits suggests that news brands are durable





News companies and social platforms will continue to partner to reach new audiences



Platforms have loosened attempts to control news revenue streams, but are still holding back on consumer data and transparency in discovery

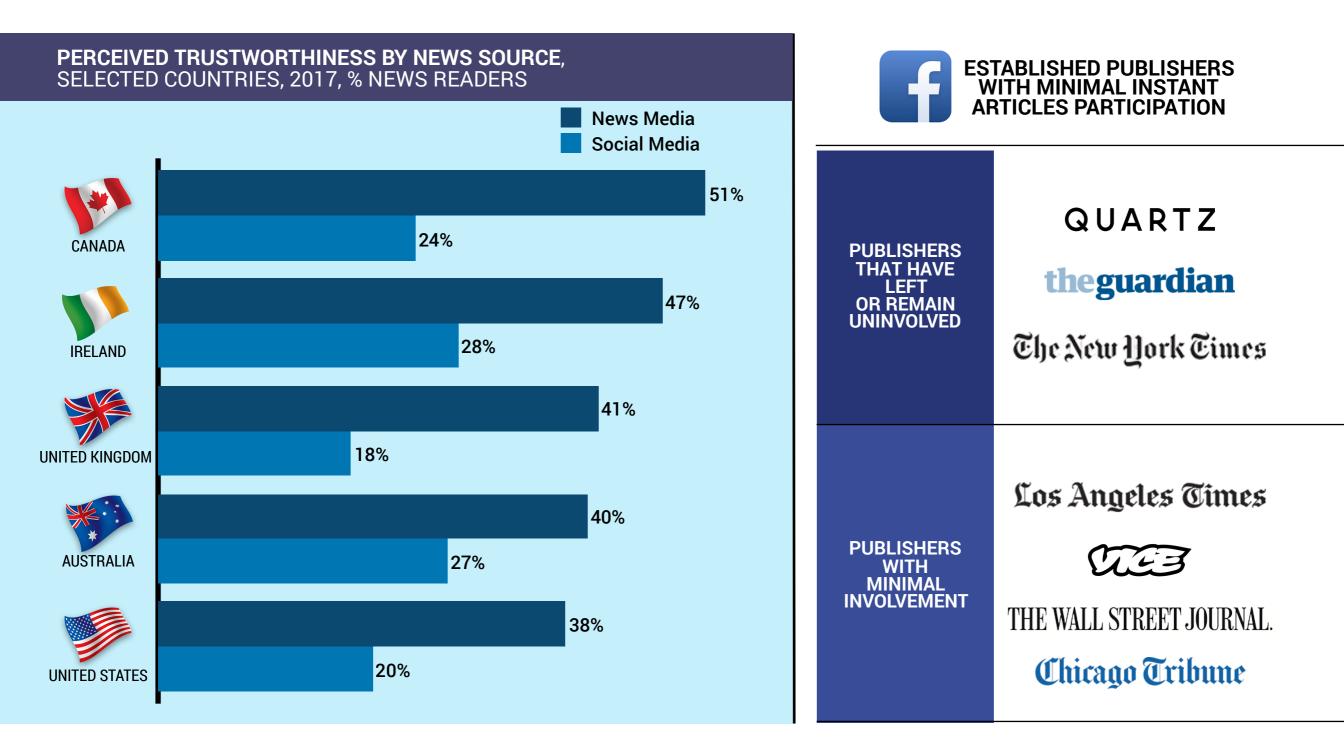
INITIATIVES BY FIRST-PARTY PUBLISHING PLATFORMS, U.S., 2017

	f	G		
SUBSCRIPTION	Planned subscription and newsletter tools, possibly with metered paywall capability	Testing of subscription tools ("first click free" option sunset in favor of "flexible" option that lets publishers meter paywalls)	Featured subscriptions capability for select publications (e.g. TIME)	Cot oll the best staries from TIME
ADVERTISING	Changes allow publishers to show more ads , and insert "call-to-action" newsletters	Video ad capability alongside Moat attribution and measurement — advertisers get full sense of ad revenue	Reportedly open to letting publishers sell ads through their own stack, with NBCU currently handling sales	Get all the best stories from TIME. SUBSCRIBE NOW Already a Subscriber?
CONSUMER DATA	Control of consumer data has prompted publishers to pool own audience data	Broader accounting of traffic data through expected DoubleClick enhancements such as BigQuery and Data Studio, along with Moat video measurement	Controls consumer data on payment	#VanLife: The (Artisanal) American Road T Image: Constraint of the second secon
DISCOVERY	Prefers publishers using Instant Articles and Facebook Live tools	Dominance in search means AMP pages receive preference within search	"Featured Subscriptions" for certain publishers	TIME 58m ago For You Favorites Explore Search Saved



Chactivate

Social platforms will need to maintain relationships with credible news media brands to continue as reliable news sources

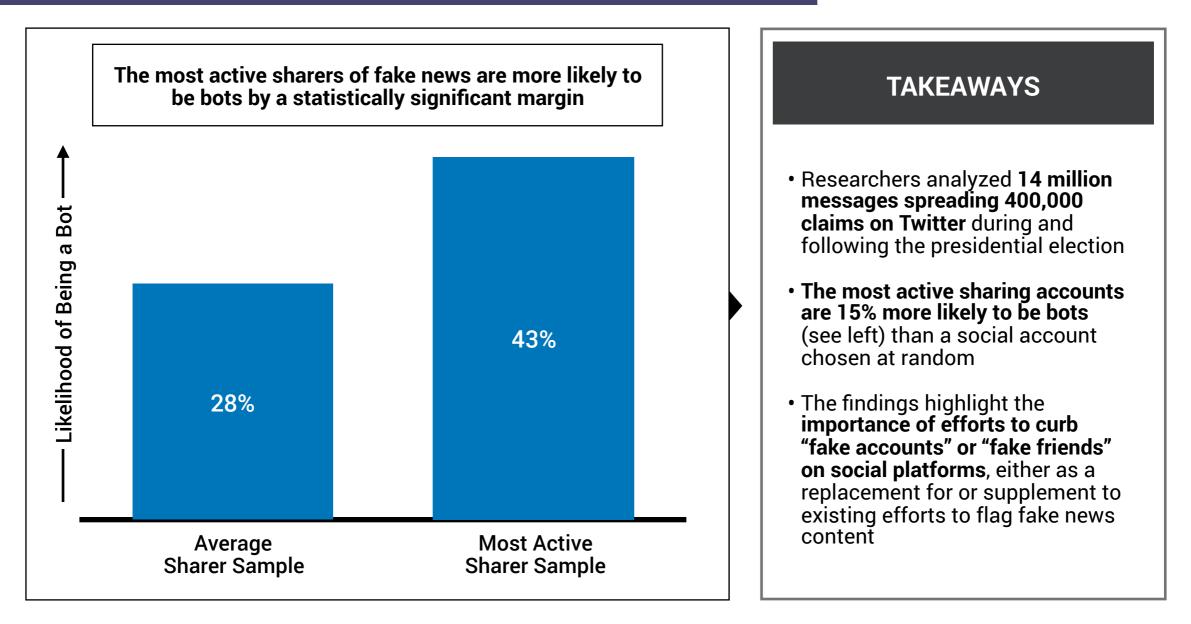




C-activate

"Fake friends" - or bots on social platforms - appear to drive fake news, and are likely to be the most active distributors of false content

LIKELIHOOD OF FAKE NEWS SHARER BEING A BOT, GLOBAL, 2017, BOT SCORE¹



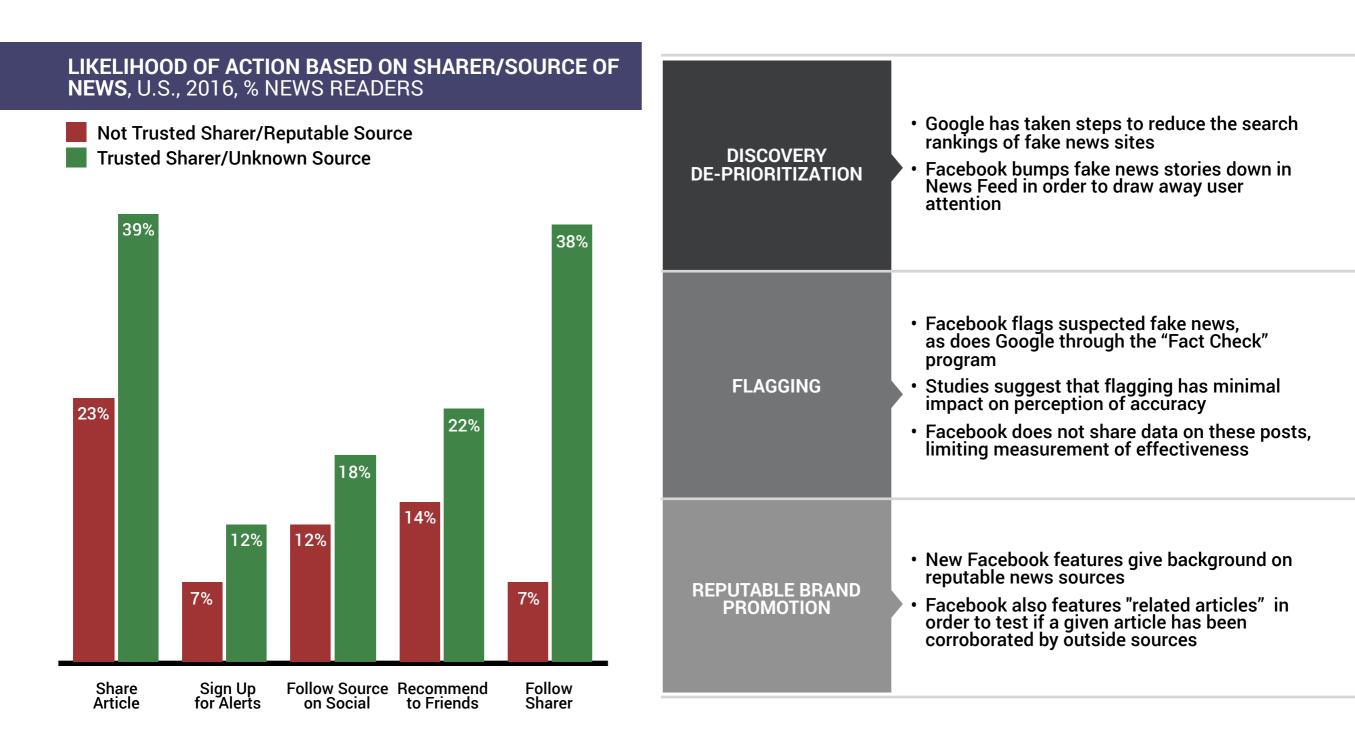
1. Bot score measures likelihood that a given social account is controlled by a bot. The Indiana University methodology collects up to 200 of an account's most recent posts, as well as up to 100 posts mentioning the account. Bot score is assigned based on an algorithm — trained through machine-learning from human and bot accounts — that makes an assessment based on user metadata, friend statistics, part-of-speech and sentiment analyses, among other criteria.

Sources: Activate analysis, Indiana University (Bloomington)



C-activate

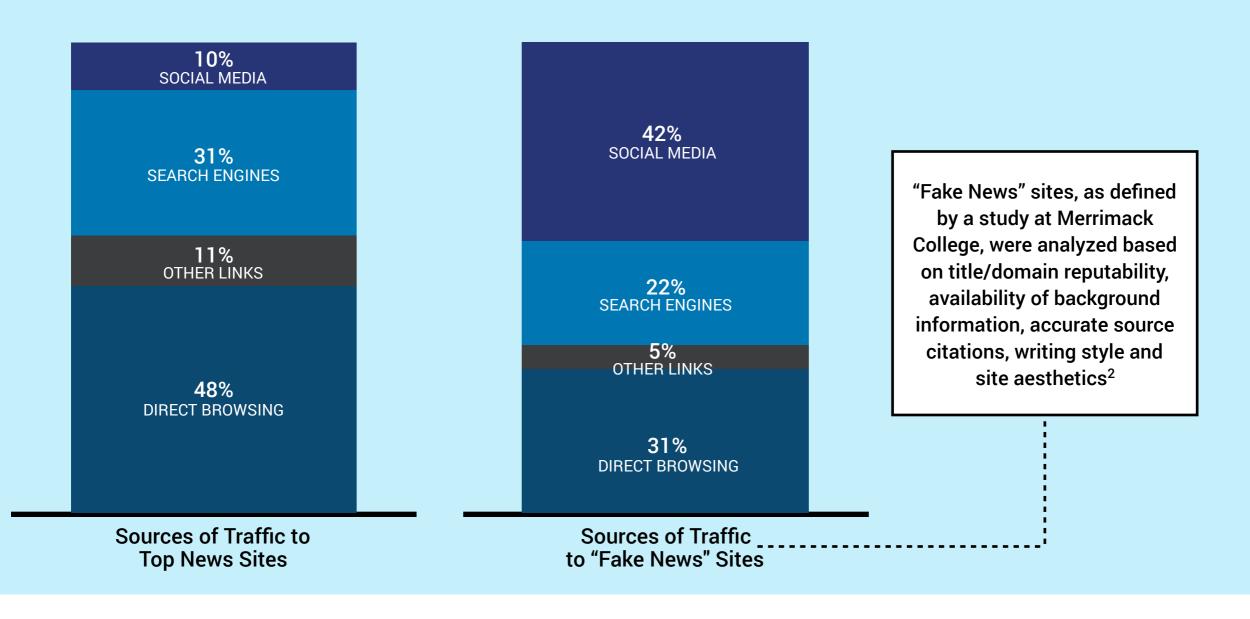
"Fake friends" appear to have real influence, and existing efforts to curb fake news on social platforms will struggle





The proliferation of bots and "fake friends" on social platforms – which are the primary drivers of fake news – highlights the importance of reputable news brands

NEWS SITE TRAFFIC BY SOURCE, U.S., NOV 2016, % BY SOURCE¹



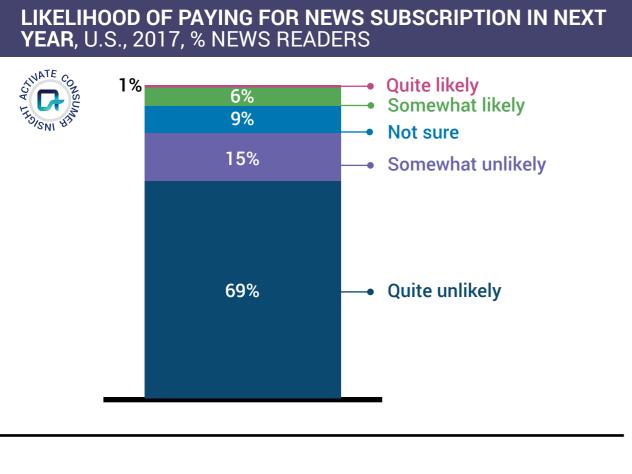
1. Analysis draws from Alexa data on top 690 U.S. news websites, as well as 65 fake news websites selected by Journal of Economic Perspectives authors.

Activate

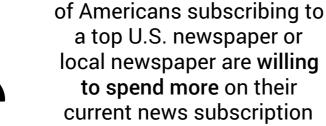
2. Classification of "Fake News" sites was conducted by Dr. Melissa Zimdars at Merrimack College. Sources: Activate analysis, Alexa, Merrimack College, "Social Media and Fake News in the 2016 Election" as published in the Journal of Economic Perspectives by Hunt Alcott of New York University and Matthew Gentzkow of Stanford University

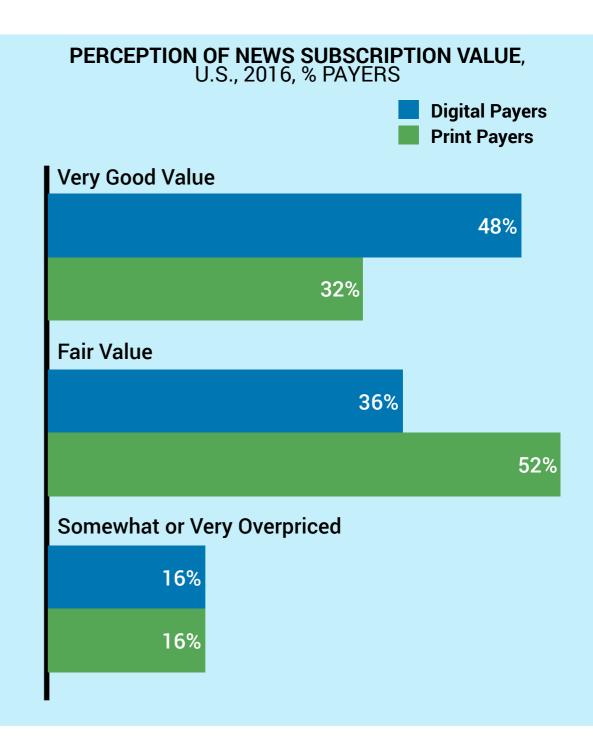


New subscriber acquisition will be difficult, but loyal subscribers may be willing to pay more for enhanced experiences











Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (Left Top: n=2,470; Left Bottom: n=334), Associated Press/National Opinion Research Center



Activate research indicates that half of the news reading population could subscribe to a news publication, up from 27% today

NEWS CONSUMER SEGMENTATION LANDSCAPE

SEGMENTS	SEGMENT CHARACTERISTICS	% OF NEWS READERS IN SEGMENT
SUPER USERS	 Actively seek out news, often through direct site visits Consider news an essential part of their media diet Are likely paying for/donating to news sources, and are often willing to pay more for the sources that they use More likely to be higher-income consumers 	27%
POTENTIAL CONVERTS	 Actively seek out news and consider it important May not be paying for the sources they read, although marginally more likely to be password-sharing Value select news sources, and demonstrate a willingness to pay for digital media (e.g. video and audio) that they enjoy 	23%
LONG-GAME TARGETS	 Consider news somewhat important, but more likely to find it passively on social Significantly less likely to pay for news sources or digital media more broadly More likely to be lower-income consumers 	34%
NEWS NEVERS (LOST CAUSES)	 Less likely to consider news important, and prefer to find it passively on social Not interested or likely to pay for news or other subscription services in the foreseeable future Do not closely follow the news enough to justify paying for it 	16%



The recent spike in news subscriptions mirrors a broader industry shift away from advertising and toward cultivating dedicated paying audiences

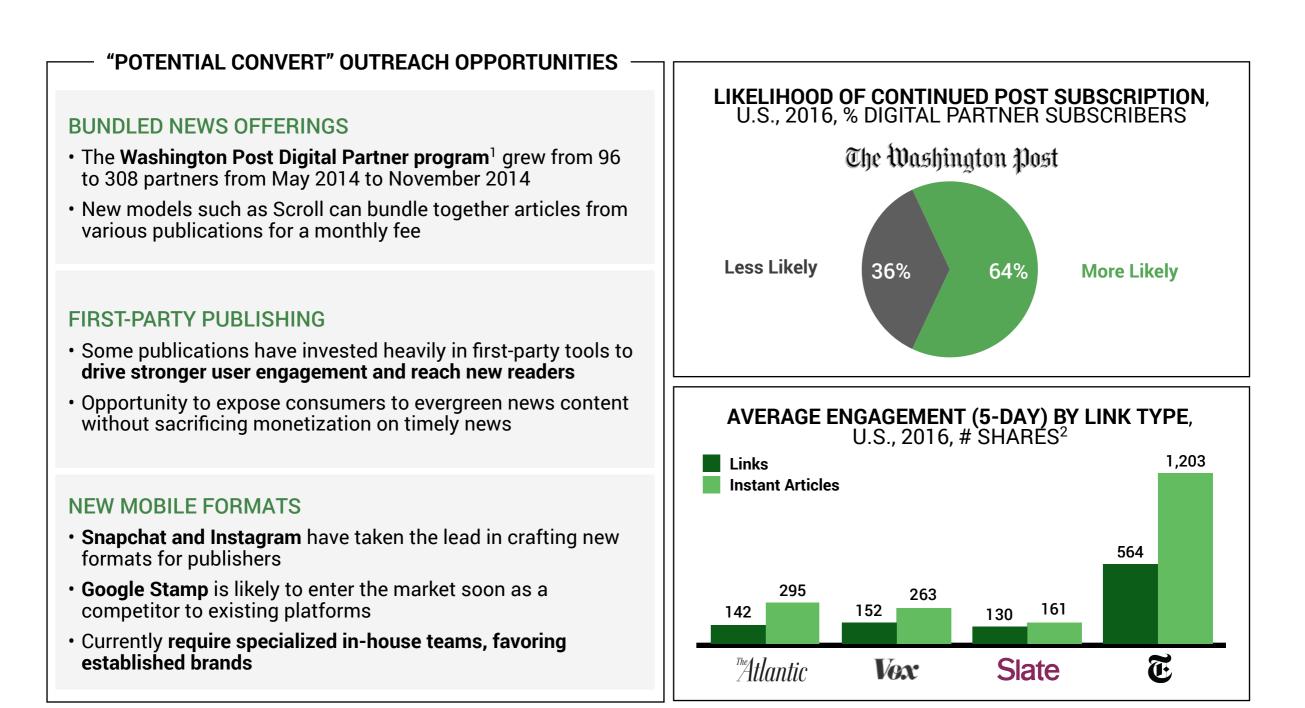
SOURCES OF NON-ADVERTISING REVENUE AMONG NEWS PUBLICATIONS, U.S., 2017

SUBSCRIPTION GROWTH	The New York Times	 The New York Times saw 46% growth over Q2 2016 in Q2 2017, adding 93,000 digital subscriptions
	The Washington Post	• The Washington Post broke through 1 million digital subscriptions in September 2017
TIERED MEMBERSHIP	™Atlantic	 The Atlantic has launched a \$100/month membership program called the Masthead, which provides subscribers with exclusive content and members-only event access
	Slate	 Slate Plus provides exclusive content to subscribers for a yearly fee of \$35
	Bloomberg	 Bloomberg Businessweek introduced a two-tiered membership model, starting at \$50/year and rising to \$87/year
ECOMMERCE	FMG	 Fusion Media Group's Kinja platform allows it to collect affiliate fees on products advertised through its editorial properties
CONTENT LICENSING	<i>Vex</i> BuzzFeed	 Vox and BuzzFeed have allocated significant resources to developing long-form video content for licensing to networks and other video distributors
CUSTOMER DATA	FINANCIAL TIMES	 The Financial Times began asking users for detailed information (e.g. professional industry, job, role) and charged advertisers 20-50% more to access high-value readers
		 Less than 20% of newspapers (not just the Financial Times) ask for a user's gender/birth year and less than 5% ask for title, interests, profession, and/or education



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Publishers looking to attract Potential Converts have a number of options, including distribution through emerging channels

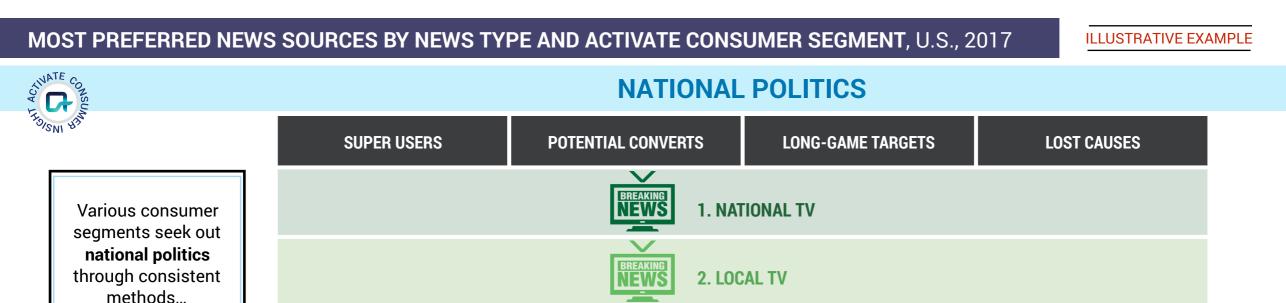


 The Washington Post Digital Partner program allows newspaper partner publications to offer The Washington Post's suite of digital products free as an added value for their paid subscribers.
 The New York Times is no longer available on Facebook Instant Articles.
 Sources: Activate analysis, Columbia Journalism Review, Facebook, Google, NewsWhip, Recode

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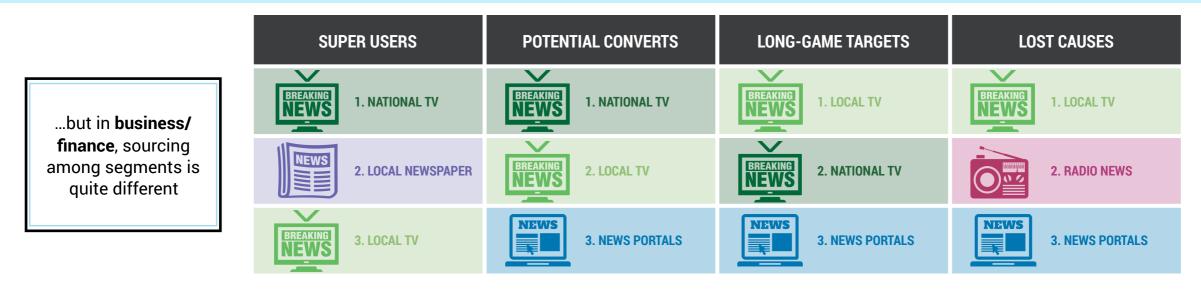
For some news segments, Super Users are scattered across platforms — the best positioned franchises will have a foothold across media



NEWS

BUSINESS AND FINANCE

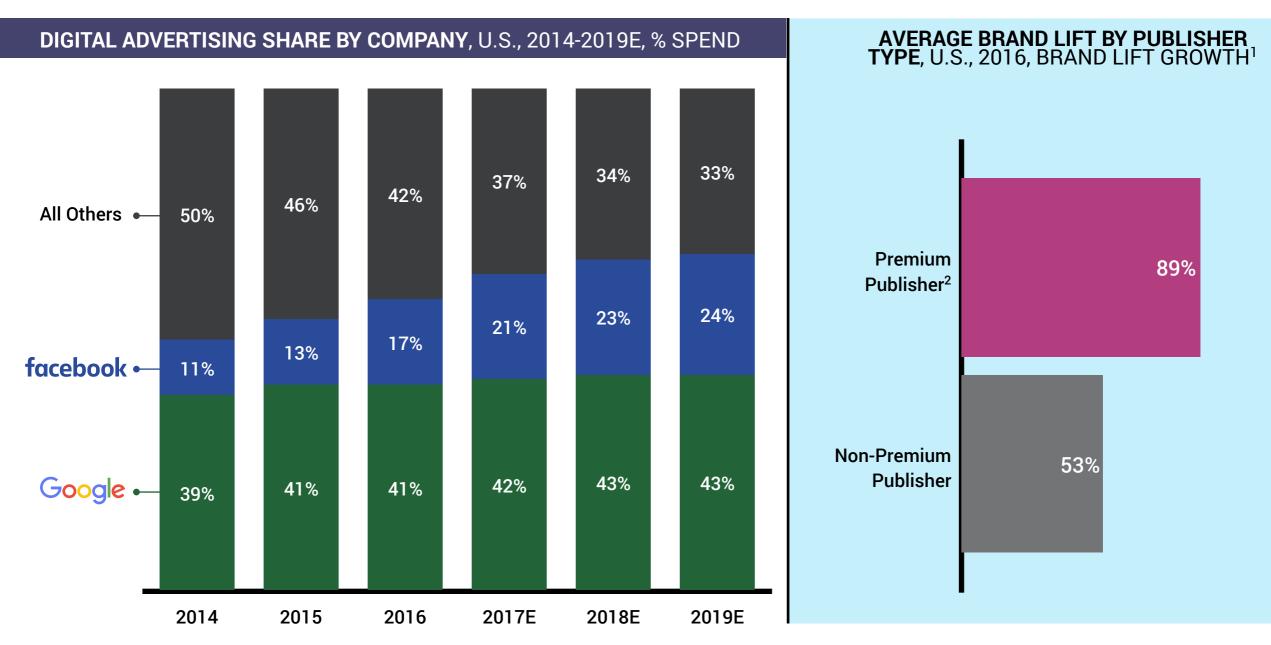
3. LOCAL NEWSPAPER



Cactivate Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=4,047)

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Well-known news brands will not only be preferred — they will be the only news outlets capable of building an advertising business as Facebook and Google tighten their hold



1. Brand lift estimates are based on weighted impressions, and are drawn from surveys with at least 400 respondents, at least 75 respondents in a DCN-exposed group, and that ran on both DCN and non-DCN sites. Brand lift growth defined as an increase in user interaction with brand (e.g. through impressions or conversion) as a result of a campaign.

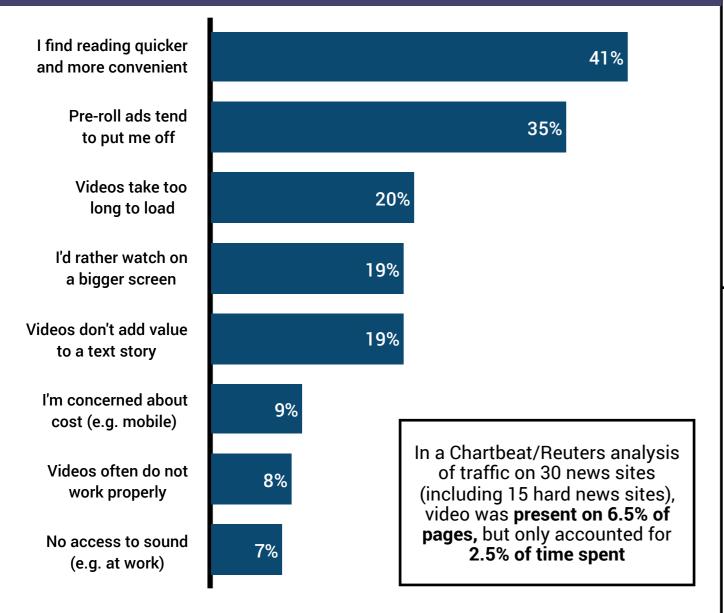
2. Digital Content Next (DCN) is a consortium of digital publishers that are considered "premium publishers", and is therefore a proxy for established news brands.



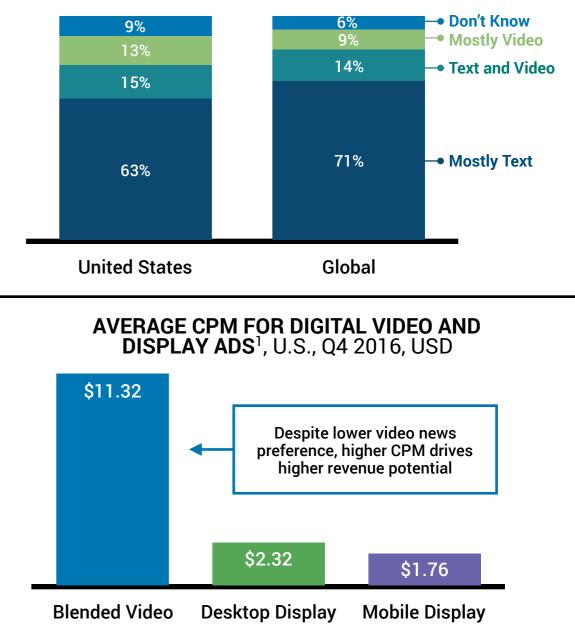
Sources: Activate analysis, comScore, Digital Content Next, eMarketer, IAB

Video provides news publishers with a valuable near-term advertising opportunity, but the "pivot to video" may clash with consumer preference for text

REASONS FOR NOT WATCHING ONLINE NEWS VIDEO, U.S., 2016, % NEWS READERS



PREFERENCE FOR TEXT AND/OR VIDEO IN NEWS,



U.S. AND GLOBAL, 2016, % NEWS READERS

□ activate

1. Video price is a blended measurement of in-stream and out-stream ad types, and assumes purchase from a self-service programmatic platform. Display prices are also blended for ad types/sizes, and assume same purchase method. Sources: Activate analysis, Chartbeat, eMarketer, IAB, Reuters



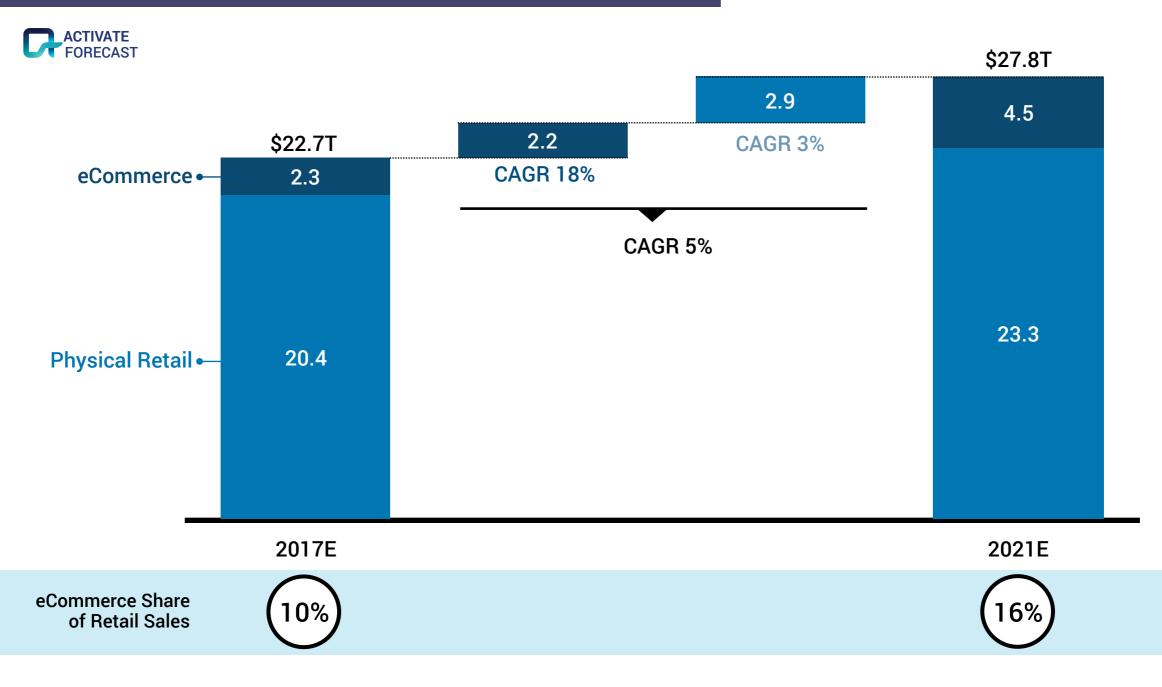
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Over the next four years, the global retail sector will add \$5 trillion; physical retail will take more growth dollars, while eCommerce will grow faster

RETAIL SALES PROJECTIONS¹, GLOBAL, 2017E-2021E, TRILLIONS USD



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1. Excluding travel and event tickets. Sources: Activate analysis, eCommerce Foundation, eMarketer, GfK, Invespcro, U.S. Census Bureau THE WALL STREET JOURNAL

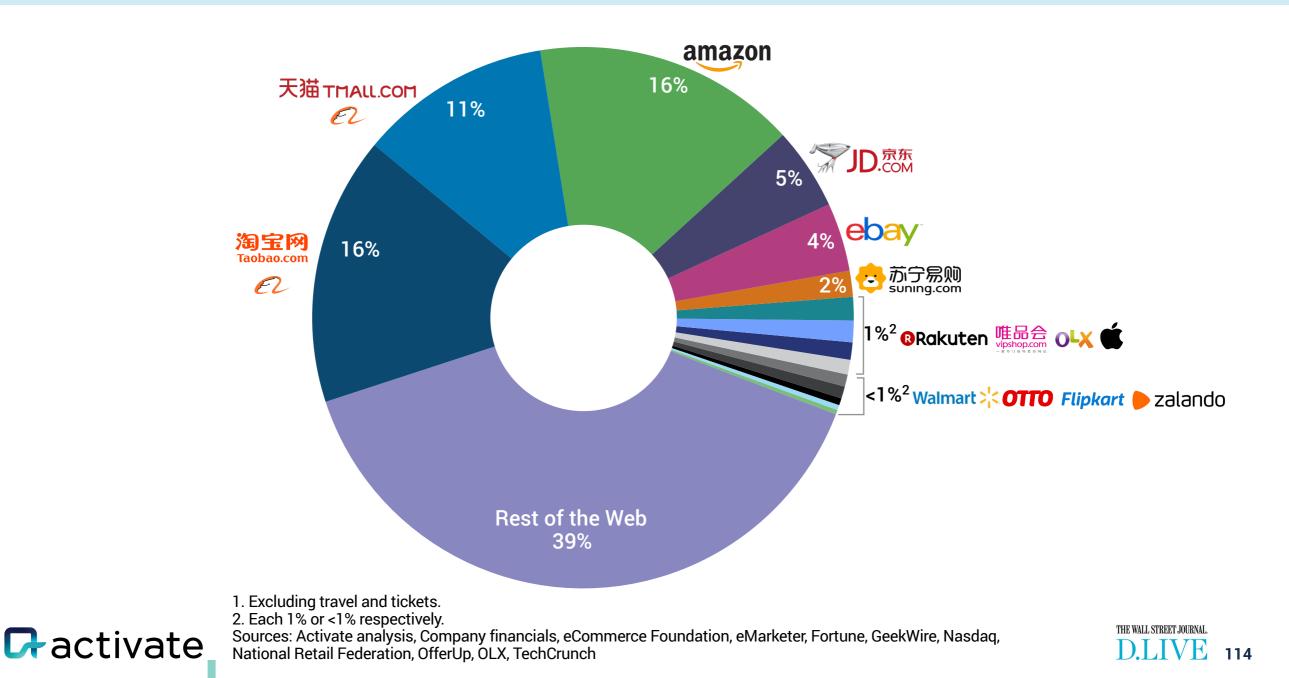
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Although the top 15 eCommerce players generate over 60% of gross merchandise volume, the business is likely to be very competitive

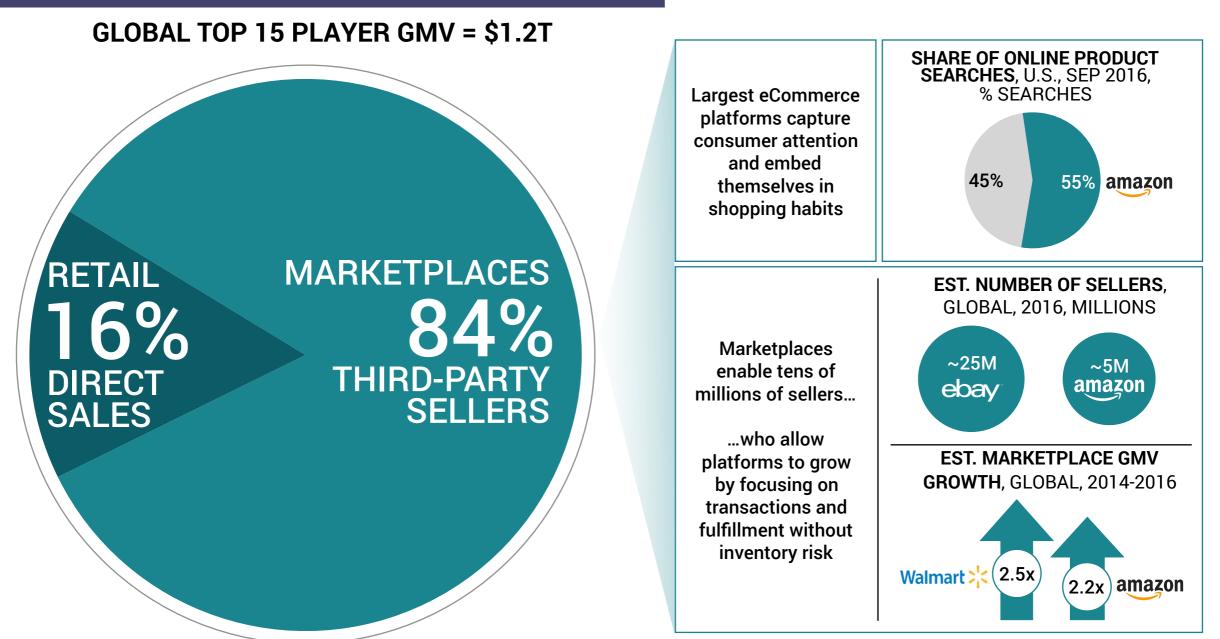
GMV (GROSS MERCHANDISE VOLUME)¹, GLOBAL, 2016, % GMV

2016 GLOBAL TRANSACTION VOLUME = \$1.9T



These 15 players are largely marketplace platforms – where tens of millions of sellers will continue to fuel growth

BREAKDOWN OF TOP 15 ECOMMERCE COMPANY¹ GMV BY BUSINESS MODEL, GLOBAL, 2016, % GMV



1. Excluding travel and tickets.

C-activate

Sources: Activate analysis, BloomReach, Company financials, eMarketer, Fortune, GeekWire, Nasdaq, National Retail Federation, OfferUp, OLX, TechCrunch

Despite the dominance of the largest eCommerce players, there are extensive capabilities to enable other retailers to sell online

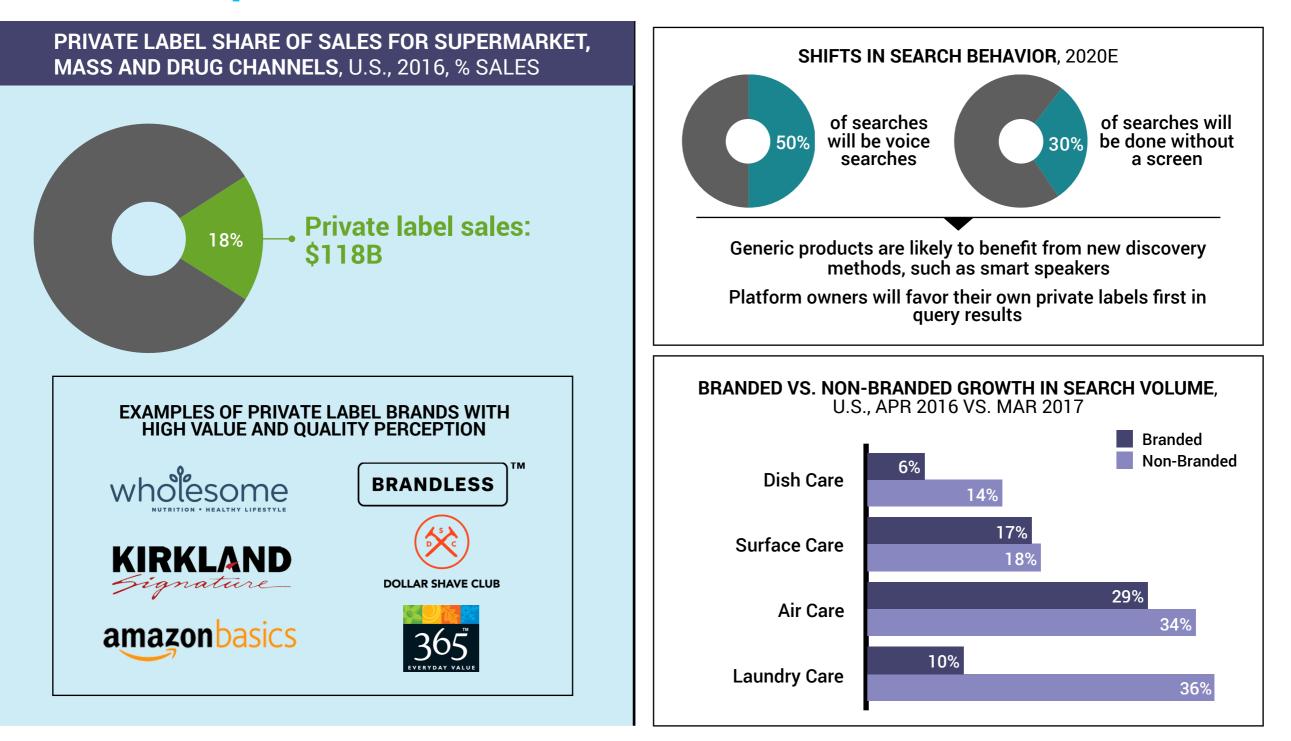
ECOMMERCE CAPABILITY STACK UNITED STATES **DELIVERY PLAYERS** FedEx ups POSTAL SERVICE **TRANSACTION** fulfillment **FULFILLMENT ENABLERS** RedStag ShipStation[®] **ShipBob** shippo ^{by}amazon VISA adyen PAYMENT PROCESSORS stripe Square **PayPal** Checkout SOCIAL INSPIRATORS Instagram facebook Payvment 🦻 **Pinterest Shopalize** DISCOVERY instacart AGGREGATORS **Google** Express **2** Dote Crateroy Peapod SEARCH OPTIMIZERS MOZ **S**EOlytics **BuzzStream** JumpFly **Boostability INFRASTRUCTURE** shopify STORE CREATORS WiX.com weedly **C** SQUARESPACE PLATFORM PROVIDERS Magento[®] WOO COMMERCE PrestaShop open[°]cart cs.cart

□ activate

Sources: Activate analysis, Big Commerce, Capterra, CB Insights, Crunchbase, Forbes, Fortune, Luma Partners, Marketing Mag, New York Times, Wall Street Journal, Website Builder Expert

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For many categories, consumers will increasingly gravitate towards private labels, as platforms and retailers will favor discovery of their own products

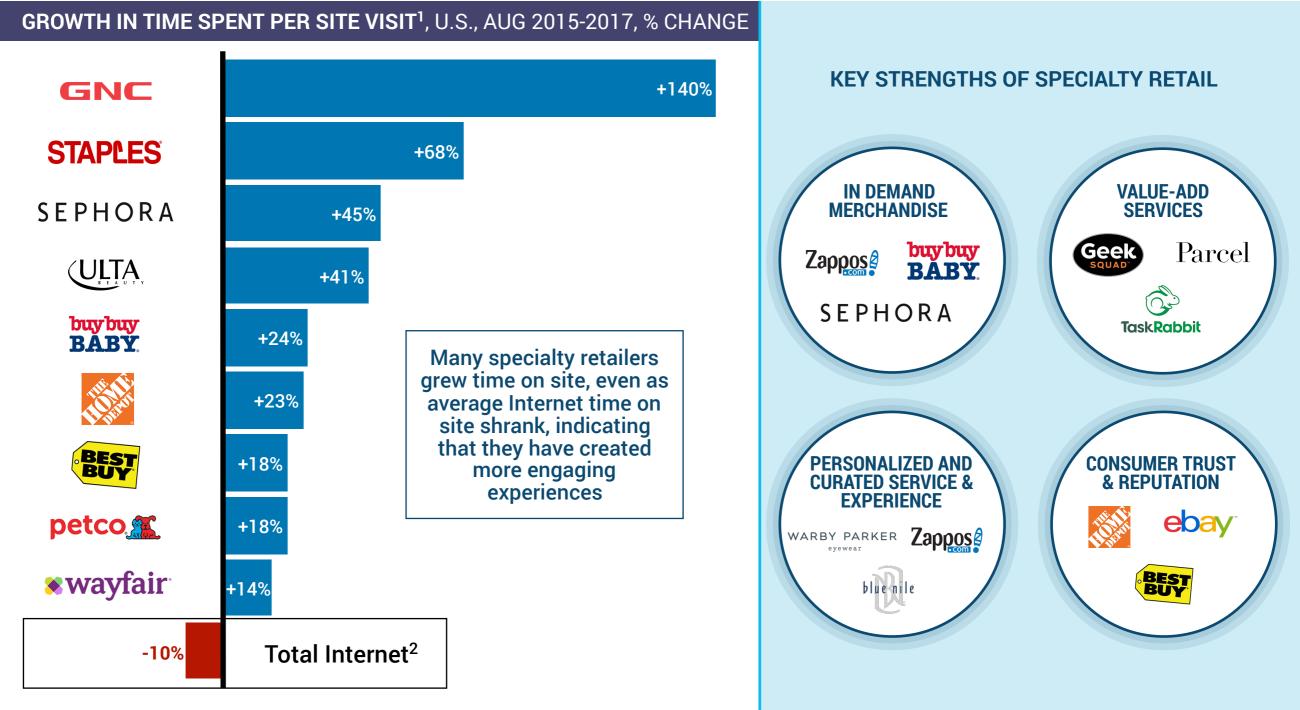




Sources: Activate analysis, Branded3, comScore, Gartner, Keyword Tool IO, L2, Manufacturing Association, MediaPost, Nielsen, Private Label

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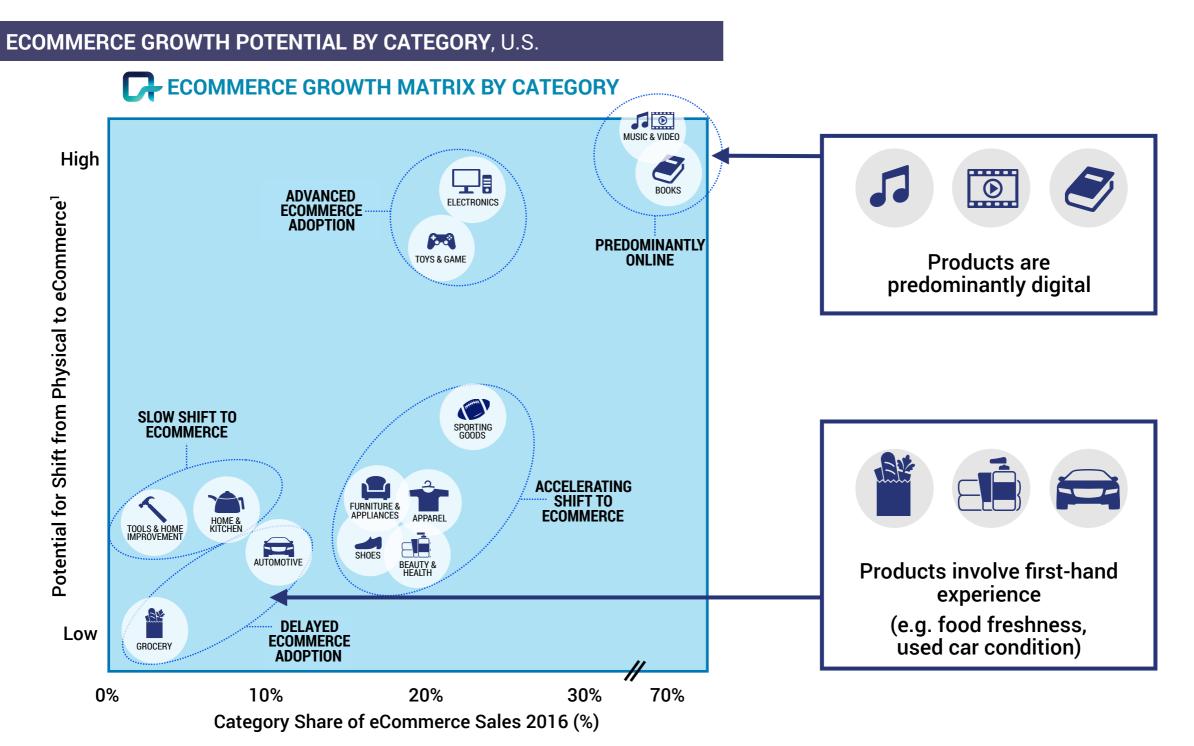
Specialty retailers and brands will continue to drive engagement and revenue through compelling and curated experiences



1. Time spent on website per visit across all platforms.

2. Average time spent per visit across all Internet as defined by comScore. Sources: Activate analysis, comScore THE WALL STREET JOURNAL. D.LIVE 118

Category-specific consumer preferences will drive different eCommerce adoption curves

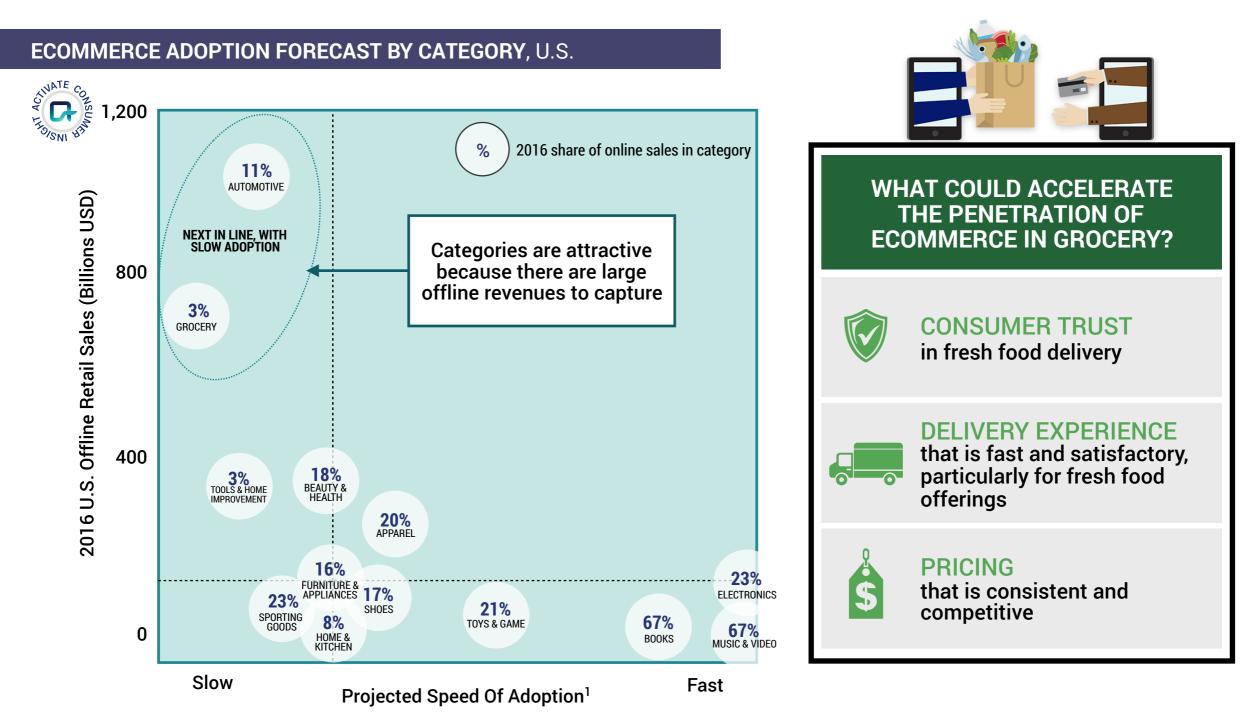


□ activate

1. Index based on measured consumer preferences from Activate 2017 Consumer Tech & Media Research Study. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=4,047), Cowen and Company, eMarketer, Kantar Retail, Nielsen, U.S. Census Bureau



Grocery will be the next eCommerce battleground, however, adoption will be slow



1. Index based on measured consumer preferences.

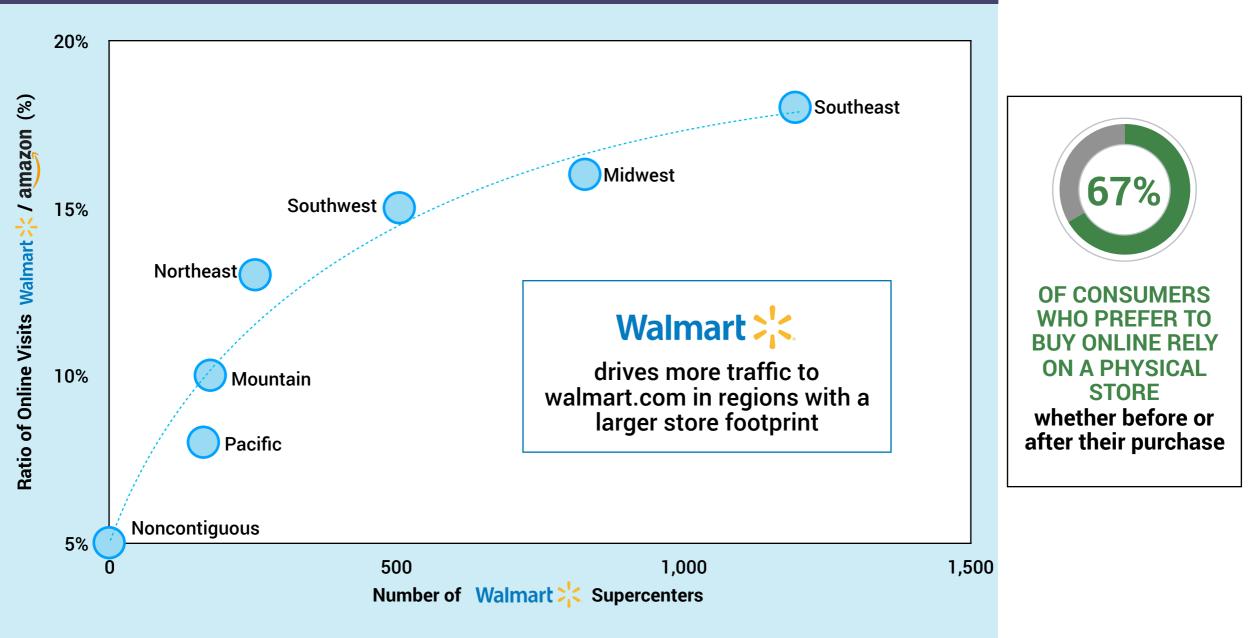


Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (n=4,047), DrugStore News, eMarketer, Euromonitor, IBIS World, International Publisher's Association, IRI, One Click Retail, PricewaterhouseCoopers, St. Louis FRED, U.S. Census Bureau, Venture Beat, Wazir



Walmart and other physical retailers are likely to take advantage of their physical presence, ultimately driving higher revenue per shopper

IMPACT OF WALMART'S PHYSICAL FOOTPRINT ON ONLINE ENGAGEMENT BY REGION, U.S., 2016, # WALMART STORES VS. RATIO OF ONLINE VISITS (WALMART/AMAZON)

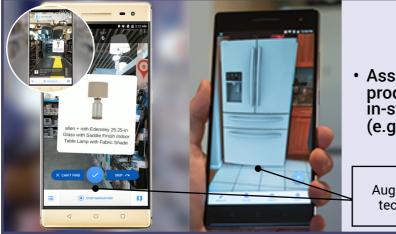




Physical retail will strengthen its hold with the integration of technology into in-store experiences



PRODUCT INFORMATION AND DISCOVERY



 Assists shopper with product discovery both in-store and online (e.g. at home)

Augmented Reality mobile technology (e.g. Lowe's)

PERSONALIZED IN-STORE TARGETING



 Feeds recommendations and promotions to consumers based on shopping history across channels

In-store apps powered by visible light communication (e.g. MediaMarkt, Edeka, Carrefour)

□ Activate



Asia is leading the way for the adoption of digital commerce innovations, including the integration of physical and digital

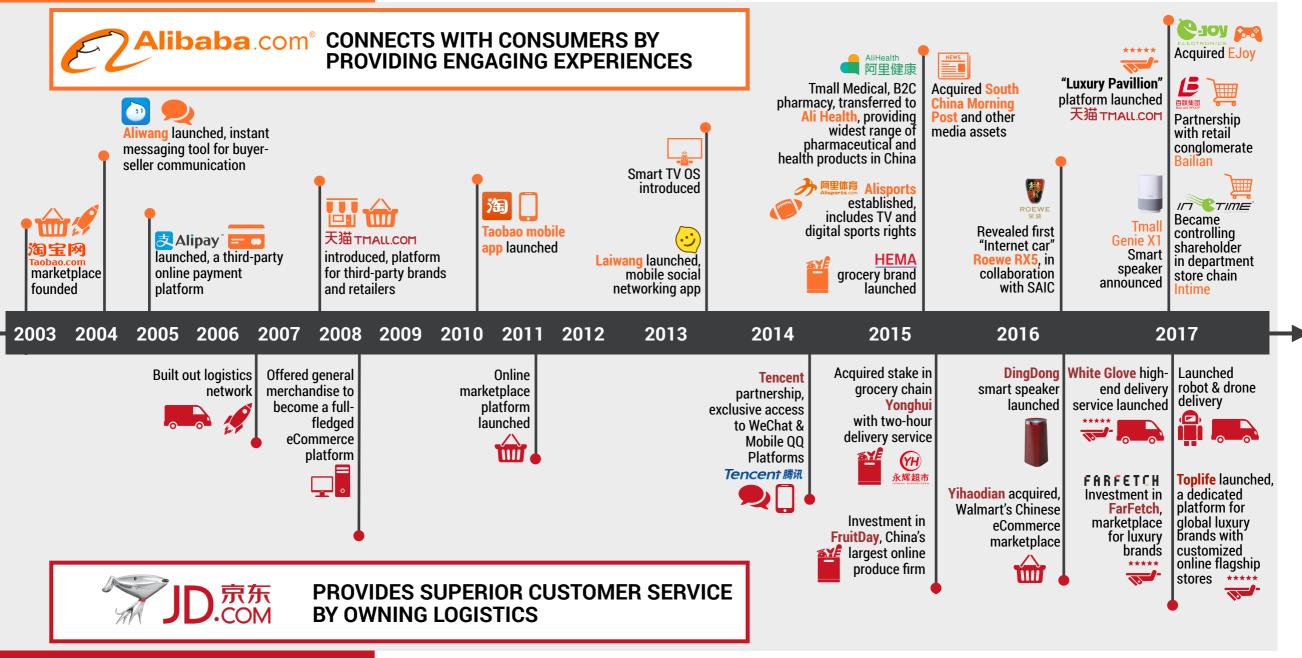


New time- and cost-efficient delivery methods improve service area (e.g. rural area access) and quality of delivered goods (e.g. fresh goods) Brings new experiences such as 3D and game-based brick and mortar shopping to customers, increasing visits Enables cashless and automated checkout and delivery, while maintaining essential aspects of the in-store experience



In general, Asia is providing a potential roadmap for the future of eCommerce, focused on shopper engagement and seamless service

ALIBABA ECOSYSTEM



JD.COM ECOSYSTEM



Sources: Activate analysis, AdWeek, Alibaba, JD.com, Line, Nasdaq GlobeNewswire, Quartz, South China Morning Post, TechCrunch, Tencent, Yahoo Finance

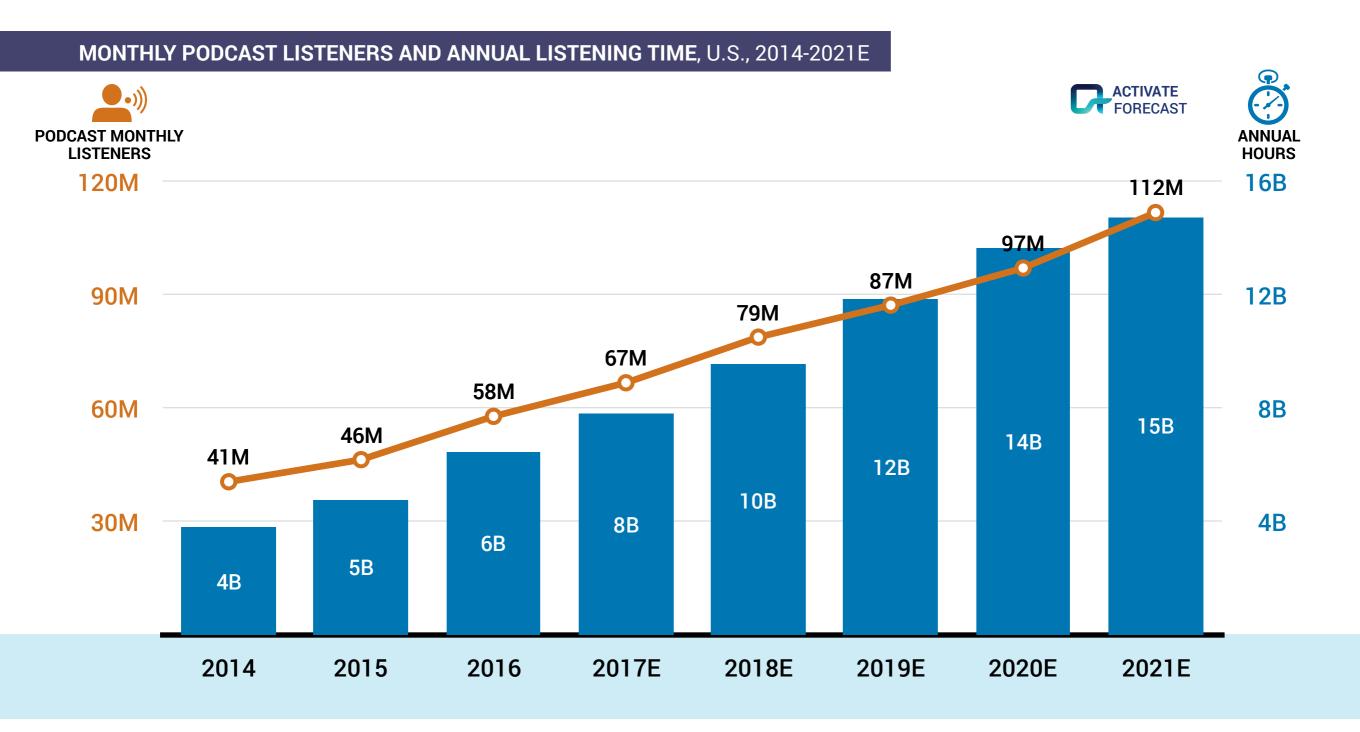


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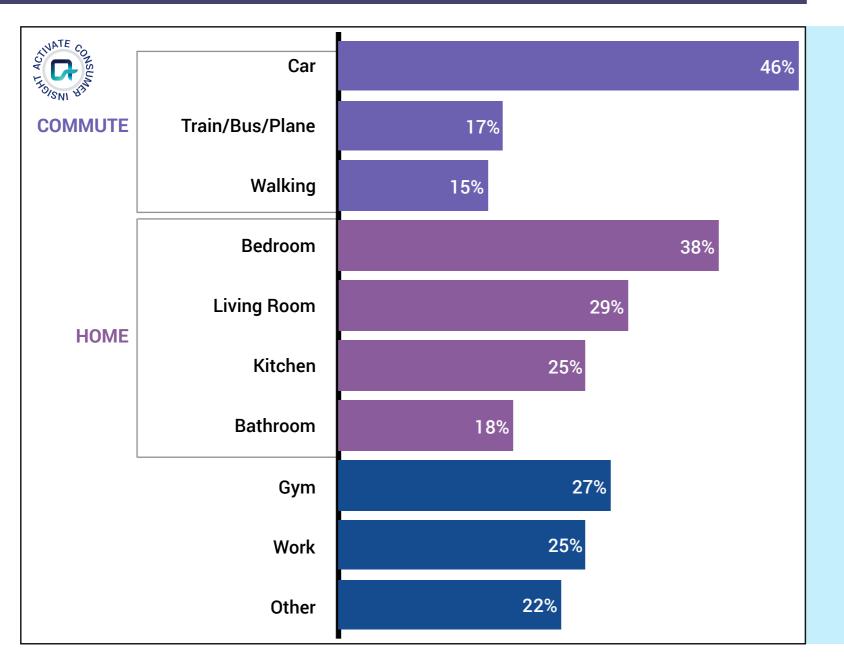
Podcast listening will dramatically increase – powered by more content, more listeners, and increased daily usage





Smart speakers and connected cars will also spur increased listening and adoption

LOCATION OF PODCAST LISTENING, U.S., 2017, % LISTENERS

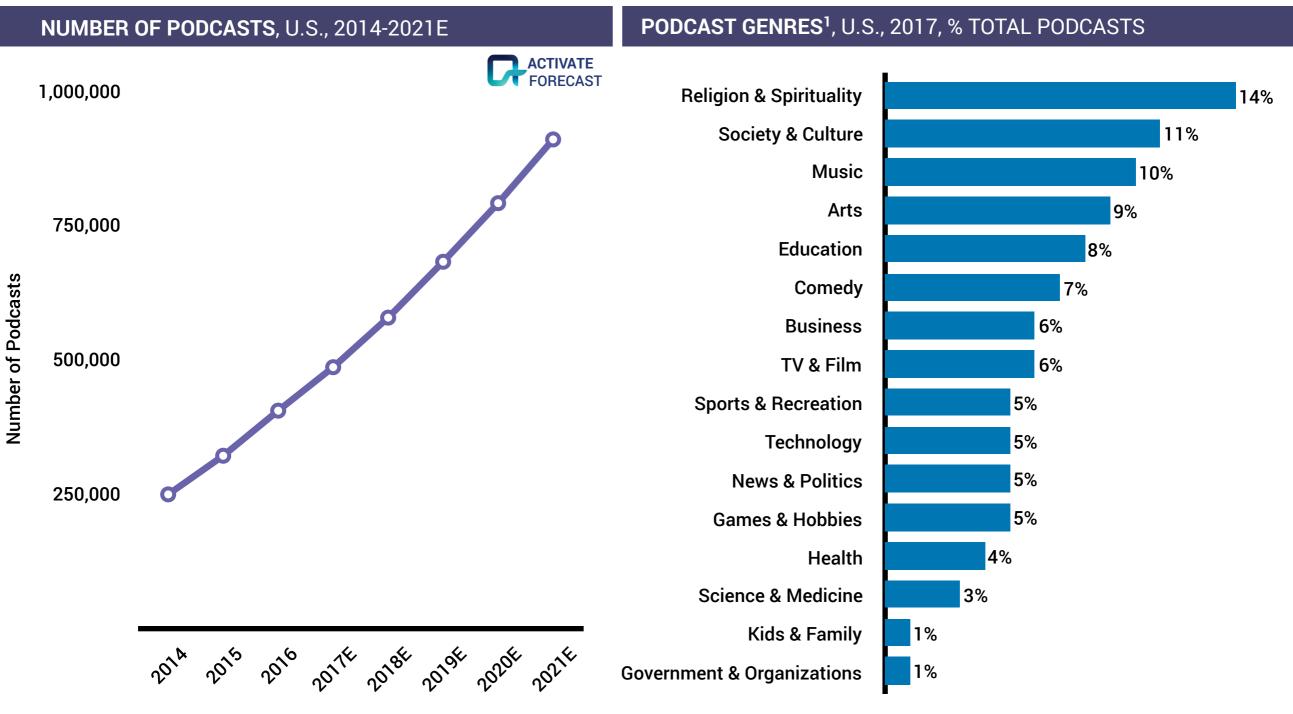




- Smart speaker owners are ~1.6x more likely to listen to podcasts than non-smart speaker owners
- Smart speaker short-form audio content could increase listening through curated news summaries (e.g. Alexa Flash Briefings, Google Assistant, 60dB¹ Quick Hits)



The actual number of podcasts will increase as well; consumers will listen to a broad range of podcast genres



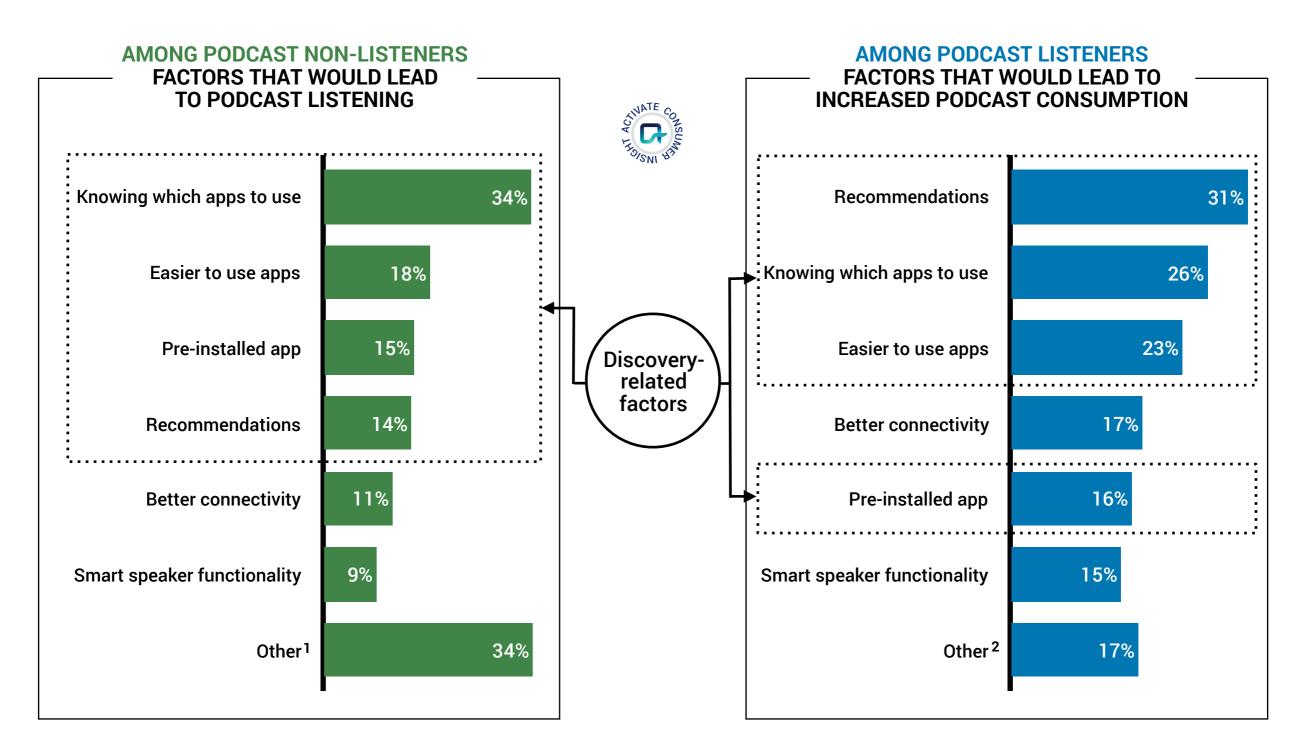
1. Podcast genre distribution based on iTunes library.

□ Activate

Sources: Activate analysis, Apple announcements, "How Podcasts Have Changed in 10 Years: By the Numbers" by Josh Morgan, iTunes store



This increased listening is despite the fact that discovery is difficult today; easier discovery will accelerate and expand listening growth



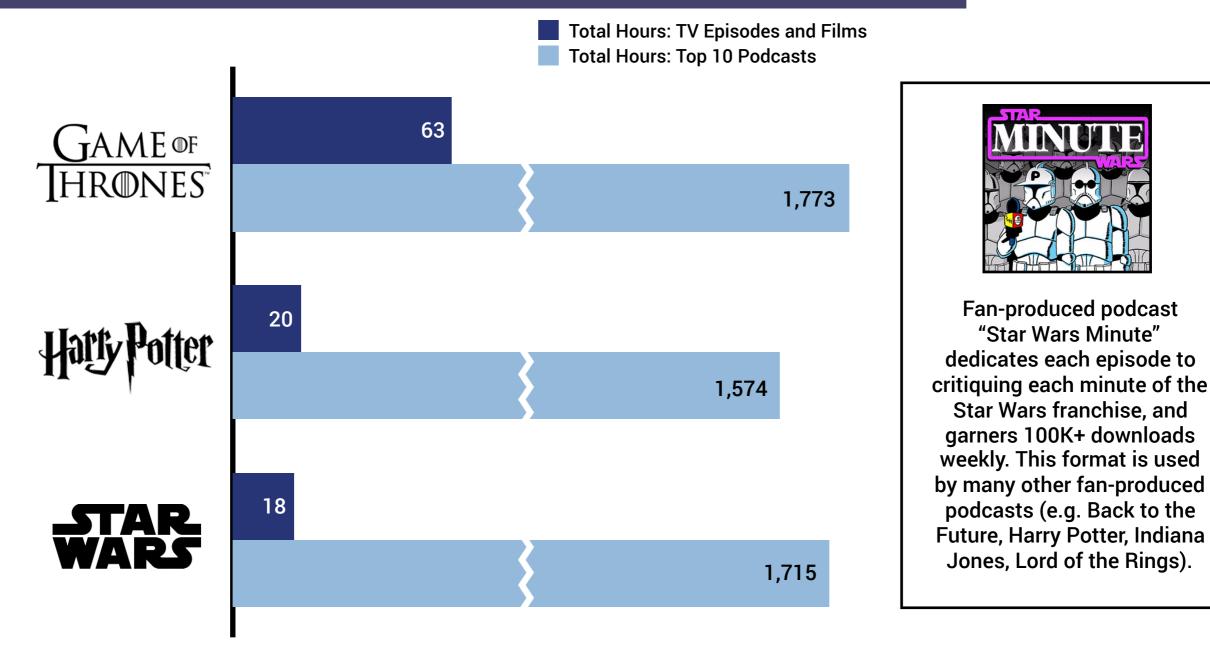
□ activate

 Most non-listeners who selected "other" indicated that they were not interested or did not have enough time.
 Most listeners who selected "other" indicated that they did not have enough time or desired more relevant content. Sources: Activate analysis, Activate 2017 Consumer Tech & Media Research Study (Left: n=700; Right: n=419)

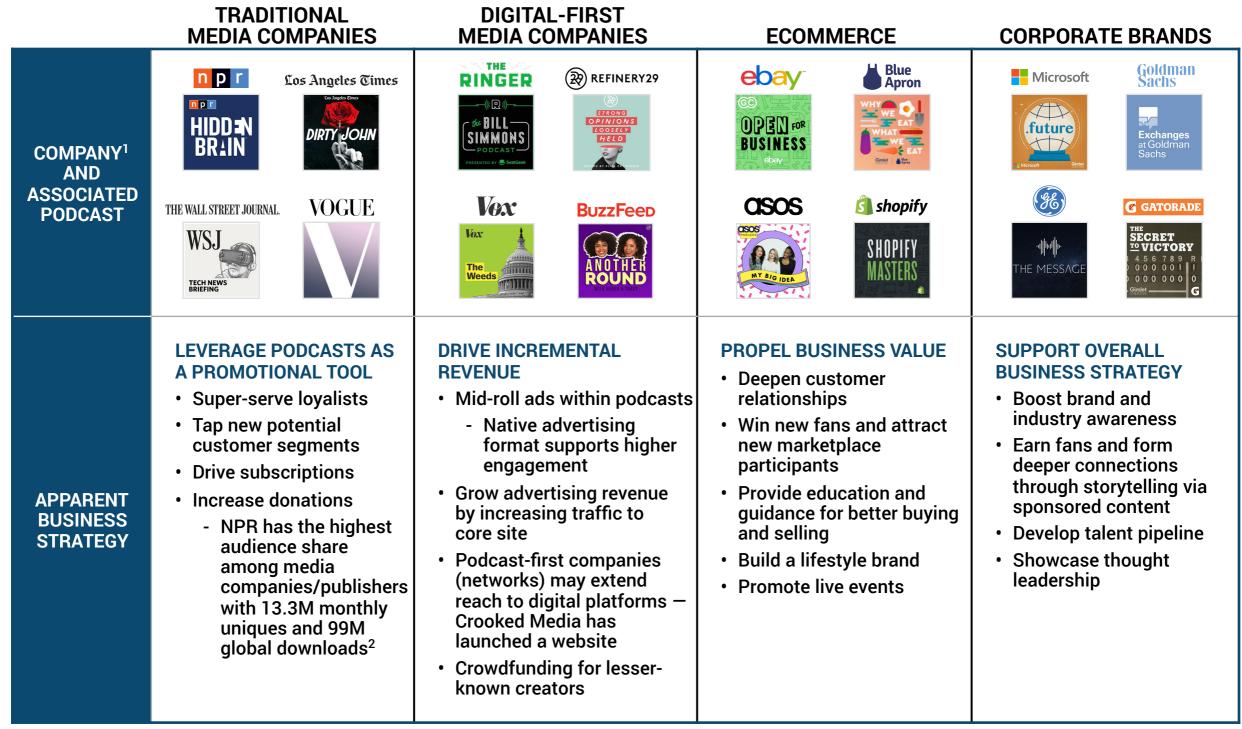
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Podcasts are amplifying hit entertainment properties – inspired fans and influencers are producing their own podcasts and cultivating interest between franchise releases

TOTAL HOURS OF STUDIO FRANCHISES AND ASSOCIATED TOP 10 FAN-PRODUCED PODCASTS¹



Every media and tech company will extend their consumer experiences through podcasting



For story development and production, eBay, Blue Apron, Gatorade, and Microsoft partnered with Gimlet, and GE partnered with Panoply.
 NPB metrics were for the month of September 2017.

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2. NPR metrics were for the month of September 2017. Sources: Activate analysis, Podtrac

A number of hit podcasts – with large audiences and multiplatform appeal – will extend into video





- Distributors are optioning successful podcasts as a source of new programming
- WME signed Panoply in September 2017 to adapt podcasts in its network to video
- Digital publishers could create podcasts to seed new ideas before investing significant resources
- While some podcast creators may realize their multi-platform potential, not all content will successfully transition to video

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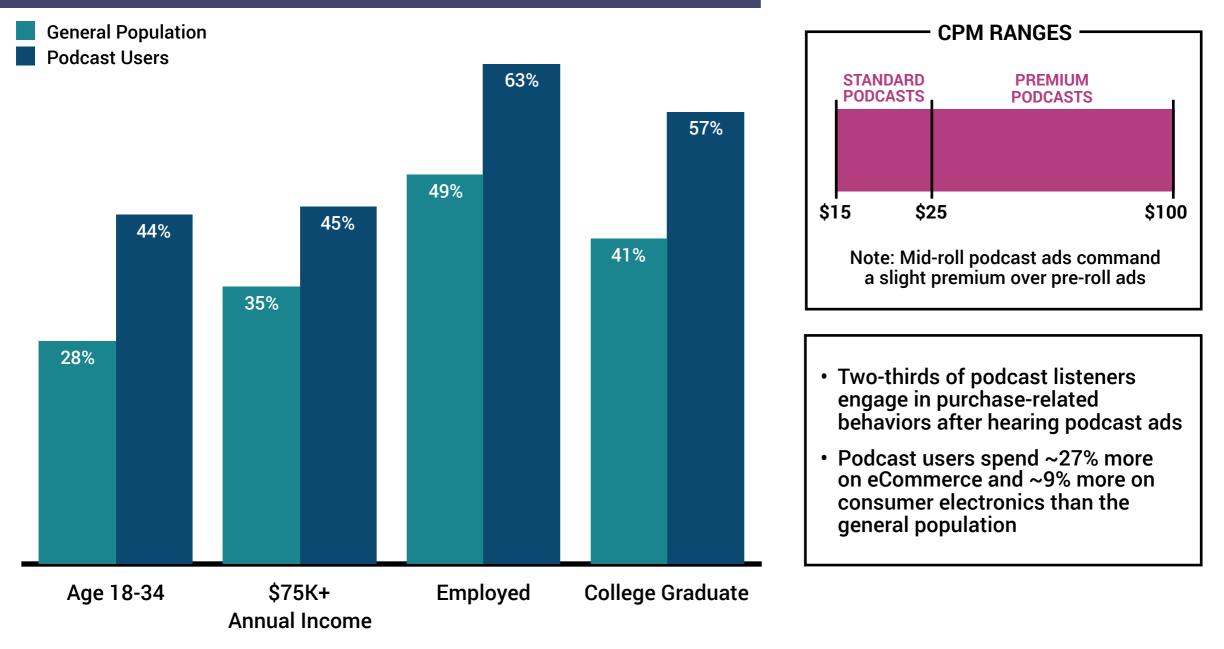
1. HBO cancelled show after 2016 season; The Ringer relaunched it as a live streaming show on Periscope (Talk the Thrones). Sources: Activate analysis, The Hollywood Reporter, IMDb, Variety



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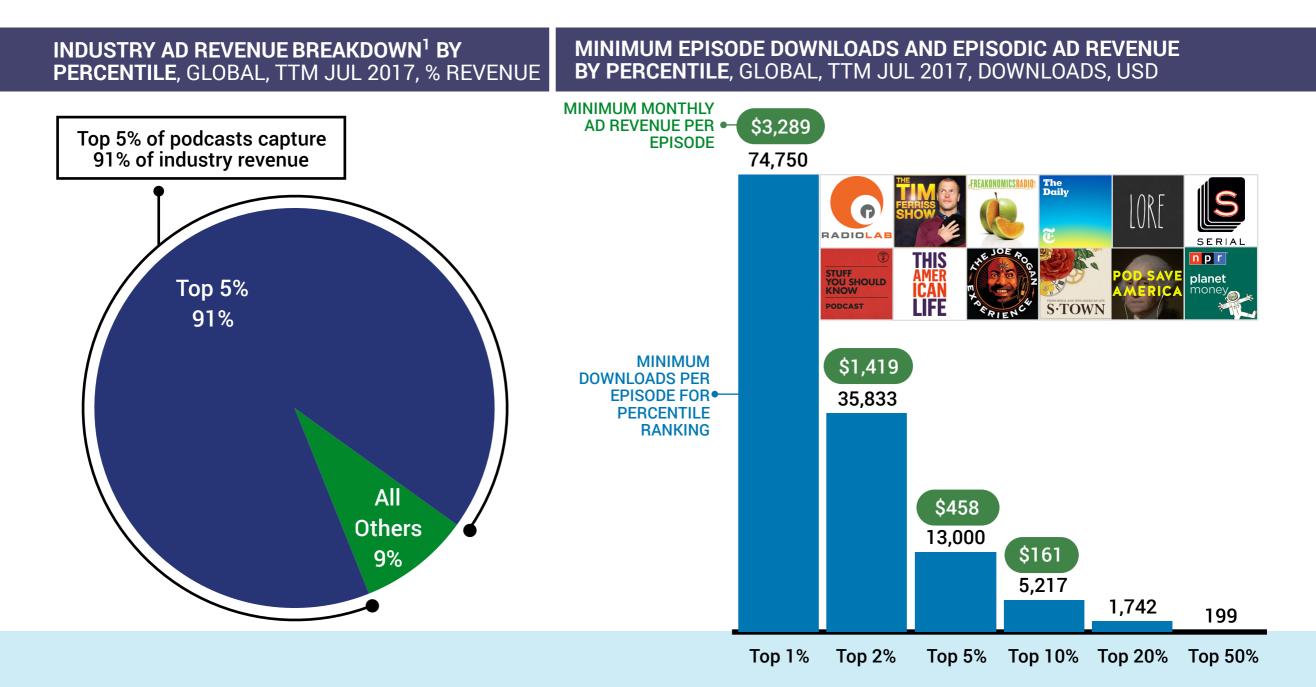
Podcast listeners are highly valuable to advertisers, despite measurement challenges — the top podcasts command high CPMs

COMPARISON OF DEMOGRAPHICS¹, U.S., 2017, % GENERAL POPULATION VS. PODCAST LISTENERS



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Only the top media companies and individual creators have sufficient scale to capture ad revenues



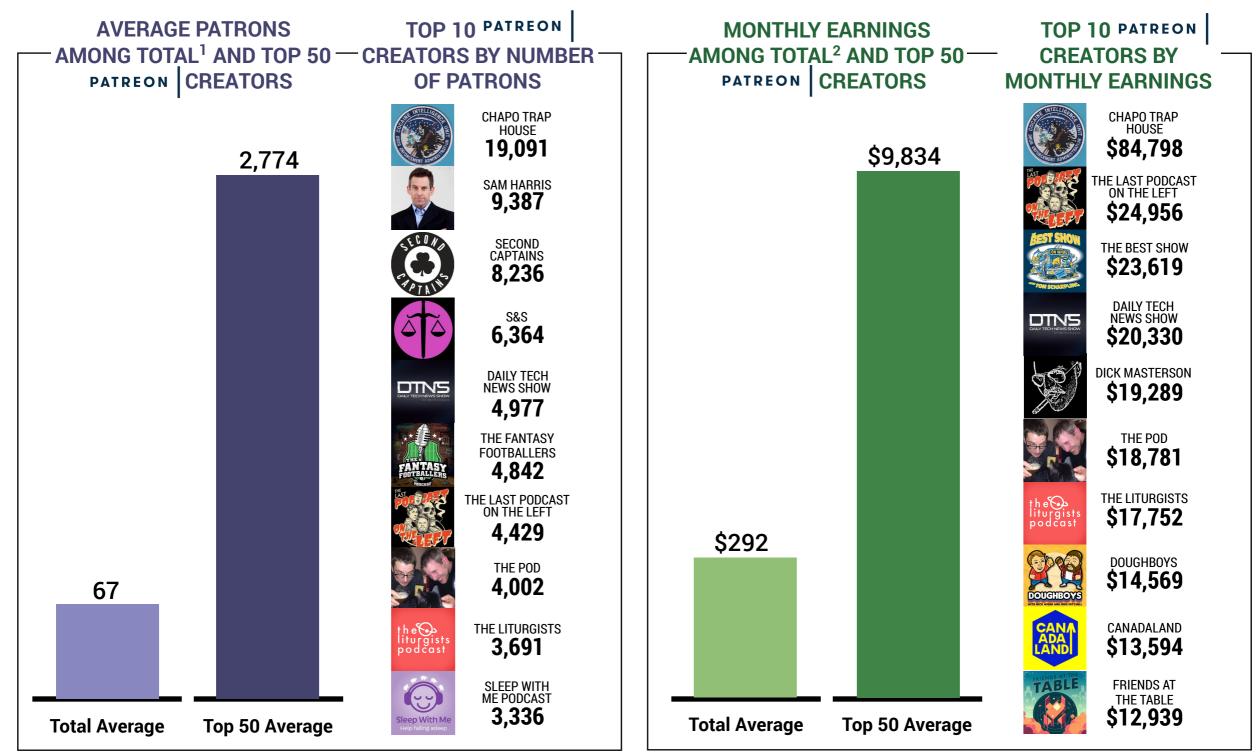
Note: Average of metrics reported on Libsyn's The Feed podcast for August 2016 - July 2017. Downloads measured through the end of the following month (episodes are 45 days on average). According to Libsyn, brands typically advertise on podcasts with at least 5,000 downloads per episode. Podcasts were included if active for at least one month during the August 2016 - July 2017 period. THE WALL STREET JOURNAL. 1. Industry revenue is concentrated in the top 10% – long tail ad revenue is immaterial. DLIVE

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Sources: Activate analysis, Libsyn

Other podcast creators will get funding from listeners through emerging crowdfunding platforms such as Patreon

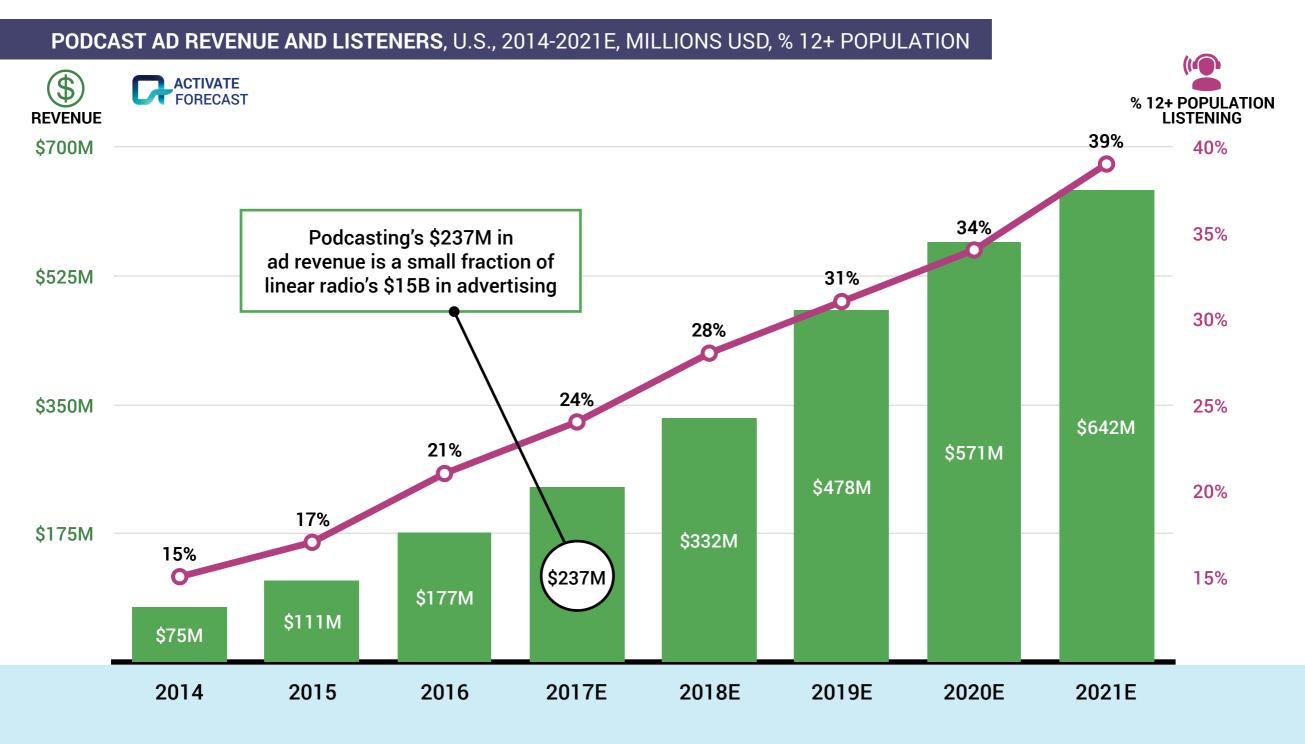


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Note: Number of patrons/earnings reported as of October 1, 2017. Creators must have at least one patron to be included. Creators may also receive funding directly through owned websites.1. Total average number of patrons for all creators is based on 4,916 creators. 2. The monthly earnings average for all creators is based on the 4,174 creators reporting earnings. Sources: Activate analysis, Graphtreon, Patreon

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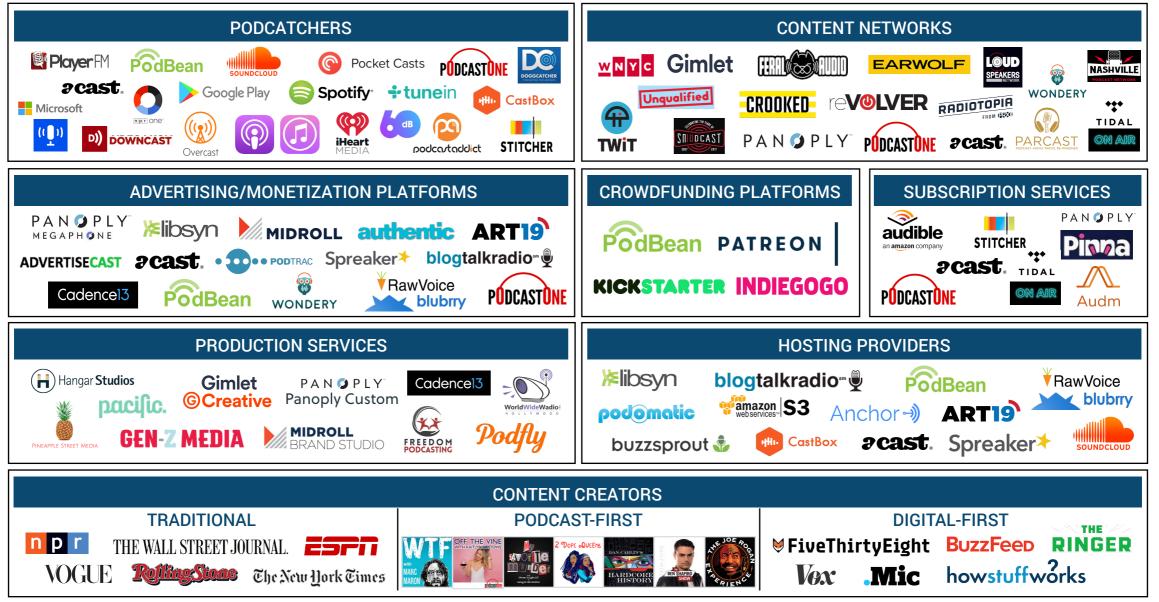
We forecast that the podcast revenues will more than double in the next few years, falling way short of its potential given audience size





The continued investment in podcasting can be explained by podcasting's impact on media and tech companies, versus the industry's own revenue potential





Note: Podcatchers download and aggregate podcasts, while hosting providers assist with storage, sharing, measurement, and production tools. Subscription services offer access to premium content for a monthly fee and crowdfunding platforms enable users to tip creators, which may then also unlock premium content. Production services assist with narrative development and/or technical production. Some ad agencies assist brands in the creation of podcasts, but are not included as a production service entity. A content network is a network of podcasts, often related in theme. Content networks may also provide production services for their podcast creators. Advertising/ monetization platforms serve as a marketplace and typically offer ad insertion, targeting, and measurement capabilities. Podcast creators may be independent or part of a content network and/or use an advertising platform. Some content creators have developed podcatcher apps that only include a curated selection of podcasts. Midroll, Stitcher, and Earwolf are owned by Scripps. Slate owns Panoply. Nashville Podcast Network is owned by iHeartMedia. Hubbard Broadcasting partially owns Podcast One. 60dB is a recent Google acqui-hire.

Source: Activate analysis

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CREATED BY

Michael J. Wolf Seref Turkmenoglu William Bird **Anthony Aguila** Sri Narasimhan Samuel Studnia **Edward Doueihi** Ellis Bowen **David Howard Allison Flanders Christopher Meyer** Caci Massaro **Rohun Reddy** Lauren Libby Mark Manley Marlee Melendy Frank Noto **Denise Shea** Al Rotches

NEW YORK

156 Fifth Avenue, Penthouse 1 New York, NY 10010 **212 316 4444**

SAN FRANCISCO

2 Bryant Street, Suite 100 San Francisco, CA 94105 **415 385 3725**

www.activate.com



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