Video Trends Report

Q4 2020

Introduction

TiVo seeks real consumer opinions to uncover key trends relevant to TV providers, digital publishers, advertisers and consumer electronics manufacturers for our survey, which is administered and examined biannually in this published report. We share perspectives and feedback from viewers to give video service providers and industry stakeholders insights for improving and enhancing the overall TV viewing experience for consumers. TiVo has conducted a quarterly or biannual survey since 2012, enabling us to monitor, track and identify key trends in viewing habits, in addition to compiling opinions about video providers, emerging technologies, connected devices, OTT apps and content discovery features, including personalized recommendations and search.

TiVo, part of Xperi Holding Corporation (NASDAQ: XPER), brings entertainment together, making it easy to find, watch and enjoy. We serve up the best movies, shows and videos from across live TV, on-demand, streaming services and countless apps, helping people to watch on their terms. For studios, networks and advertisers, TiVo delivers a passionate group of watchers to increase viewership and engagement across all screens. Learn more at business.tivo.com.

For more about this report, please contact getconnected@tivo.com.

Survey Methodology

Q4 2020 Survey Size

4,526

Geographic Regions

U.S., Canada

Age of Respondents

18+

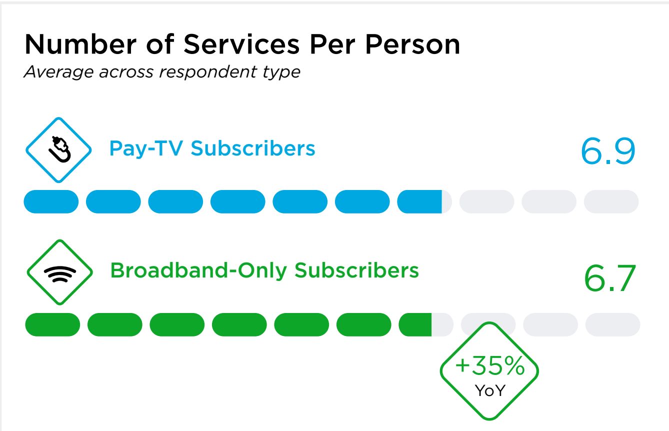
This survey was designed by TiVo, and conducted in Q4 2020 by a leading third-party survey service. TiVo evaluates the results and publishes this biannual report analyzing key trends across the TV industry.

Part One

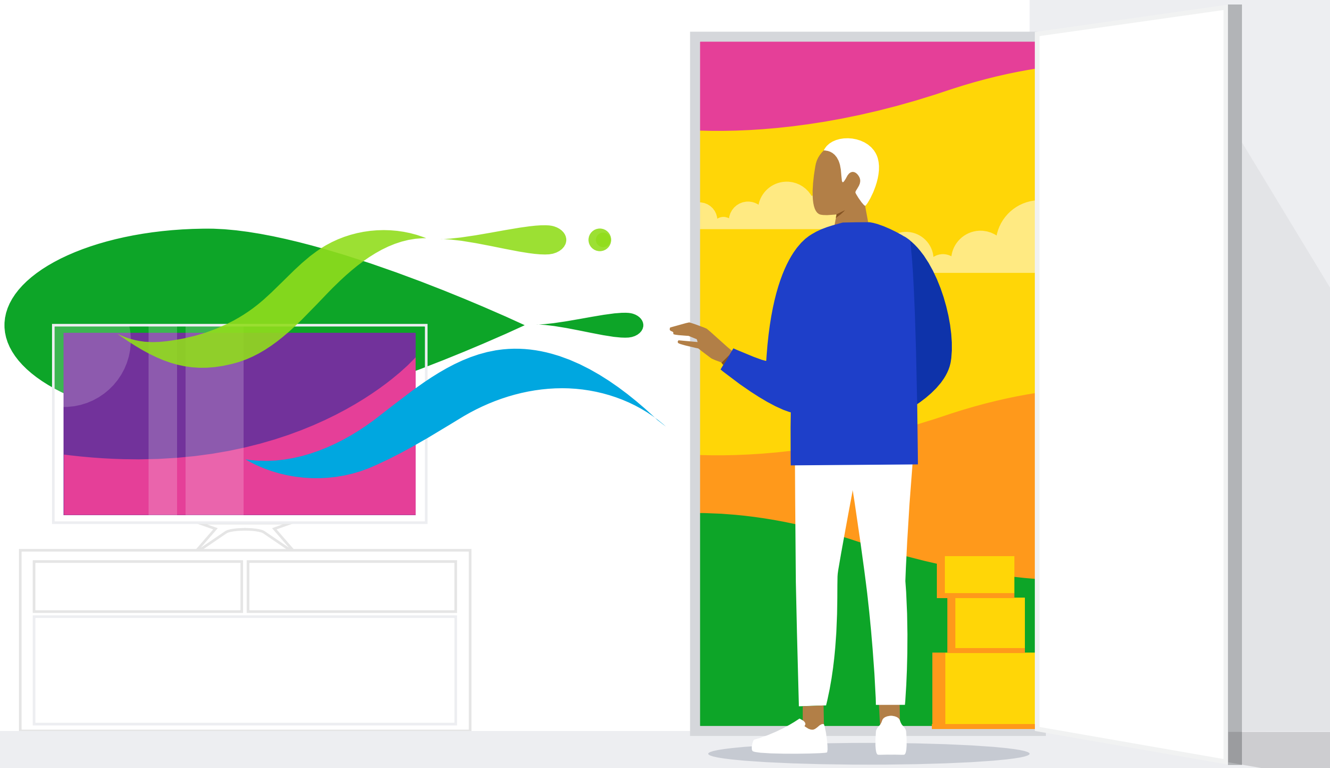
Accelerating the New Norm

The COVID-19 pandemic has transformed the day-to-day lives for billions of people across the globe. Social interaction and the work-life balance has fundamentally changed; the way we watch and discover video is no exception. Trapped during lockdowns or working from home, people continue to lean heavily on video services as a primary source of news and entertainment.

Local programming (particularly local news) has proven to be increasingly important during this year full of lockdowns, outbreaks, new laws and new crises. In parallel, choice is at an all-time high for viewers as new "over-the-top" (OTT) streaming services are launched with the goal of global reach. As a result, people just can't seem to get enough.



As the pandemic rages on, shifting consumer patterns in the video service landscape are proving to be more than mere anomalies. People are adjusting to a new normal—and that new normal means big, exciting changes for the video market.



Top Video Service Bundles

Faced with an overwhelming (and growing) number of options, consumers weigh the pros and cons of price, content offerings and features, ultimately choosing their video services in a variety of combinations. We analyzed the data to determine which bundles were the most popular among today's viewers.

Top Bundles of THREE Services

Percentage of respondents

Pay-TV Subscribers

Pay-TV service, Netflix, Prime Video	31%
Pay-TV service, Netflix, Amazon Prime Video purchases/rentals	23%
Pay-TV service, YouTube (short videos), Netflix	22%
Pay-TV service, Prime Video, Amazon Prime Video purchases/rentals	21%
Pay-TV service, Netflix, Disney+	20%

Broadband-Only Subscribers

Netflix, Prime Video, Amazon Prime Video purchases/rentals	20%
Netflix, Prime Video, Hulu	19%
Netflix, Hulu, Disney+	19%
Netflix, Prime Video, Disney+	17%
Netflix, Hulu, Amazon Prime Video purchases/rentals	16%

Top Bundles of FOUR Services

Percentage of respondents

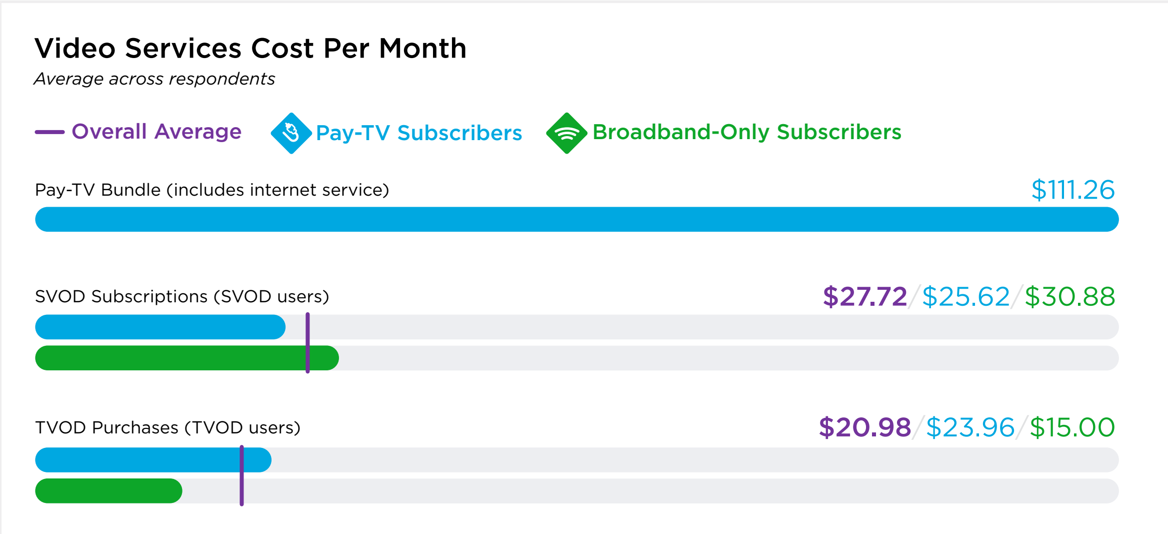
Pay-TV Subscribers

Pay-TV service, Netflix, Prime Video, Amazon Prime Video purchases/rentals	18%
Pay-TV service, YouTube (short videos), Netflix, Prime Video	13%
Pay-TV service, Netflix, Prime Video, Hulu	13%
Pay-TV service, Netflix, Prime Video, Disney+	13%
Pay-TV service, Netflix, Hulu, Amazon Prime Video purchases/rentals	11%

Broadband-Only Subscribers

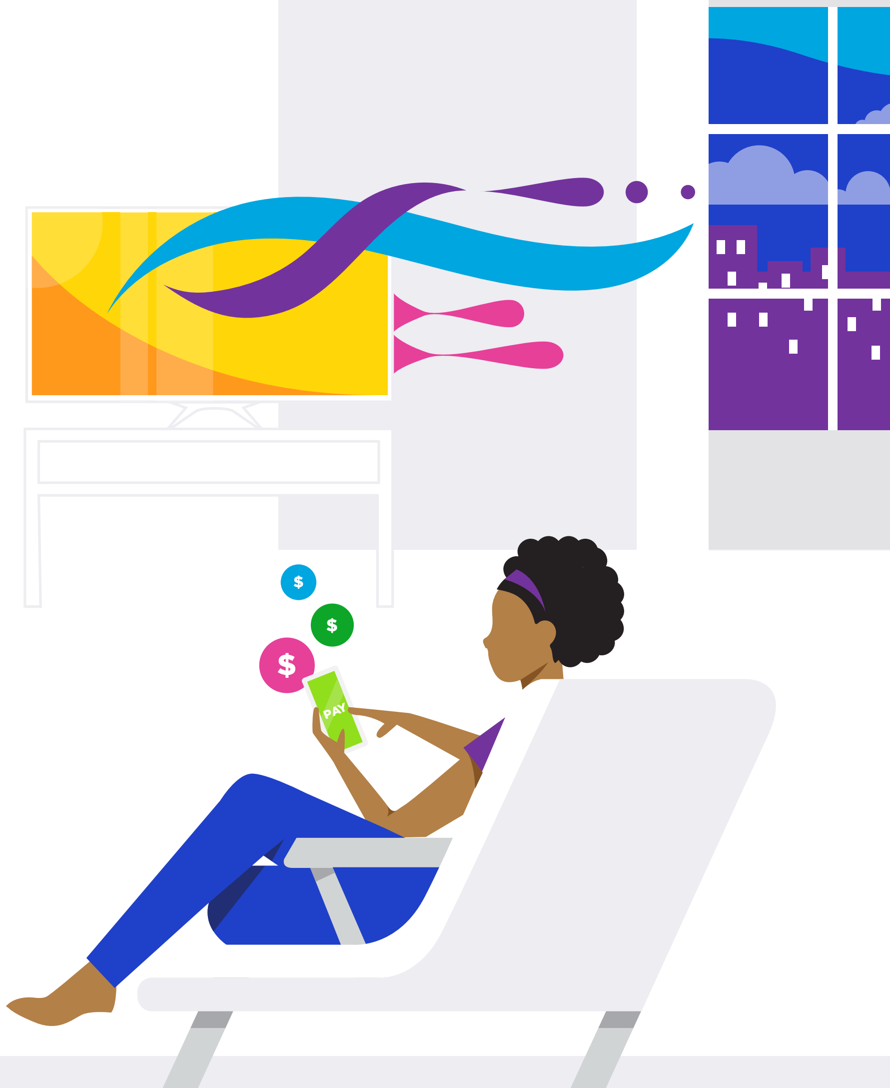
Netflix, Prime Video, Hulu, Amazon Prime Video purchases/rentals	13%
Netflix, Prime Video, Hulu, Disney+	12%
Netflix, Prime Video, Disney+, Amazon Prime Video purchases/rentals	11%
Netflix, Hulu, Disney+, Amazon Prime Video purchases/rentals	10%
Prime Video, Hulu, Disney+, Amazon Prime Video purchases/rentals	9%

How Much Do Customers Pay for Their Video Services Per Month?



*Broadband subscribers only pay **$5 more** per month than pay-TV subscribers for their subscription streaming (SVOD) video services – the equivalent of roughly one additional service.*

Pay-TV customers spend around $111 per month for their bundle of services (including internet service). Also, survey respondents overall noted spending an average of $21 per month on Transactional Video on Demand (TVOD) video rentals or purchases from services like iTunes or Google Play.

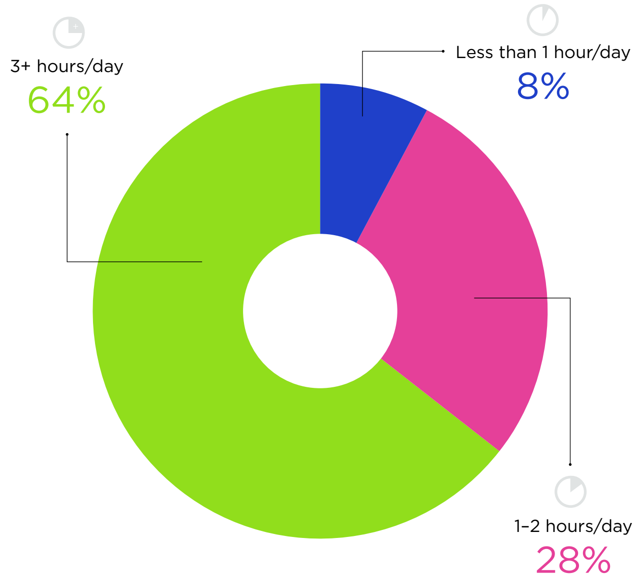


The Average Pay-TV Viewer Still Watches 4+ Hours Per Day

Even as some lockdowns have eased, the COVID-19 pandemic has kept people in their homes and glued to their TVs. We asked respondents how much of their viewing time was spent watching various types of TV services, and 92 percent of pay-TV customers say they watch at least one hour per day, while the average viewer watches 4.2 hours per day.

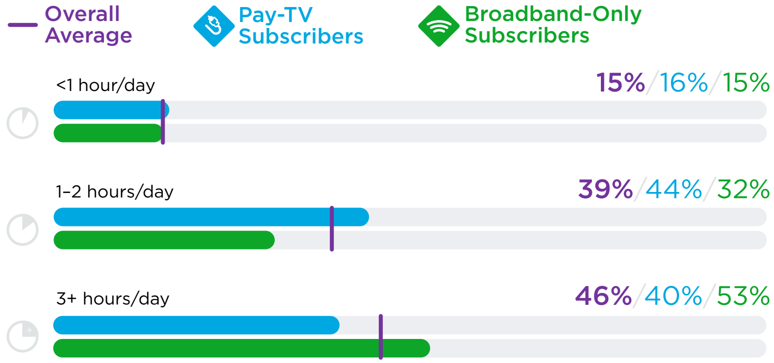
Daily Viewing Time (Pay-TV Service)

Percentage of respondents who have this service type



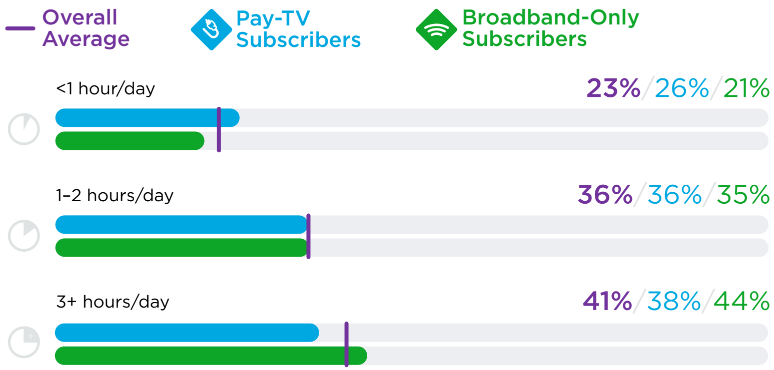
Daily Viewing Time (vMVPDs)

Percentage of respondents who have this service type



Daily Viewing Time (Free Broadcast TV from Antenna)

Percentage of respondents who have this service type



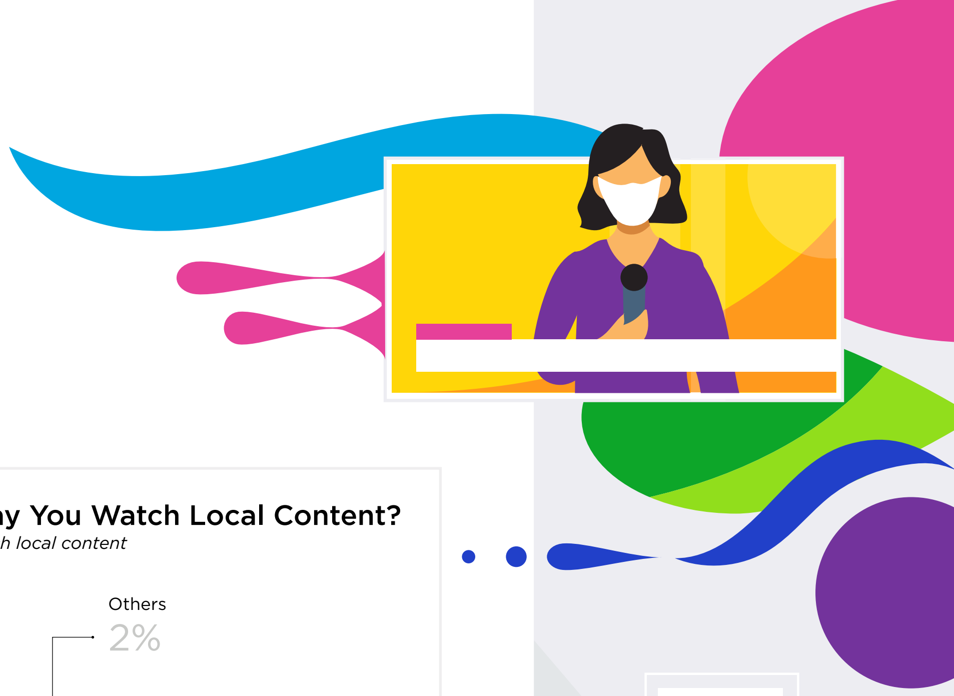
85%

of respondents who have vMVPD service watch at least one hour of live and on-demand virtual content per day via this service — 3 hours per day on average.

77%

of those who watch free broadcast TV from antenna watch for at least one hour per day — 3 hours per day on average.

In Times of Great Uncertainty, Local Content Is Key

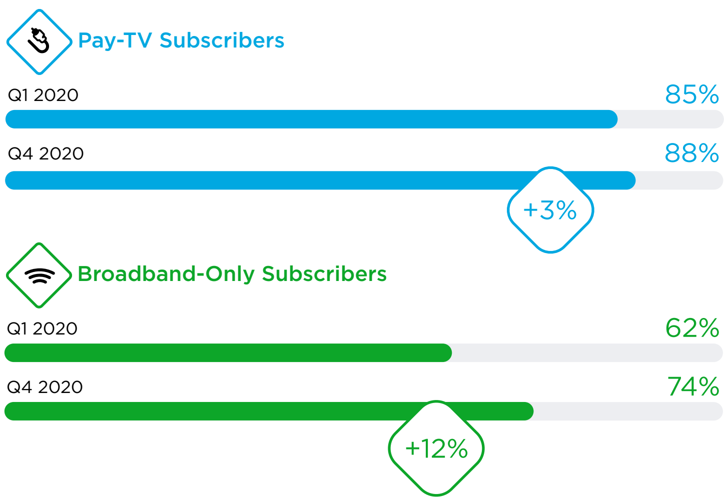


Overall, 83 percent of survey respondents said they consider viewing local content important, a 10 percent increase since 2019.

Broadband-only customers report spending an average of 19 percent of their daily viewing time watching local content, a 5 percent increase since Q1 2020.

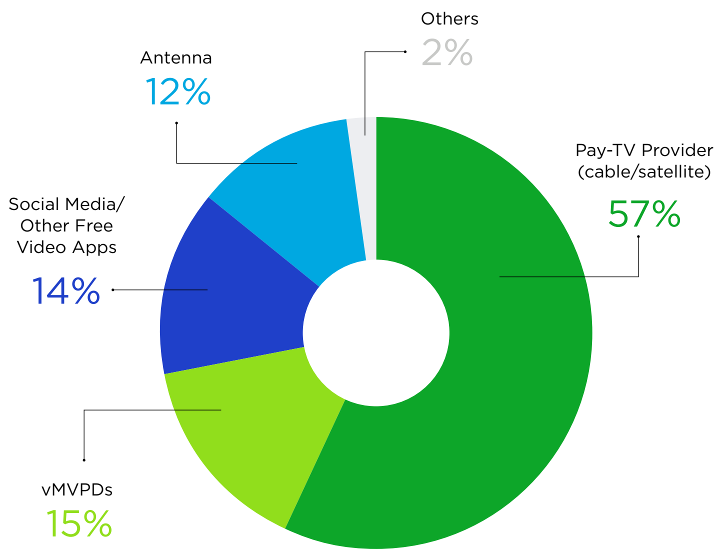
Consider Viewing Local Content Important

Percentage of respondents



What's the Primary Way You Watch Local Content?

Percentage of respondents who watch local content



Hands down, pay TV remains the most popular medium for accessing local content; vMVPDs are second.

Are VMVPDs (and AVODs) Bringing New Life to the EPG?

Electronic Program Guides (EPGs) are seemingly more important than ever for vMVPD customers. When we asked survey respondents who subscribe to a vMVPD to identify the key benefits of using such a service (i.e., Sling TV, YouTube TV or Hulu+ Live), 49 percent answered: “the ability to access live content through a guide;” up 11 percent since the end of 2019.

What Are the Key Benefits of Using a vMVPD Service?

Percentage of respondents who have this service type
(Respondents could choose more than one answer)

Access to live content through a guide 49%

Cost 47%

Ease of access through multiple devices 41%

Access to local content 37%

No contracts 20%

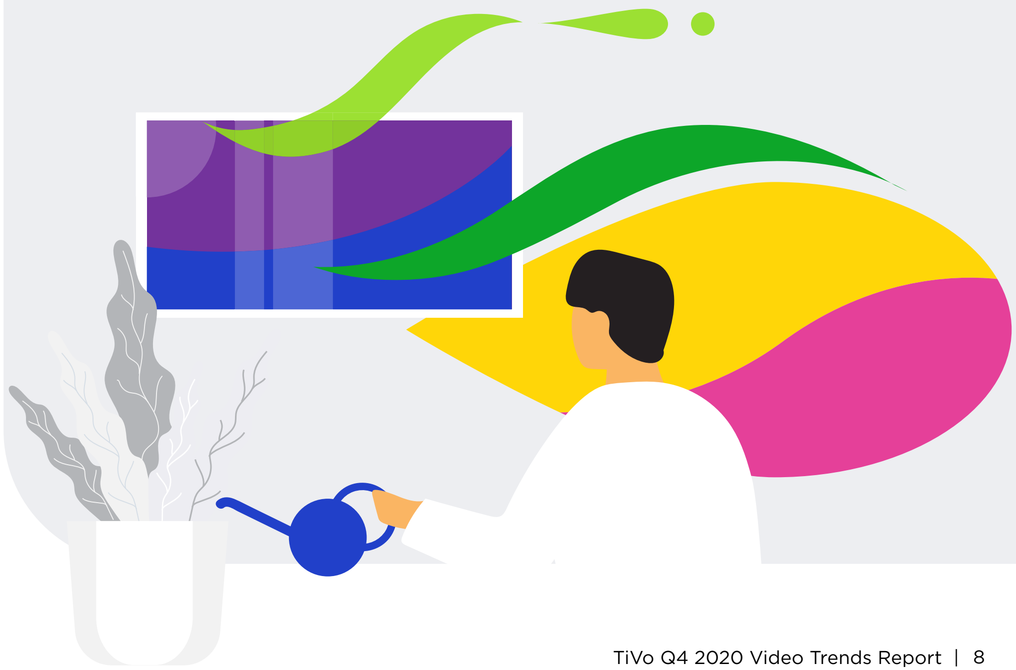
Can cancel a pay-TV provider you dislike 16%

What Type of AVOD Experience Do Consumers Want the Most?

Percentage of respondents who watch AVOD

A free service that offers **LIVE** TV channels in a guide 38%

A free service that offers an **ON-DEMAND** library of TV shows and movies 46%

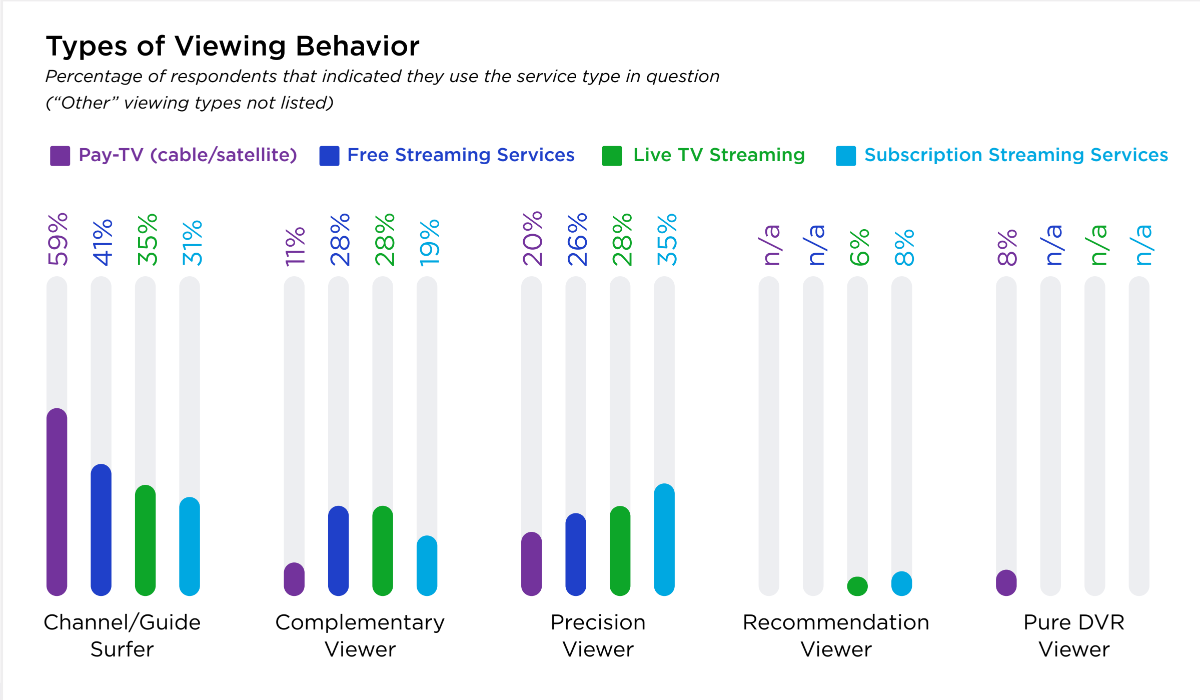


Surfing Remains the Preferred Viewer Behavior

Identifying the patterns of viewer navigation to videos on various platforms can tell us a lot about each video service's strengths, weaknesses and improvement opportunities; it also offers insight on maximizing user experience for each different type of viewer.

In this report, we've defined a number of different viewing behavior types:

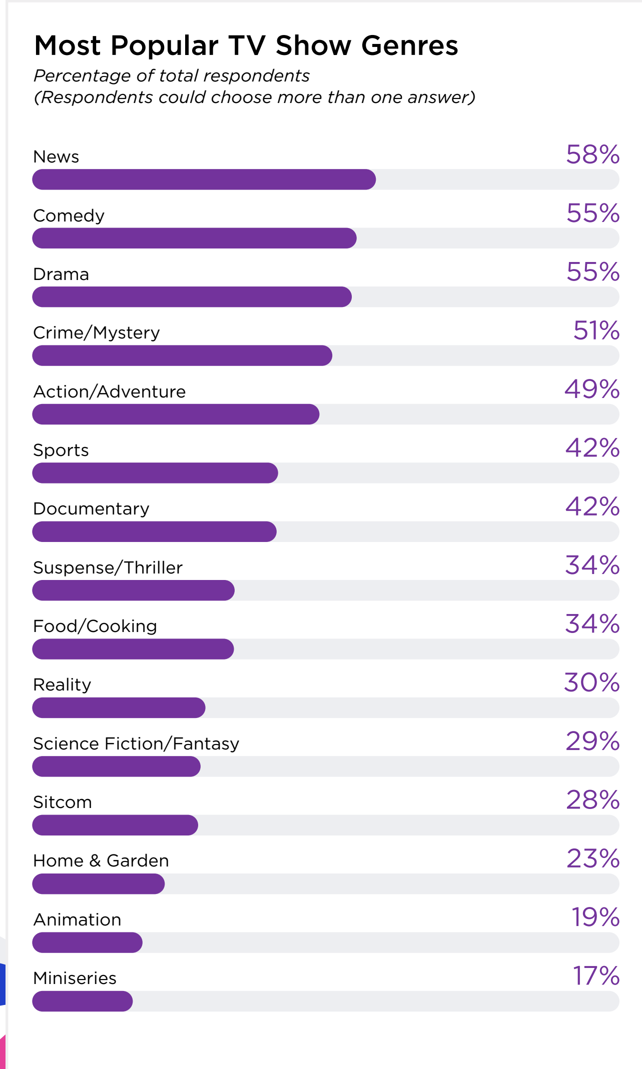
- ***Surfers*** click through channels, apps, guides or videos to see what looks interesting in the moment.
- ***Complementary Viewers*** watch videos while doing other activities—multitasking or using content as background noise.
- ***Precision Viewers*** have a particular video in mind beforehand, and they search for and navigate to that exact video without being distracted by other options.
- ***Recommendation Viewers*** are consumers who watch the content recommended to them by their subscription streaming service.
- ***Pure DVR Viewers*** are pay-TV customers who primarily watch shows or movies they recorded ahead of time.

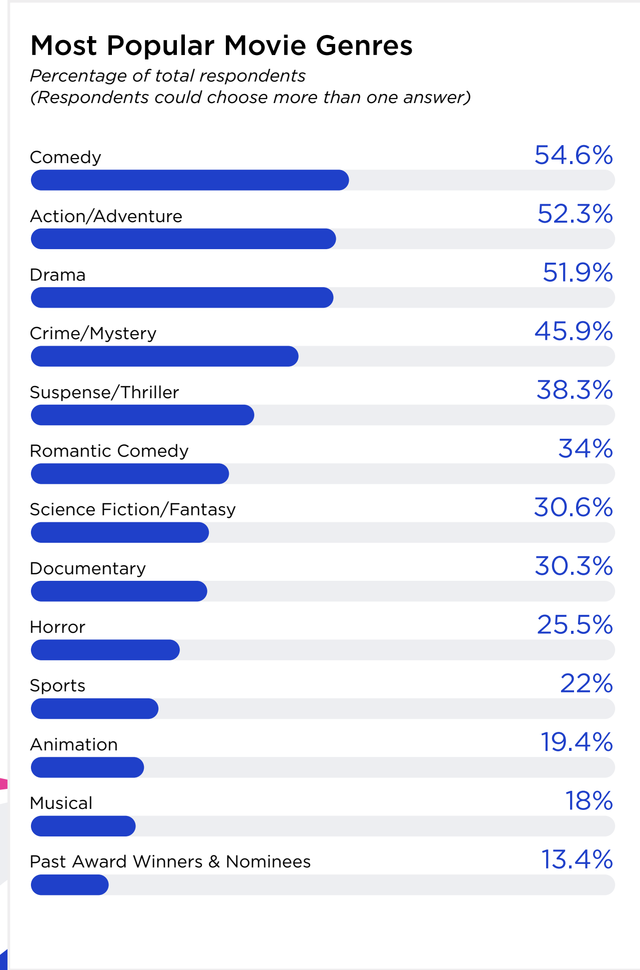


2020 … a Newsworthy Year (Among Other Things)

As one might expect in 2020, news was ranked most important TV genre by survey respondents. But, other spikes seen early in pandemic lockdowns—the brief increase in popularity of animation and kids shows, for example—have largely subsided.

As with most years, comedy, action, drama and crime top the charts for both TV shows and movies. Each of these popular content genres were important to pay-TV viewers before the pandemic. Now, the distraction provided by their engrossing narratives is more important than ever. Seasonal changes have been consistent as well—by Fall 2020, horror movie popularity had increased by 10 percent since the beginning of the year. While sports viewership took a major hit due COVID-19-related event cancellations, 42 percent of survey respondents indicate they still highly value sports TV programming.



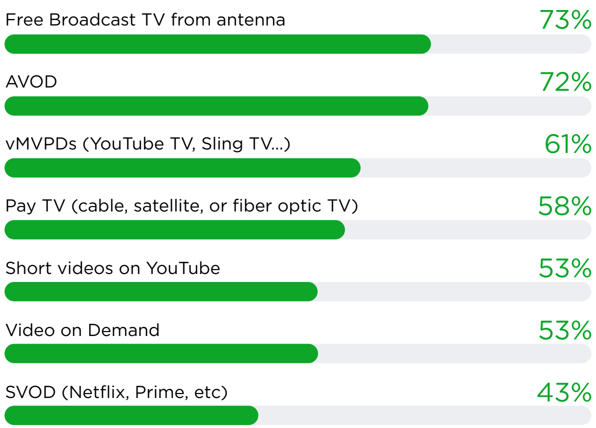


Respondents Are More Than Willing to Watch Ads to Get Free Content

Contrary to popular belief, most viewers don't mind ads (including nearly three-quarters of consumers watching broadcast TV from antenna or AVOD).

Like or Don't Mind Ads or Commercials When Watching TV

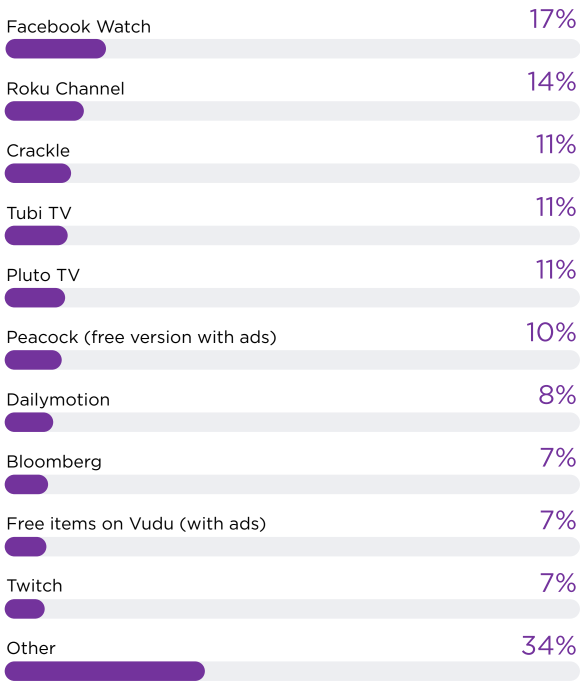
Percentage of respondents that indicated they use the service type in question



The volume of average daily views on TiVo+ has ***increased roughly 90%*** *since Sept 2020.*

Most Popular AVOD Services <u>Other Than YouTube</u>

Percentage of total respondents
(Respondents could choose more than one answer)



AVOD is an Increasingly Reliable Substitute for Those With Cost Concerns

83% of survey respondents said that canceling paid services and using free, ad-supported services is a good way to save money.

79% said they would rather use free, ad-supported streaming than subscribe to another paid service.

81% wish that paid streaming services like Netflix or Prime Video offered a free, ad-supported option.

Still, the quality of AVOD content remains an issue with consumers. 80% of survey respondents reported that, compared to paid-services, the shows and movies on free ad-supported streaming aren't as good.

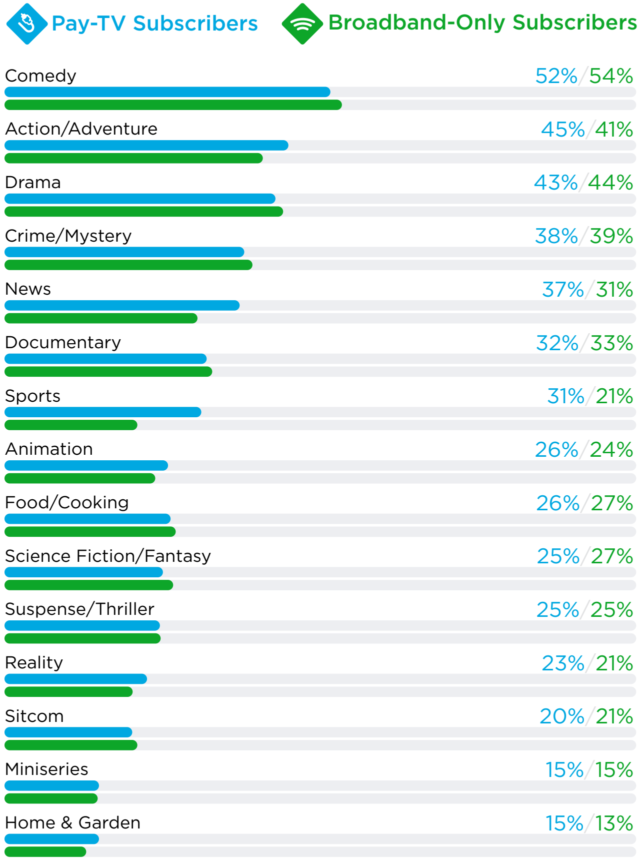
Comedy Tops AVOD Genres Across Both TV & Movies

When asked which types of videos they watch when using free streaming video services ***other than YouTube***, 66 percent of survey respondents who use these services reported watching TV shows, 62 percent movies, and 16 percent “other” types of content. Also, comedy, drama, action and crime all secured the top spots for AVOD genre popularity.

News and horror topped TiVO+ TV and movie genre views during the month of November (27% and 22% of total views, respectively).

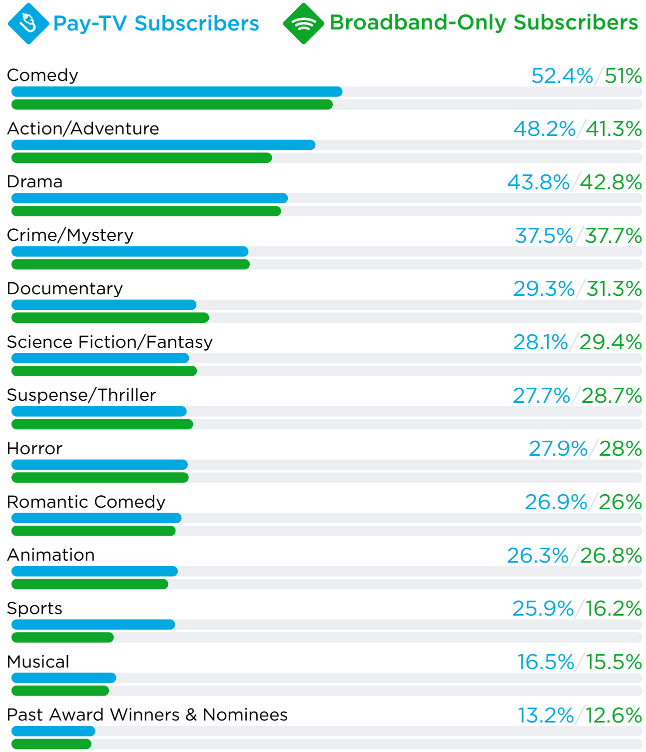
Most Popular TV SHOW Genres for AVOD Users

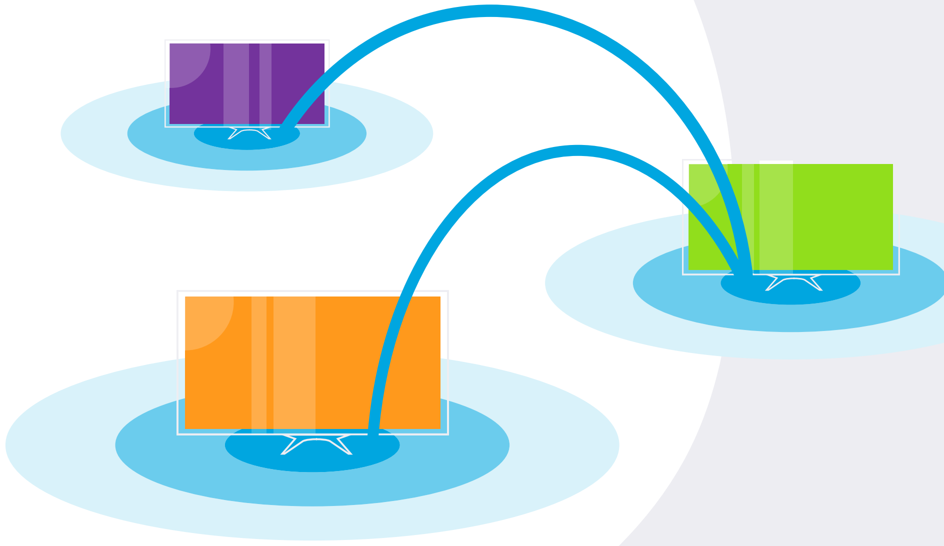
Among respondents who use AVOD services or TVE apps (Respondents could choose more than one answer)



Most Popular MOVIE Genres for AVOD Users

Among respondents who use AVOD services or TVE apps (Respondents could choose more than one answer)





COVID Drives “Subscription-Hopping”

Combine this stay-at-home “COVID” lifestyle, a deluge of new OTT offerings with no cancellation limitations, parents’ undying need to entertain their children, and others simply running out of things to watch, and you’ve got a fantastic recipe for service-hopping. Simultaneously, others have found themselves in tough financial straits, short on time or simply wanting to replace their current services with something new.

When we asked respondents about “subscription-hopping” due specifically to COVID-19...

+

25% Noted Adding at Least One New Video Subscription Due to their COVID-19 Situation

Why Consumers Added Subscriptions

Percentage of respondents indicating adding subscriptions (Respondents could choose more than one answer)

We’re at home more and have more time to watch	63%
There was a deal or special offer (free trial, etc.)	38%
There was a specific show or movie we wanted to watch	36%
We need to entertain our kids	26%
We ran out of things to watch on our other services	19%
I need new ways to keep up with the news	11%

-

15% Noted Canceling at Least One Video Subscription Due to their COVID-19 Situation

Why Consumers Canceled Subscriptions

Percentage of respondents indicating canceling subscriptions (Respondents could choose more than one answer)

Our household income has been affected by coronavirus	45%
We are tightening our budget just in case	39%
We realized we weren’t watching them enough	35%
We don’t have time to watch them right now	28%
We watched everything we wanted to watch on that service	26%
We wanted to switch to a different video service instead	17%
Sports were not being played at the time	10%

Subscriptions "Hopped" During COVID

Percentage of total respondents

	Added	Canceled
Netflix	14%	7%
Disney+	9%	4%
Prime Video (Amazon)	8%	5%
Hulu	8%	5%
YouTube TV	6%	3%
HBO Max	6%	3%
AT&T TV Now	6%	3%
Pay-TV service (cable, fiber or satellite)	5%	4%
Hulu + Live TV	4%	2%
CBS All Access	3%	2%
Other	5%	4%

Will Movie Theaters Ever Be the Same?

During the pandemic, studios released new movies directly to streaming. Twenty-nine percent of survey respondents say they are interested in paying to view a new movie release at home rather than going to a theater during the pandemic; 31 percent say they would be interested in this option even after the pandemic is over.

Around half of survey respondents are not interested in paying to view new movie releases at home, either now (51%) or after the COVID-19 crisis has subsided (45%).

29%

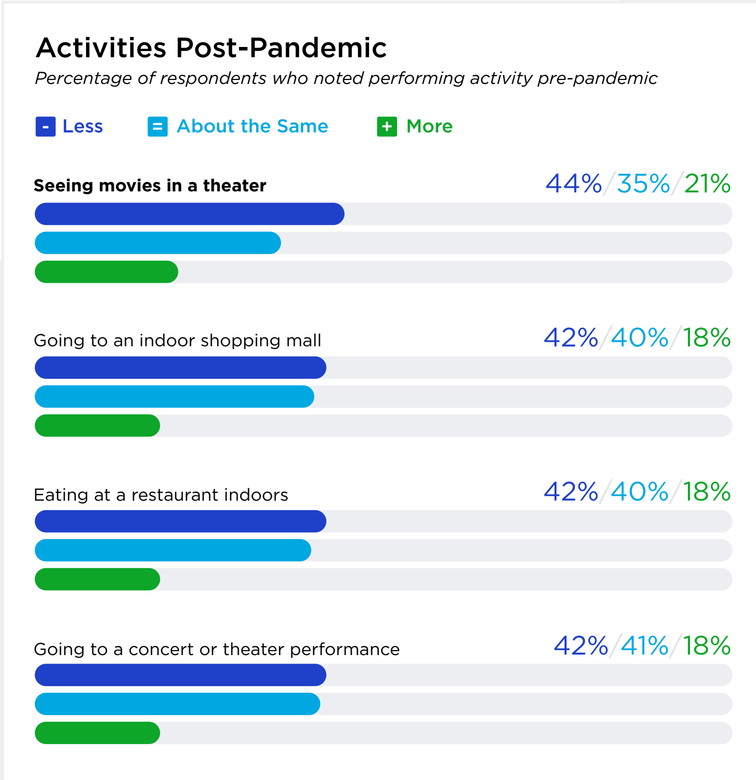
are interested in paying to view a new movie release ***at home***

31%

are interested in viewing new movie releases at ***home even after pandemic is over***

Percentage of total respondents

More than 40 percent of survey respondents reported that, even after the COVID-19 situation has subsided, they will participate less in potentially crowded activities like going to the movies, eating at restaurants indoors, going to the mall or attending concerts.

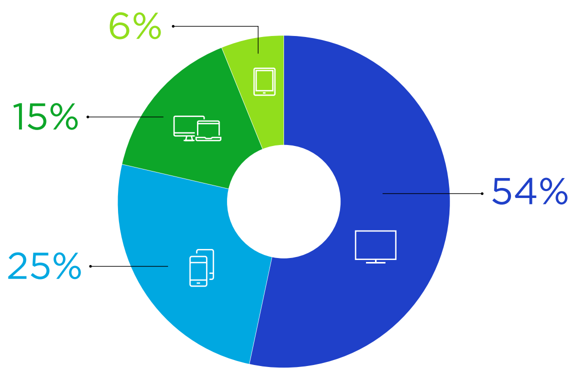


TVs (Overwhelmingly) Are the Favorite Screens for Streaming

- On a TV
- On a smartphone
- On a computer (laptop or desktop)
- On a tablet

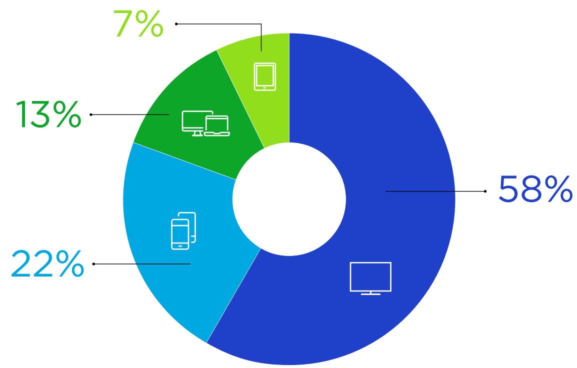
Screen On Which Viewers Most Often Watch **AVOD**

Percentage of respondents who view this type of content



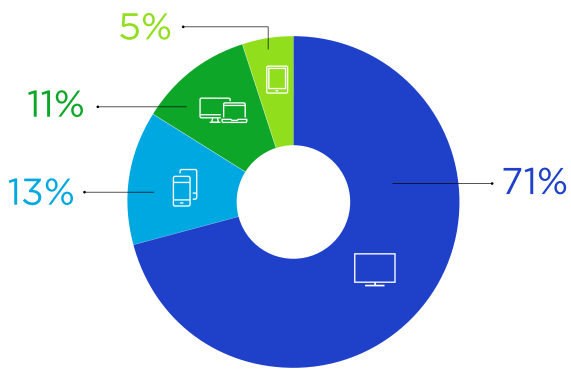
Screen On Which Viewers Most Often Watch **vMVPDs**

Percentage of respondents who view this type of content



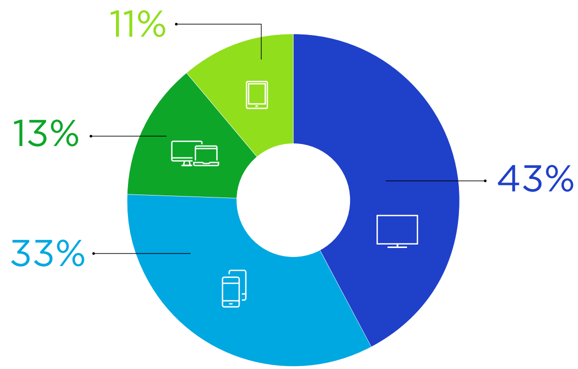
Screen On Which Viewers Most Often Watch **SVOD**

Percentage of respondents who view this type of content

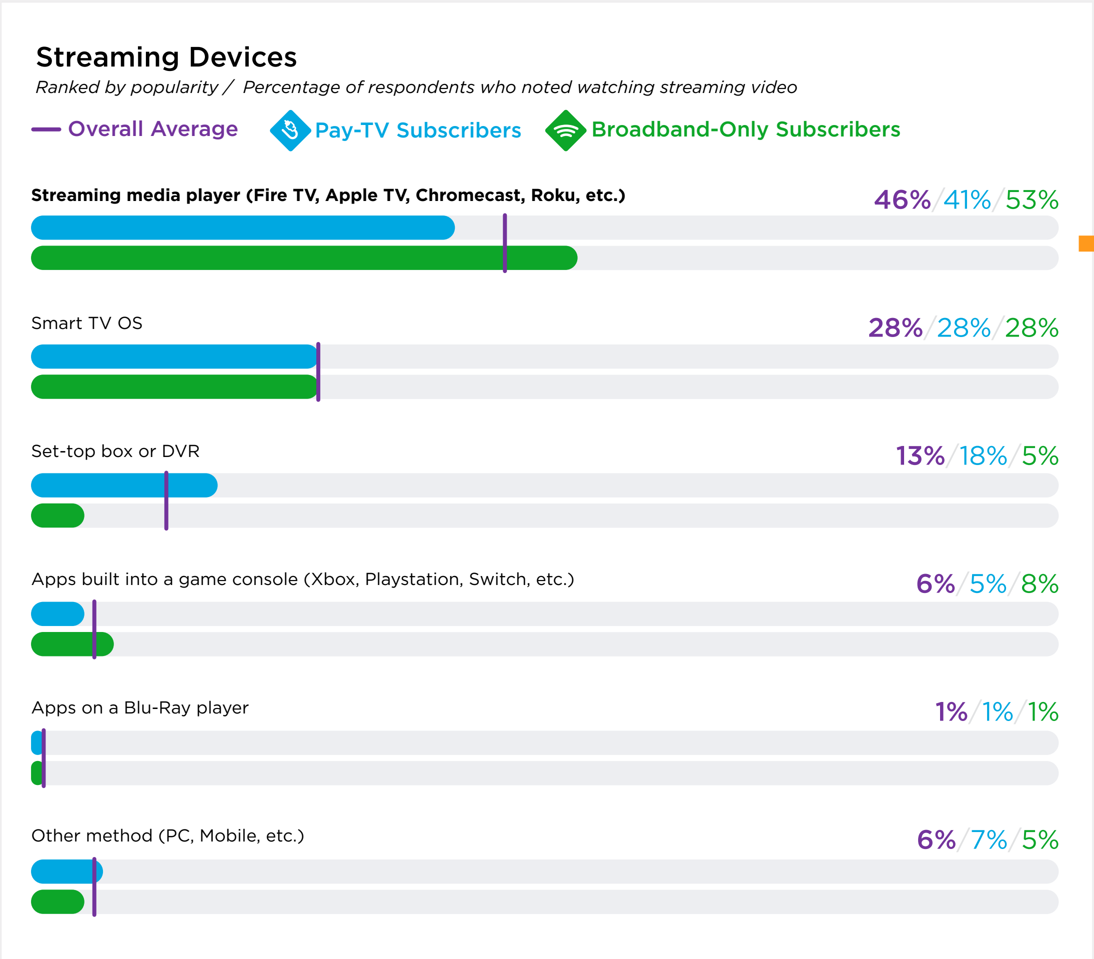


Screen On Which Viewers Most Often Watch **TVE/Network Apps**

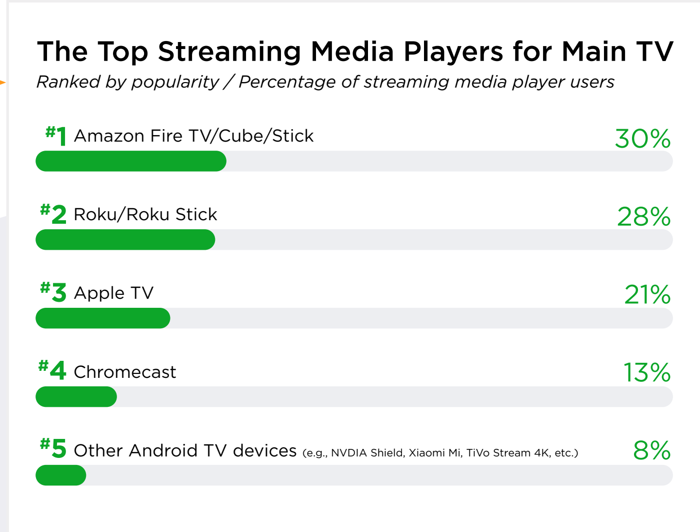
Percentage of respondents who view this type of content



Media Players Top Smart TVs as Favored TV Streaming Devices



Of survey respondents indicating they watch streaming video apps on their smart TV or streaming media player, 49 percent use the device's interface to go to the app they want, while only 6 percent prefer using voice control.



Over 60% of Respondents Own a Smart TV

Sixty-three percent of respondents currently own at least one smart TV; 22 percent say they purchased a new smart TV in the last six months. Half were replacing a non-smart TV, while around 40 percent were upgrading from a different smart TV. Here are the brands they purchased:

Top 10 Smart TV Brands Recently Purchased

Percentage of respondents indicating they purchased a smart TV in the last 6 months

Samsung	40%
LG	17%
Sony	10%
TCL	6%
Vizio	6%
Hisense	6%
Insignia (Best Buy brand)	2%
Panasonic	2%
Toshiba	2%
Onn (Walmart brand)	2%
Other	7%

Top 5 Smart TV Operating Systems

Percentage of respondents who currently own a smart TV

Samsung Tizen	20%
Android TV - in smart TVs from Sony, Phillips, etc.	20%
Roku TV - in smart TVs from TCL, Hisense, etc.	19%
LG TV webOS	9%
Fire TV - in smart TVs from Insignia, Toshiba, etc.	6%
Other	7%
I don't know my operating system	19%

Choosing a Smart TV

When consumers are picking a smart TV, they are weighing a number of factors to make their decision. The top three factors were:

57% Image Quality

57% Cost

48% Brand

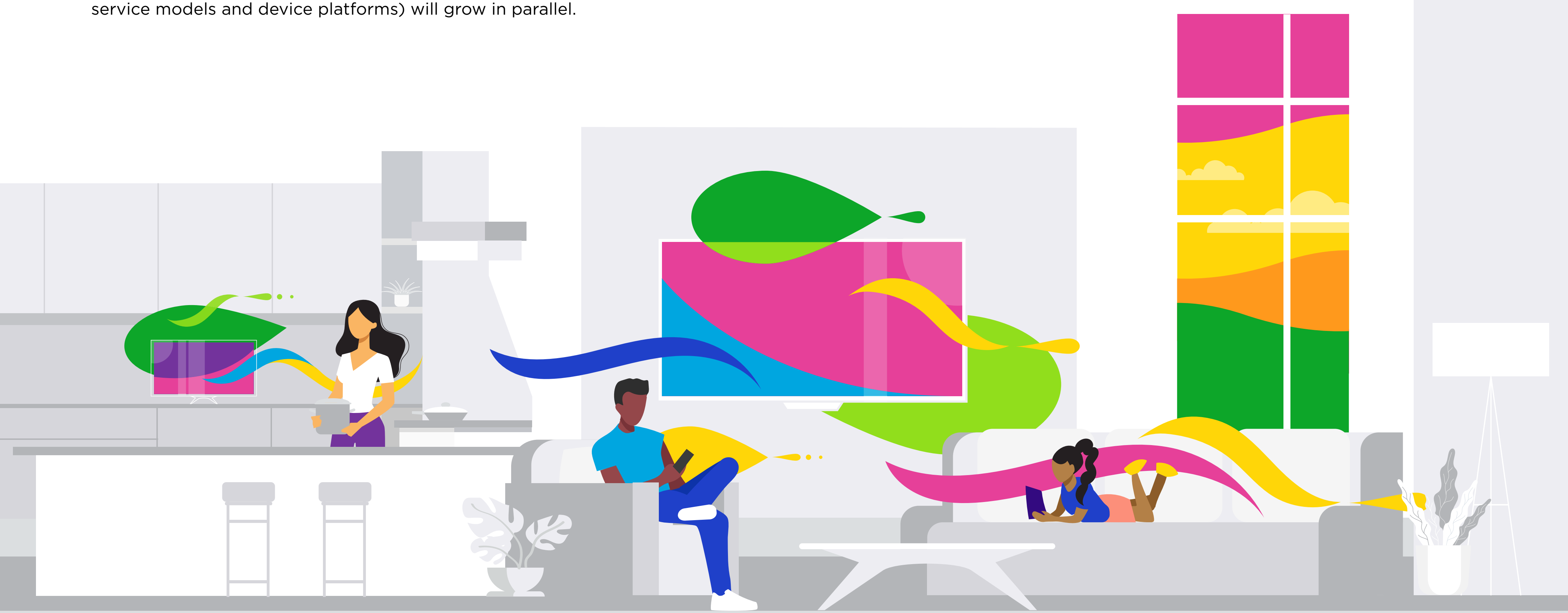
Percentage of total respondents

Others included quality of built-in speakers, remote control design, ability to connect with other devices and physical appearance.

Part One Conclusion

Global Pandemic Pushes the Video Landscape to New Highs

The COVID-19 pandemic has changed the way we live, work and use our free time. As people remain apprehensive about returning to crowded entertainment venues and spend a larger portion of their time inside the home in front of personal screens, the desire for video content continues to grow. As this demand goes unchecked, the video bundle is also shifting dynamically to a larger mix of streaming services in which new and different options (including various service models and device platforms) will grow in parallel.



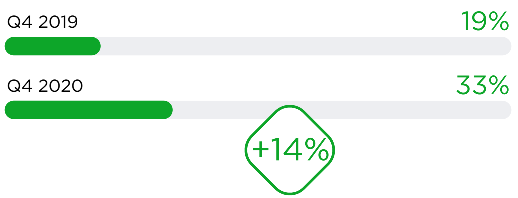
Part Two

Overwhelming Demand for Superior Content Discovery

Ninety-two percent of survey respondents are interested in having the ability to view, browse and search all of their available content (everything they can watch from any of their current video services) from a single guide or menu. Thirty-three percent say they are “Extremely Interested” in this function. Similarly, 88 percent are interested in the ability to pay for all their video services from a single guide or interface, rather than navigating a website or apps to pay separate bills. Around 30 percent say they are “Extremely Interested” in this function.

“Extremely Interested” in the Ability to View, Browse and Search All Available Content From a Single Guide or Menu

Percentage of total respondents



“Extremely Interested” in the Ability to Pay for All Services Through a Single Interface

Percentage of total respondents

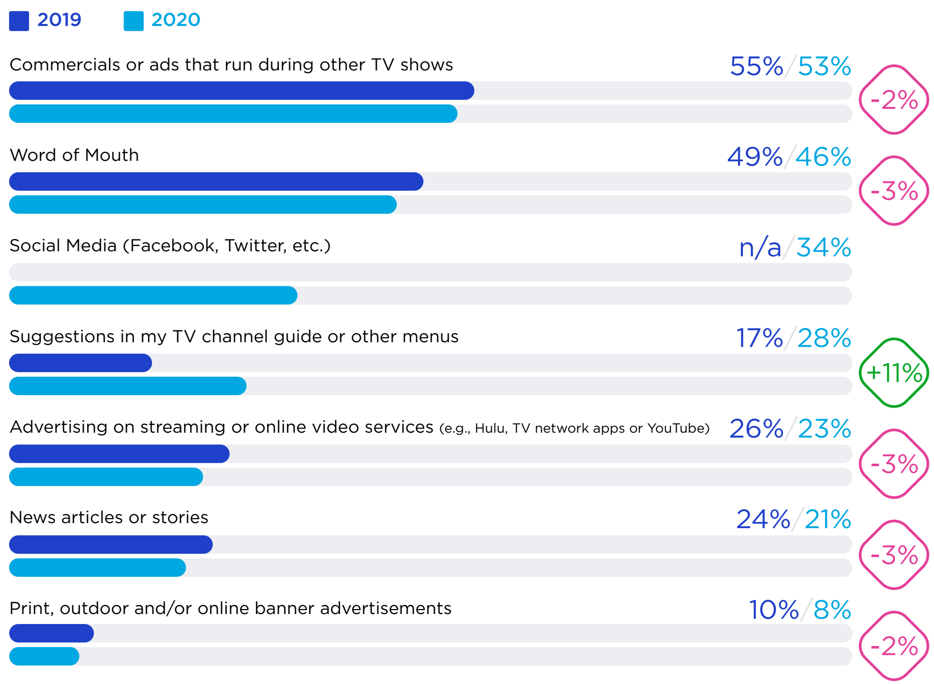
EPG Discovery on the Rise

Traditionally, viewers learn about new TV shows or movies through advertising during other TV shows, word-of-mouth suggestions or social media. Now, more than ever, viewers are learning about new content through their channel guides or other menus (+11% YoY).

When given the choice, survey respondents said they're most likely to utilize their pay-TV service (47%) or subscription streaming services (40%) to find something new to watch.

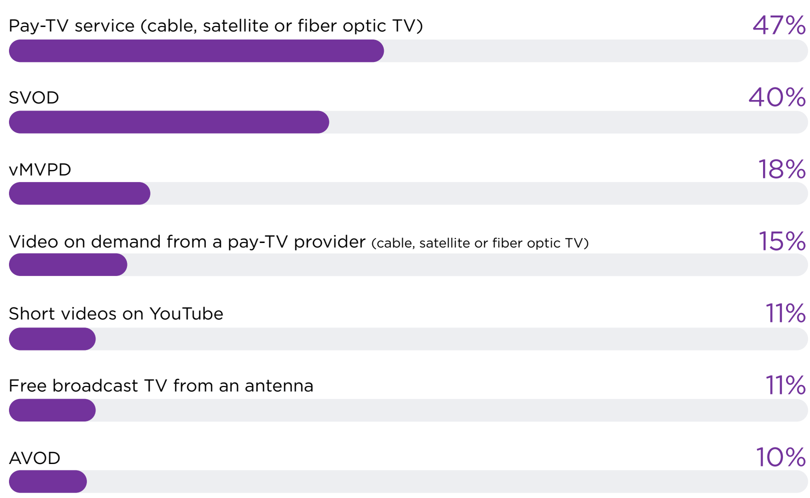
How Viewers Discover New Movies/TV Show To Watch

Percentage of total respondents (Respondents could choose more than one answer)



Where Viewers Go to Find Something New to Watch

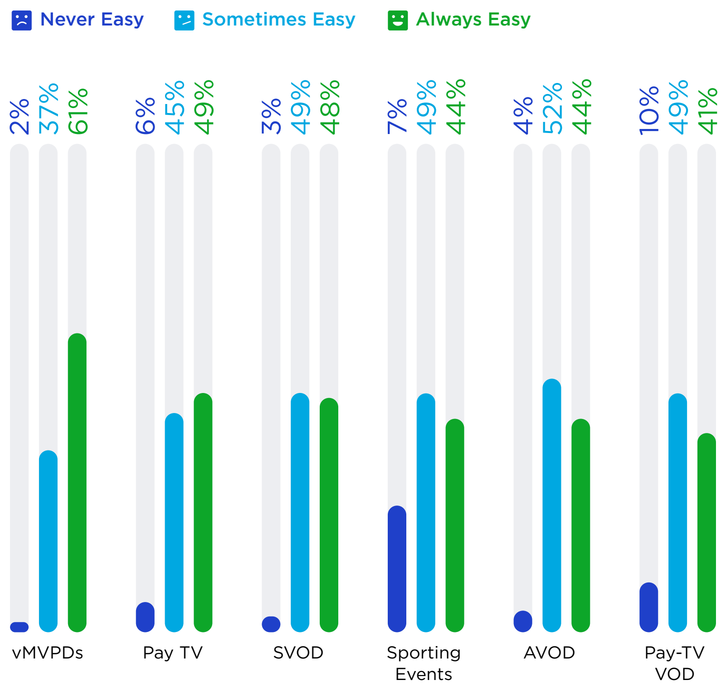
Percentage of total respondents
(Respondents could choose more than one answer)



+60% vMVPD Respondents: It's "Always Easy" to Find Something to Watch

Ease of Use

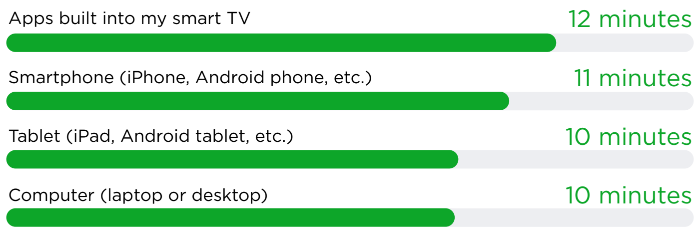
Respondents using the service type in question



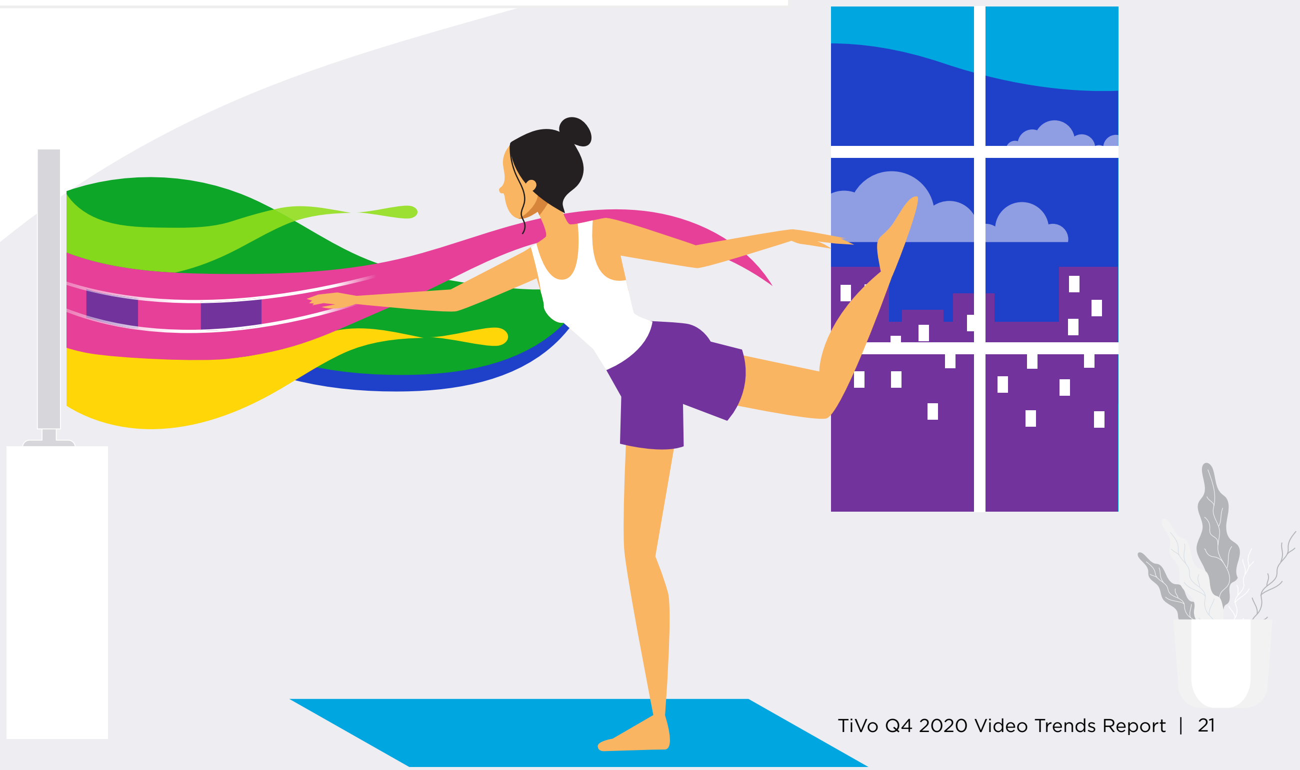
2% of vMVPD respondents say it's never easy to find something to watch.

Average Discover Time (By Device)

Average of respondents (if device was used in the past 6 months to watch video)



11% of smart TV users spend more than 30 minutes trying to find something to watch on their smart TV.



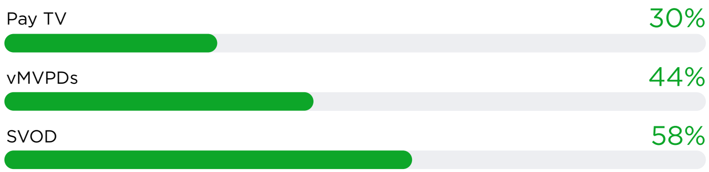
Recommendations: Actively Connecting the Dots Between Discovery & Engagement

Recommendations Awareness Grows Slowly

While recommendations awareness is still relatively low, it is growing. Fifty-eight percent of subscription streaming viewers are aware that their video service makes personalized recommendations. vMVPD viewers lag behind at 44 percent. While pay-TV customers have the lowest recommendations awareness of any group surveyed (30%), their numbers are growing the fastest—6 percent higher than in 2019.

Percentage Awareness of Personalized Recommendations

Respondents using the service in question



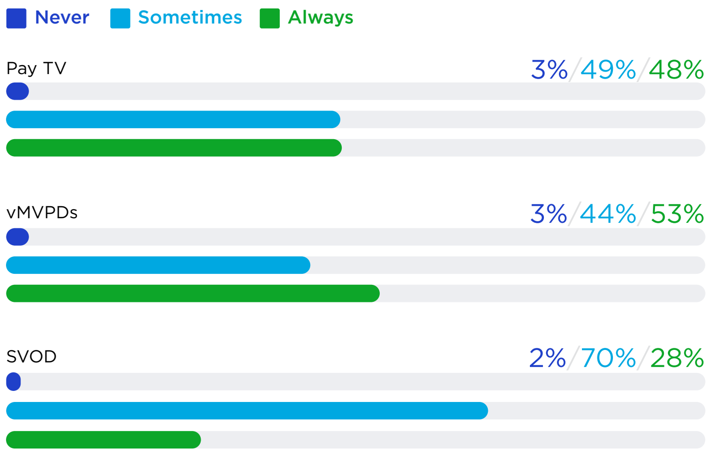
40% of total respondents indicated they didn't use personalized recommendations on any medium.

Consumers Increasingly Confident In Video Recommendations

As recommendation technology improves, consumers are also showing more trust and confidence in their video services' recommendations. Ninety-eight percent of respondents said recommendations from their subscription streaming service are "sometimes" or "always" relevant. Ninety-seven percent of vMVPD customers and 97 percent of pay-TV customers say their recommendations are "sometimes" or "always" relevant.

How Relevant are Recommendations?

Respondents using the service in question



45%

When provided a recommendation by their ***pay-TV service****, customers report watching the recommended show or movie 45% of the time.*

Respondents who use pay-TV service

42%

When provided a recommendation by their ***streaming service****, customers report watching the recommended show or movie 42% of the time.*

Respondents using SVOD and vMVPD services

Voice Technology Hitting Stride

More consumers than ever before are aware of the voice search capabilities of their devices (+6% YoY), and more are using voice search than ever before. Forty-two percent of survey respondents indicate at least one of their devices has voice search capabilities, around 11 percent higher than in 2019. Twenty-nine percent of survey respondents reported using voice search functions to find something to watch, around 11 percent higher than in 2019.

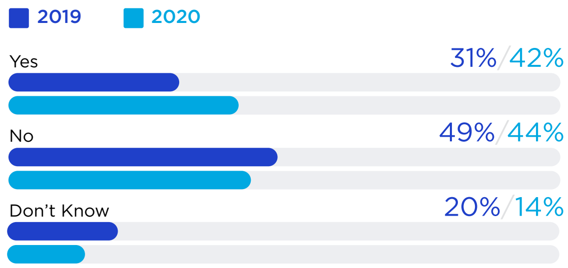
It takes 9 minutes on average for someone to find a TV show or movie by typing into a search box.

It takes 12 minutes on average for someone to find a TV show or movie by using their voice, down from nearly 19 minutes in Q1 2020.

Average across respondents using the above search types.

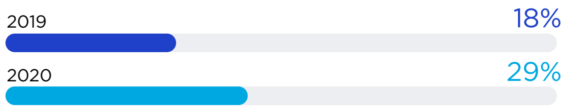
Have Access to Voice Search

Percentage of total respondents



Use Voice Search

Percentage of total respondents



As consumers spend more time at home with their video devices during the pandemic, they are becoming more comfortable using their voice search technology. Daily voice search usage ***among the TiVo viewing population has increased by 25-30%* since pre-Covid months in 2020.***

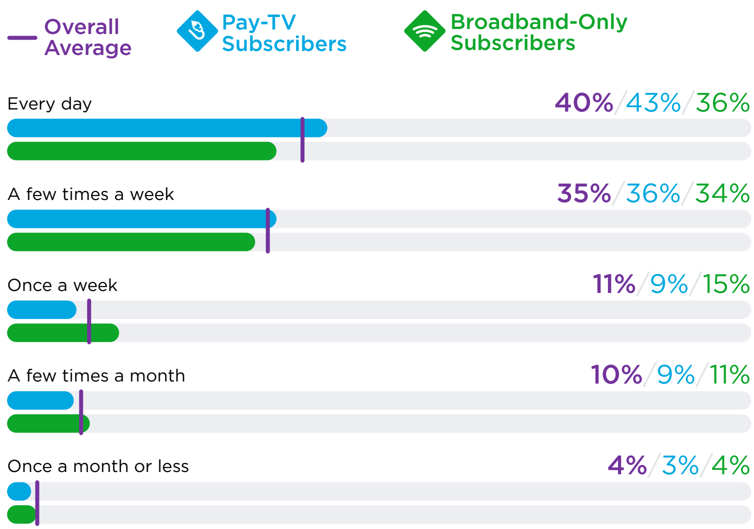
**TiVo LINUX STBs only*

With Better Results, Trust Increases

Even among skeptics (i.e., survey respondents who do *not* use voice search), trust in voice search is increasing considerably as people receive better and better results. Since 2019, the number of respondents indicating they'd tried voice search but experienced poor results decreased by 16 percent. In parallel, the number of those indicating voice search is just a gimmick decreased by 16 percent YoY.

How Often Consumers Use Voice Search (per week)

Percentage of respondents using voice search

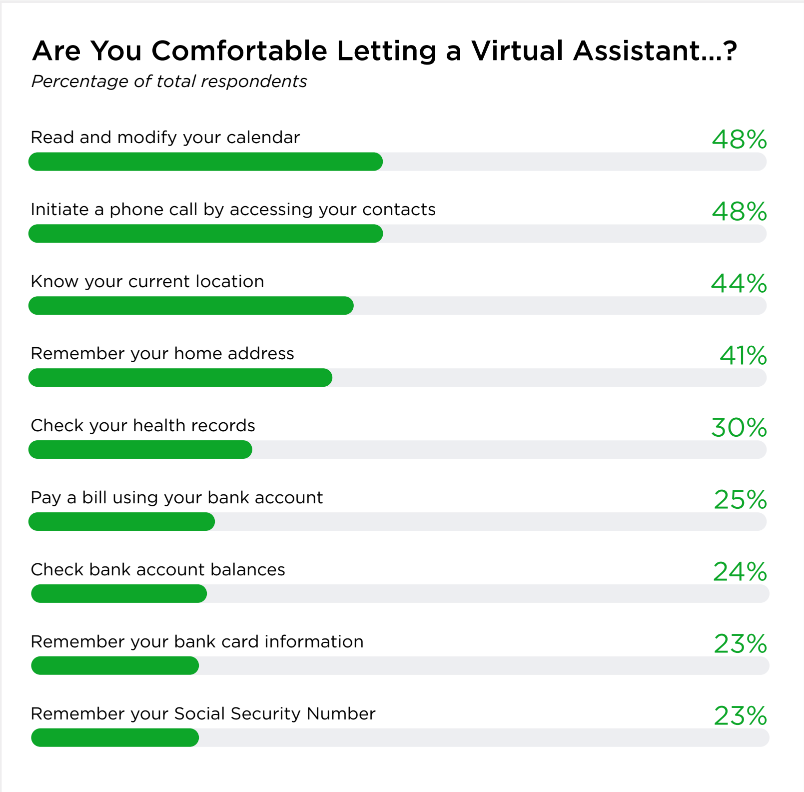


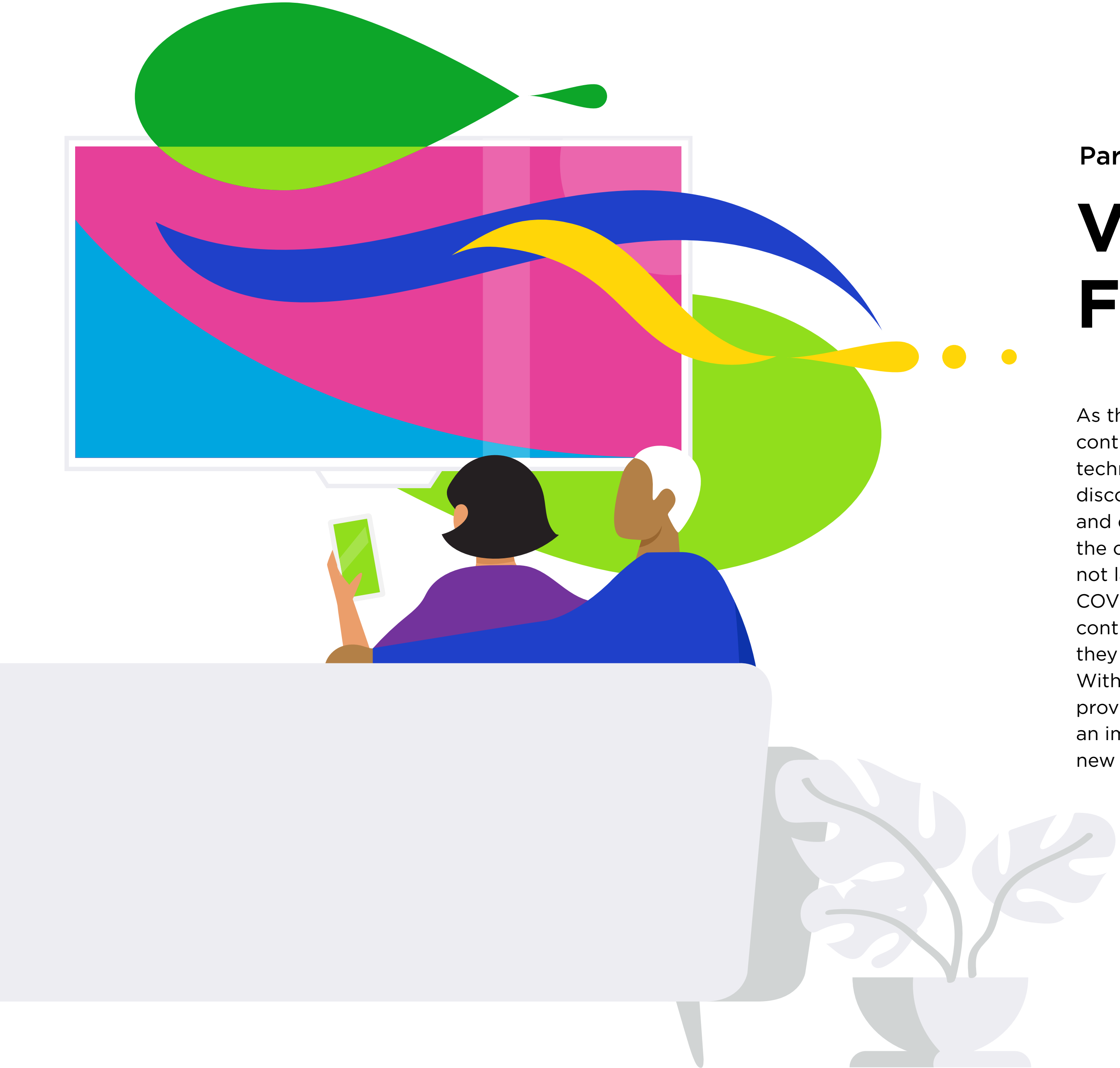
Virtual Assistants Key Role (for Voice)

Consumers are increasingly comfortable letting virtual assistants complete more tasks and have access to even more of their personal information. Still, comfort levels vary dramatically depending on the context.

While nearly half of survey respondents said they were comfortable letting a virtual assistant read and modify their calendar or initiate a phone call, far fewer are comfortable letting them check bank account balances, remember bank card information or remember their social security number.

__51%__ of survey respondents noted using some form of virtual assistant (Alexa, Siri, Google Assistant, Cortana, etc.) Of those, __56%__ actually allow their device to learn their voice.





Part Two Conclusion

Video Market in Fast-Forward

As the pandemic continues forward and consumers continue to drown in a sea of content, devices and technology options, the demand for video and the discovery technology necessary for delivering content and driving engagement has never been higher. While the current "accelerated" state of the video market may not last forever, the market will continue to shift during COVID-19 and beyond, and consumers will inevitably continue to reassess what's working for them and what they still need and want from their video experience. With such a captivated audience already in place, video providers on both the content and technology sides have an immense opportunity to help consumers evolve into this new and constantly changing paradigm.