

MARKET RESEARCH

THE STATE OF ONLINE VIDEO 2019

The State of Online Video is Limelight Networks' latest in a series of surveys that explore consumer perceptions and behaviors around online video



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OVERVIEW

Limelight's State of Online Video 2019 research report highlights the latest findings in an ongoing series of consumer surveys about online viewing habits and opinions. This report is based on responses from 4,500 consumers in France, Germany, India, Italy, Japan, Singapore, South Korea, the United Kingdom, and the United States age 18 and older who watch one hour or more of online video content each week. Highlights of findings include:

- Online video continues to grow in popularity at the expense of traditional broadcast viewing. On average viewers spend six hours, 48 minutes per week watching various types of online video, a 59 percent increase since 2016. At the same time, television viewing fell ten percent to seven hours, 12 minutes in the last year.
- Smartphones are now the primary device chosen globally to watch online video, followed by computers, smart TVs and connected devices, and tablets. In the past year smartphones have overtaken computers as the primary viewing device.
- Movies are the most popular online video content, followed by TV shows, news, sports, professionally produced video content on social media sites, user generated content, and online gaming videos. In the past year there was a notable shift in viewing patterns in France with a 15 percent or greater increases in movie, TV shows, news and sports viewing. The United Kingdom had similar increases in news and sports watching.
- Binge watching is on the rise. In the past year there was an average increase of 18 percent globally, with viewers now binge-watching shows for an average of two hours, forty minutes at a time. 30 percent watch for three hours or more hours at a time.
- Latency matters. More than half, 58 percent, report being more likely to watch live sports online if the stream was not delayed from the broadcast.
- Subscription video on-demand (SVOD) services are gaining in popularity having increased 17 percent over 2018 to 70 percent of online viewers now subscribing to one or more SVOD service.
- Price can be the deal breaker. More than half of global consumers surveyed said price was the primary reason they would cancel a SVOD service.
- Cord-cutting accelerated in the U.S. with pay-TV subscription rates falling 18 percent, faster than the global average. Price remains the primary reason consumers would cancel their cable or satellite television subscriptions.
- Video rebuffering (when the video pauses during playback so it can reload) remains the most frustrating aspect of online viewing. Viewers expect high quality online experiences.
- Viewers are accepting of advertising in online video as long as the content is free, especially if it's a short pre-roll add, or ads can be skipped.

EXECUTIVE SUMMARY

Viewers globally are watching more online video and as a result, traditional broadcast television viewing time continues to fall, narrowing the now slim lead broadcast has over online viewing. For audiences age 35 and younger, online viewing time already exceeds traditional broadcast. With this shift, cord-cutting trends continue. However, it's interesting to note that cable and satellite TV subscribers on average have more SVOD services than non-cable subscribers.

Perhaps one cause of the increase in online video viewing is the ability to catch up on favorite shows at any time and for many viewers in one sitting. Binge-watching has increased in time significantly in the last year, by an average of 18 percent globally. On average viewers binge-watch shows for two hours, forty minutes at a time and 30 percent watch for three hours or more hours at a time.

In just the past year, Smartphones surpassed computers as the primary device used for online viewing globally. This mobile first shift will have implications across many aspects of live streaming.

Movies, TV shows, news and sports remain the most commonly watched type of online content. Yet with so many options and services available, content search is an increasing issue. With online content available on so many platforms, finding something to watch in among the many OTT providers will require new tools, as audiences still rely on a streaming service's website to decide what to watch. Once they have found a new show they like, many people will binge-watch it for hours at a time.

With the increasing online video consumption, expectations for performance and high quality have also increased. Viewers report that latency matters, especially in live sports viewing. The majority of respondents said they would be more likely to watch sports online if they knew the online stream was not delayed from the broadcast feed. Video rebuffering also remains the most frustrating aspect of online viewing. The average number of times a viewer will let a video rebuffer before they stop watching has dropped 19 percent in the last two years from 2.7 times in 2016 to 2.2 in 2019.

KEY FINDINGS

ONLINE VIDEO CONSUMPTION IS GROWING

Globally, people who watch online video spend an average of six hours, 48 minutes per week watching various types of content. Average viewing time is has grown 59 percent since 2016.

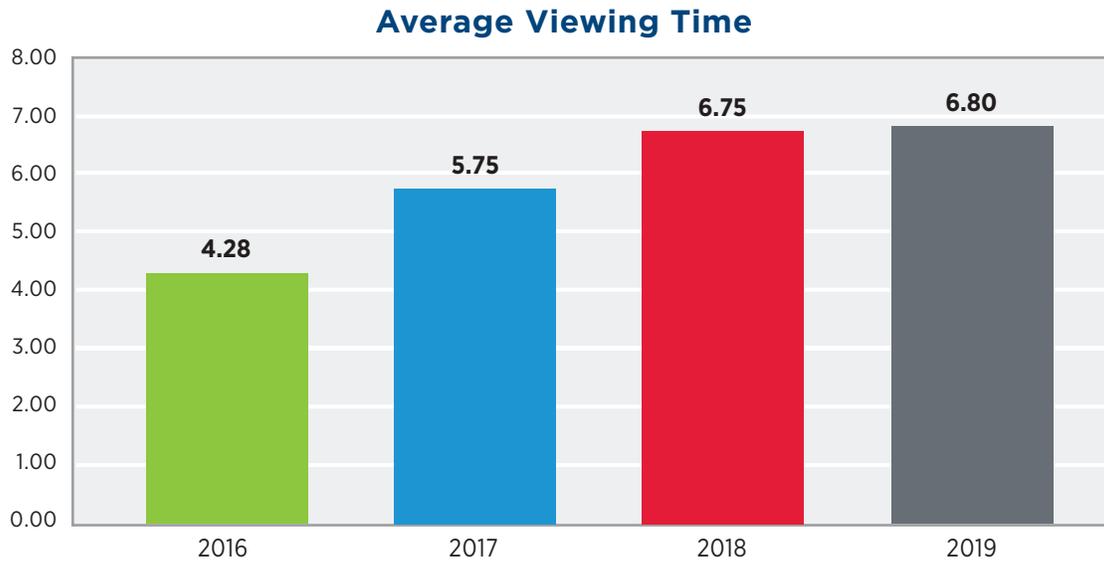


Figure 1: How many total hours of video content do you watch online each week (by year)?

Nearly half of viewers watch between 1-4 hours of online video each week.

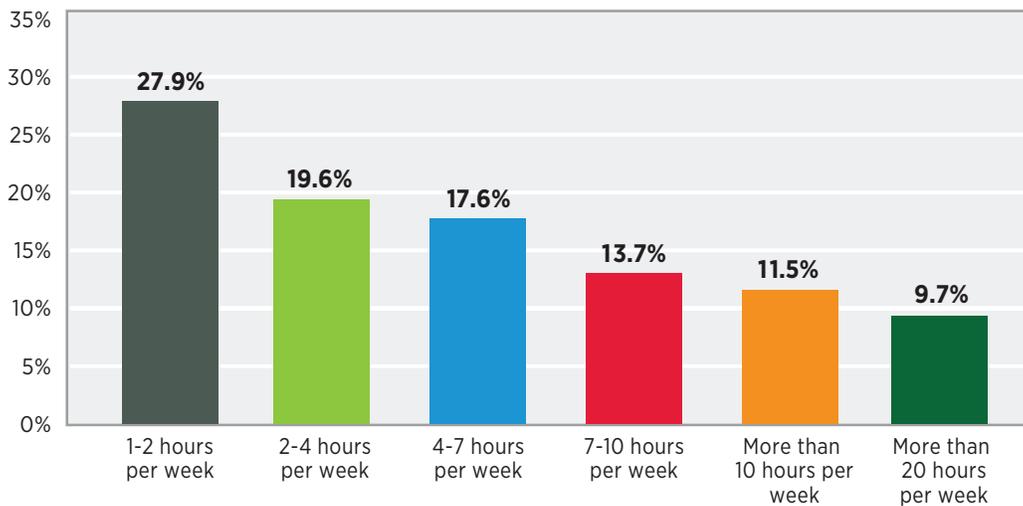


Figure 2: How many total hours of video content do you watch online each week? 2019

Viewers in the U.S. watch the most online video each week at an average of eight hours, 33 minutes, followed closely by viewers in India. In the last year viewing increased the most in Italy, with a 25 percent increase, and France and the U.K. where both experienced 11 percent increases.

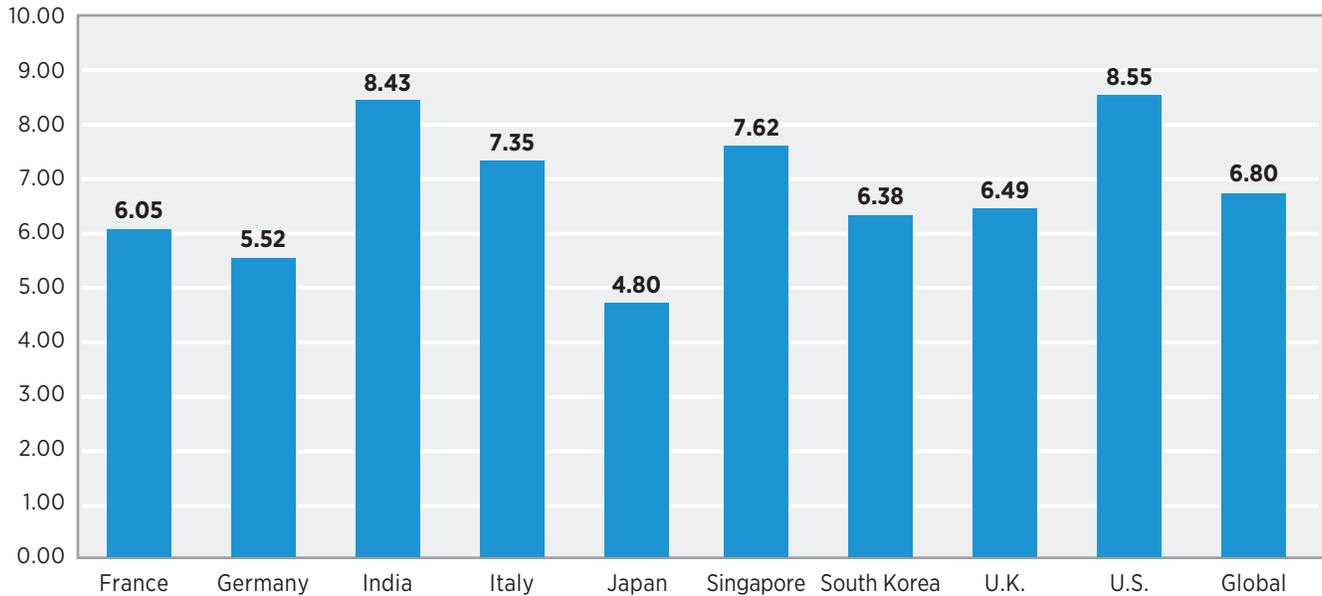


Figure 3: How many total hours of video content do you watch online each week (by country)?

Globally viewers age 18-35 watch over eight hours per week, with 26 percent watching more than 20 hours per week.

Ages	1-2 hours per week	2-4 hours per week	4-7 hours per week	7-10 hours per week	10-20 hours per week	More than 20 hours per week	Average hours per week
18-25	14.5%	17.2%	23.2%	16.7%	14.5%	14.0%	8.40
26-35	18.0%	17.3%	19.2%	17.9%	15.4%	12.2%	8.12
36-45	21.2%	18.1%	18.7%	16.2%	15.0%	10.7%	7.67
46-60	35.4%	21.0%	16.2%	11.8%	8.1%	7.5%	5.76
Over 60	40.8%	22.7%	13.4%	8.8%	7.6%	6.8%	5.28
All Ages	27.9%	19.6%	17.6%	13.7%	11.5%	9.7%	6.80

Figure 4: How many total hours of video content do you watch online each week (by age)?

Men watch an average of 30 more minutes of online video each week than women.

Gender	1-2 hours per week	2-4 hours per week	4-7 hours per week	7-10 hours per week	10-20 hours per week	More than 20 hours per week	Average hours per week
Male	27.1%	19.4%	17.0%	13.5%	13.0%	10.2%	7.04
Female	28.7%	19.9%	18.2%	14.0%	9.9%	9.2%	6.55
All	27.9%	19.6%	17.6%	13.7%	11.5%	9.7%	6.80

Figure 5: How many total hours of video content do you watch online each week (by gender)?

BROADCAST VIDEO VIEWING

Taking a look at how many hours of video on broadcast, cable, or satellite TV are watched each week, respondents continue to watch more video from traditional broadcast sources than they do online, but there was a 10 percent decrease in broadcast viewing globally in the past year.

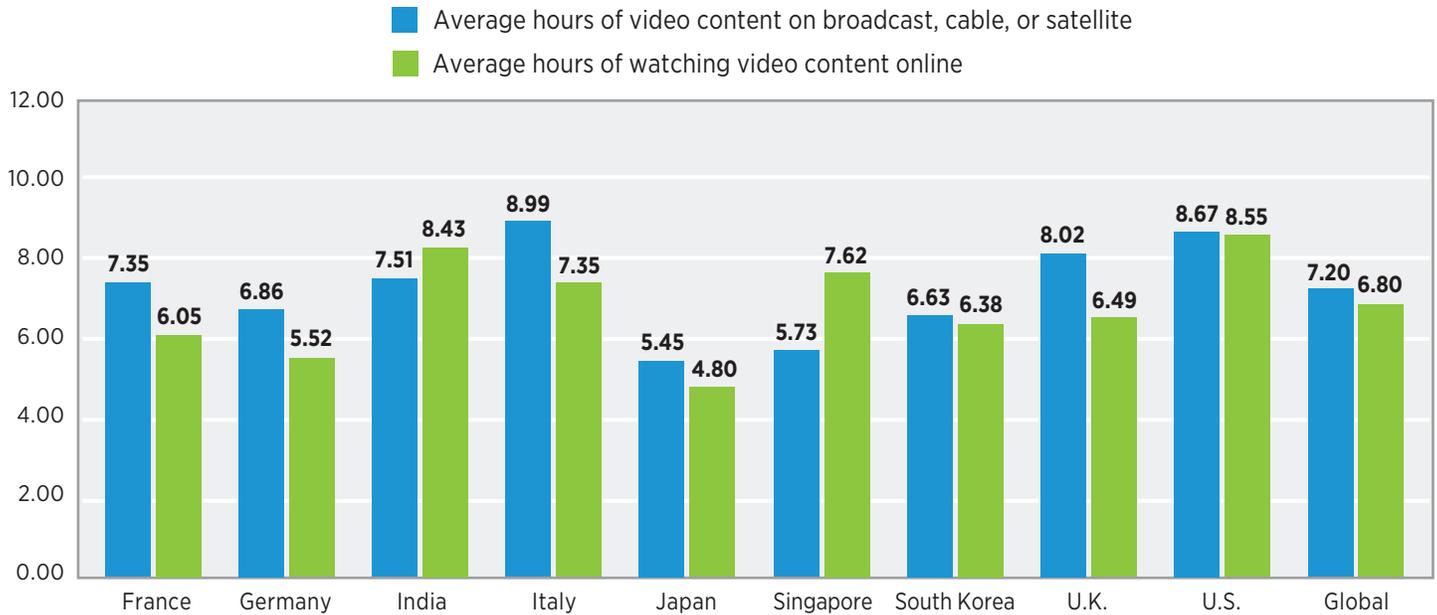


Figure 6: How many total hours of video do you watch each week?

Italy had the highest level of weekly traditional broadcast television viewing at nine hours per week, Italy had the greatest gap between online and broadcast viewing, with people watching one hour and 38 minutes of broadcast television more than online video content. Japan had the highest rate of online viewers who do not watch traditional broadcast television at 17.6 percent.

Country	I do not watch broadcast, cable, or satellite TV	1-2 hours per week	2-4 hours per week	4-7 hours per week	7-10 hours per week	10-20 hours per week	More than 20 hours per week	Average hours per week
France	12.6%	13.2%	16.2%	17.8%	14.6%	13.4%	12.2%	7.35
Germany	9.6%	18.8%	18.8%	17.2%	13.0%	11.6%	11.2%	6.86
India	6.8%	15.0%	16.0%	19.8%	17.6%	14.8%	10.0%	7.51
Italy	6.8%	11.4%	13.4%	17.0%	17.2%	16.4%	17.8%	8.99
Japan	17.6%	22.0%	18.4%	16.8%	8.8%	7.6%	8.8%	5.45
Singapore	12.0%	23.7%	17.8%	18.6%	11.8%	8.0%	8.0%	5.73
South Korea	5.6%	20.4%	18.6%	20.6%	15.8%	10.2%	8.8%	6.63
United Kingdom	9.4%	12.9%	17.1%	17.7%	11.9%	17.9%	13.3%	8.02
United States	15.6%	10.2%	9.8%	15.2%	14.2%	16.4%	18.6%	8.67
Global	10.7%	16.4%	16.2%	17.9%	13.9%	12.9%	12.1%	7.2

Figure 7: How many total hours of video content do you watch on broadcast, cable, or satellite TV each week (by country)?

Older viewers watch more traditional broadcast television than younger ones, with those age 26 and older watching an hour or more per week than those 18-25.

Age	I do not watch broadcast, cable, or satellite TV	1-2 hours per week	2-4 hours per week	4-7 hours per week	7-10 hours per week	10-20 hours per week	More than 20 hours per week	Average hours per week
18-25	14.8%	19.4%	19.4%	20.0%	11.6%	8.0%	6.8%	5.52
26-35	7.9%	15.0%	17.0%	20.8%	18.5%	10.4%	10.4%	7.08
36-45	8.3%	11.3%	15.7%	21.8%	14.2%	16.0%	12.7%	7.99
46-60	9.8%	18.0%	15.6%	16.3%	13.2%	14.9%	12.2%	7.43
Over 60	13.6%	17.7%	14.9%	12.5%	12.1%	12.9%	16.4%	7.64
All Ages	10.7%	16.4%	16.2%	17.9%	13.9%	12.9%	12.1%	7.20

Figure 8: How many total hours of video content do you watch on broadcast, cable, or satellite TV each week (by age)?

Men watch almost 40 minutes more of broadcast television than women.

Gender	I do not watch broadcast, cable, or satellite TV	1-2 hours per week	2-4 hours per week	4-7 hours per week	7-10 hours per week	More than 10 hours per week	Average hours per week
Male	9.1%	15.8%	15.9%	18.0%	15.0%	26.2%	7.57
Female	12.2%	16.8%	16.4%	17.5%	12.6%	26.2%	6.92
All	10.7%	16.4%	16.2%	17.9%	13.9%	26.2%	7.20

Figure 9: How many total hours of video content do you watch on broadcast, cable, or satellite TV each week (by gender)?

MOVIES AND TV SHOWS ARE THE MOST POPULAR CONTENT

Movies are the most popular category of online video content, followed by TV shows, news, sports, professionally produced video content on social media sites, user-generated content, and online gaming videos.

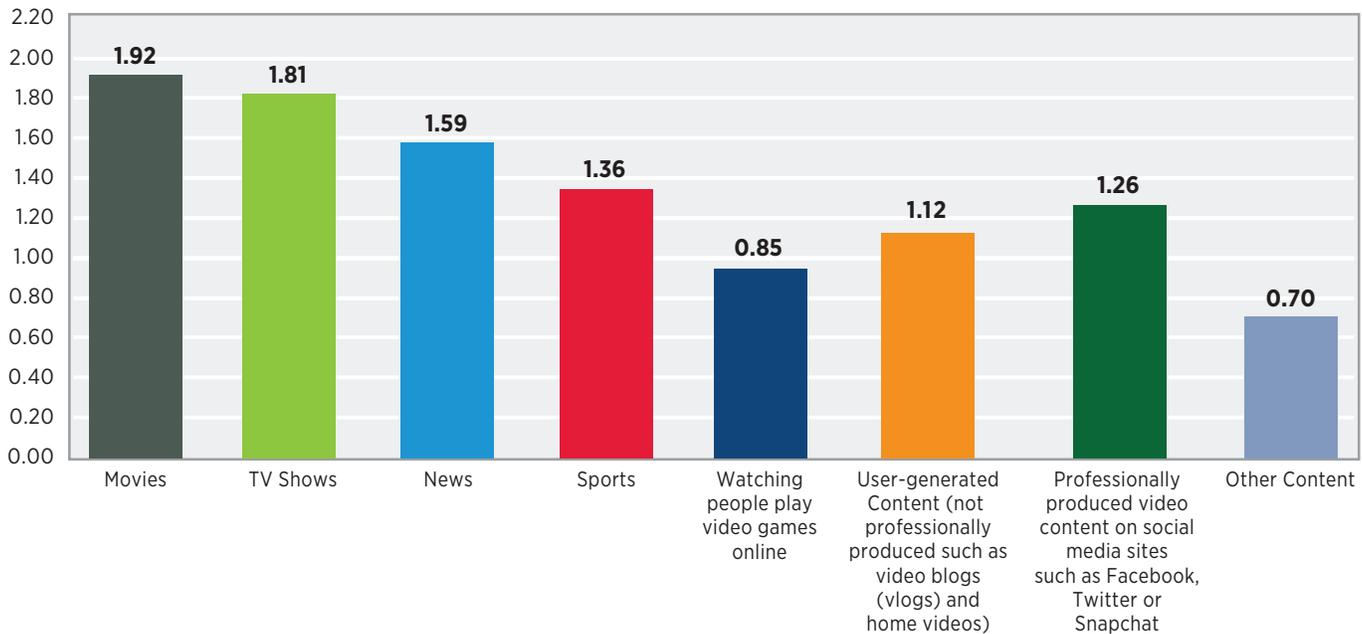


Figure 10: How much of your online video viewing time is spent watching the following types of content? (Scale 0-4)

Movies are the most commonly watched content in France, Germany, Italy, Japan, and Singapore. TV shows are most popular in India, South Korea, the U.K. and the U.S. News tied TV Shows in France and India. Professionally produced content on social media sites has the highest viewership in India. In the past year viewing of movies, TV shows, news and sports in France increased 15 percent or greater – and the U.K. experienced similar increases in news and sports.

Country	Movies	TV Shows	News	Sports	Watching people play video games online	User-generated Content (not professionally produced such as video blogs (vlogs) and home videos)	Professionally produced video content on social media sites such as Facebook, Twitter or Snapchat	Other Content
France	2.07	1.42	1.42	1.23	0.92	1.13	1.23	0.71
Germany	1.54	1.19	1.45	1.26	0.84	1.20	1.14	0.80
India	2.11	2.16	2.16	1.89	1.10	1.30	1.80	0.98
Italy	2.24	1.71	1.88	1.63	0.84	1.47	1.62	0.83
Japan	1.42	1.33	0.97	0.78	0.46	0.65	0.56	0.40
Singapore	2.03	1.99	1.72	1.19	0.78	1.15	1.34	0.63
South Korea	1.97	2.28	2.01	1.77	1.27	1.37	1.47	0.78
United Kingdom	1.88	2.01	1.24	1.26	0.66	0.84	0.97	0.54
United States	2.05	2.24	1.42	1.24	0.76	1.01	1.19	0.59
Global	1.92	1.81	1.59	1.36	0.85	1.12	1.26	0.70

Figure 11: How much of your online video viewing time is spent watching the following types of content (by country)? (Scale 0-4)

Online video content preferences varies significantly by age. 18-25 prefer to watch TV shows, while older ones choose movies. Online news and sports viewership are highest among people 36-45. Online video gaming, user-generated content, and professional videos on social media sites are primarily watched by younger viewers. News is viewed the most by 36-45 and the least by 18-25 year olds.

Age	Movies	TV Shows	News	Sports	Watching people play video games online	User-generated Content (not professionally produced such as video blogs (vlogs) and home videos)	Professionally produced video content on social media sites such as Facebook, Twitter or Snapchat	Other Content
18-25	1.93	2.03	1.39	1.18	1.31	1.53	1.58	0.90
26-35	2.05	2.01	1.59	1.52	1.27	1.51	1.54	0.95
36-45	2.10	1.98	1.67	1.60	1.07	1.28	1.39	0.84
46-60	1.89	1.68	1.59	1.31	0.58	0.94	1.13	0.57
Over 60	1.70	1.53	1.64	1.21	0.34	0.64	0.86	0.40
All Ages	1.92	1.81	1.59	1.36	0.85	1.12	1.26	0.70

Figure 12: How much of your online video viewing time is spent watching the following types of content (by age)? (Scale 0-4)

Men view more sports and watching people play video games, while women watch more user-generated content and professional videos on social media sites.

Gender	Movies	TV Shows	News	Sports	Watching people play video games online	User-generated Content (not professionally produced such as video blogs (vlogs) and home videos)	Professionally produced video content on social media sites such as Facebook, Twitter or Snapchat	Other Content
Male	1.89	1.67	1.64	1.68	0.92	1.08	1.18	0.69
Female	1.95	1.95	1.53	1.04	0.77	1.17	1.33	0.70
All	1.92	1.81	1.59	1.36	0.85	1.12	1.26	0.70

Figure 13: How much of your online video viewing time is spent watching the following types of content (by gender)? (Scale 0-4)

VIEWERS WANT REALTIME SPORTS STREAMING

Traditional live online streaming events are generally delayed by 30 seconds or more from the broadcast feed. With the proliferation of people using social media while watching live sports, this has led to a phenomenon where online viewers experience “spoilers” where they learn about big plays from social media before seeing the action online. Latency such as this matters to viewers. Globally, 57.7 percent said they would be more likely to watch live sports online if the stream was not delayed from the broadcast.

Country	Yes	No
France	52.2%	47.8%
Germany	50.1%	49.9%
India	80.2%	19.8%
Italy	64.0%	36.0%
Japan	43.6%	56.4%
Singapore	55.3%	44.7%
South Korea	69.4%	30.6%
United Kingdom	50.6%	49.4%
United States	53.6%	46.4%
Global	57.7%	42.3%

Figure 14: Would you be more likely to stream a live sporting event online if you knew it wasn't delayed from the TV broadcast?

Two thirds (65%) of people 26-45 would stream more sports online if it was not delayed from the broadcast.

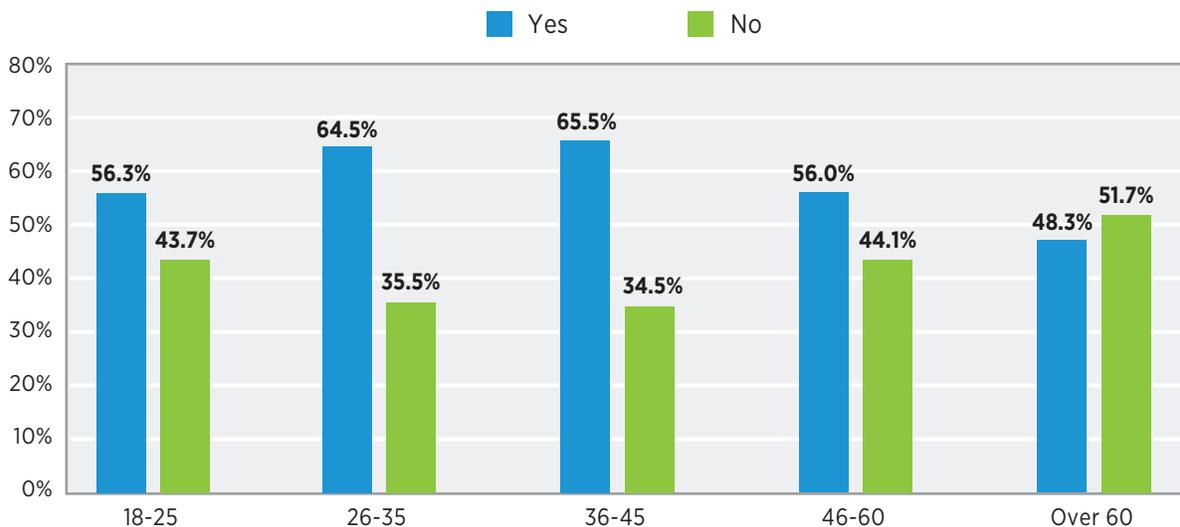


Figure 15: Would you be more likely to stream a live sporting event online if you knew it wasn't delayed from the TV broadcast (by age)?

Delays in viewing sports events is a greater concern with men than women.

Gender	Yes	No
Male	65.2%	34.9%
Female	50.1%	49.9%
All	57.7%	42.3%

Figure 16: Would you be more likely to stream a live sporting event online if you knew it wasn't delayed from the TV broadcast (by gender)?

SMARTPHONES AND COMPUTERS ARE THE PRIMARY VIEWING DEVICES

Globally, smartphones are now the primary device globally that viewers use to watch online video followed by computers, smart TVs and connected devices, and tablets. This is a shift that occurred in the last year, when computers were the primary device.

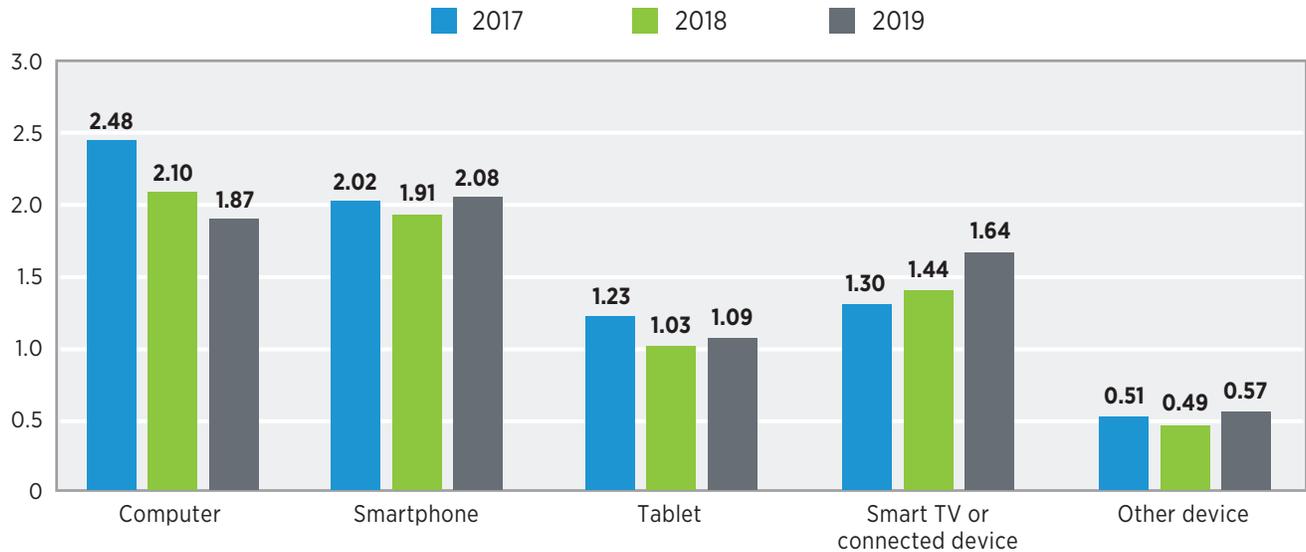


Figure 17: How much of your online video viewing is on the following devices? (Scale 0-4)

Smartphones are now the primary viewing device in France, India, Italy, Japan, Singapore, South Korea, and the U.S. Smart TVs or connected devices are still preferred in the U.K., and Germany still prefers computers.

Country	Computer	Smartphone	Tablet	Smart TV or connected device	Other device
France	1.85	1.87	1.09	1.40	0.55
Germany	2.02	1.67	1.01	1.79	0.52
India	2.06	2.75	1.18	1.66	0.82
Italy	2.09	2.21	1.22	1.70	0.72
Japan	1.60	1.70	0.77	0.92	0.26
Singapore	2.06	2.36	1.12	1.66	0.46
South Korea	1.89	2.51	1.04	1.58	0.67
United Kingdom	1.71	1.60	1.22	2.02	0.50
United States	1.59	2.06	1.18	2.01	0.65
Global	1.87	2.08	1.09	1.64	0.57

Figure 18: How much of your online video viewing is on the following devices (by country)? (Scale 0-4)

Viewers 18-60 have a clear preference for smartphones, while older viewers choose computers.

Age	Computer	Smartphone	Tablet	Smart TV or connected device	Other device
18-25	1.89	2.77	1.08	1.56	0.73
26-35	1.91	2.55	1.35	1.89	0.78
36-45	1.90	2.29	1.32	1.87	0.73
46-60	1.82	1.84	0.96	1.57	0.43
Over 60	1.90	1.37	0.87	1.36	0.36
All Ages	1.87	2.08	1.09	1.64	0.57

Figure 19: How much of your online video viewing is on the following devices (by age)? (Scale 0-4)

Men still use computers more than any other device to view online video, while women prefer smartphones.

Gender	Computer	Smartphone	Tablet	Smart TV or connected device	Other device
Male	1.98	1.93	1.05	1.64	0.59
Female	1.77	2.24	1.14	1.64	0.55
All	1.87	2.08	1.09	1.64	0.57

Figure 20: How much of your online video viewing is on the following devices (by gender)? (Scale 0-4)

ADOPTION OF DEDICATED STREAMING DEVICES

Nearly three quarters of consumers who watch online video use streaming devices to watch online video on their smart TV, a six percent increase in the last year. Globally, viewers choose smart TVs more often than any other device, followed by Amazon Fire TV, Google Chromecast, video game consoles, Apple TV, set-top box or DVD player, and Roku. Three-year data shows set-top box or DVD player use falling.

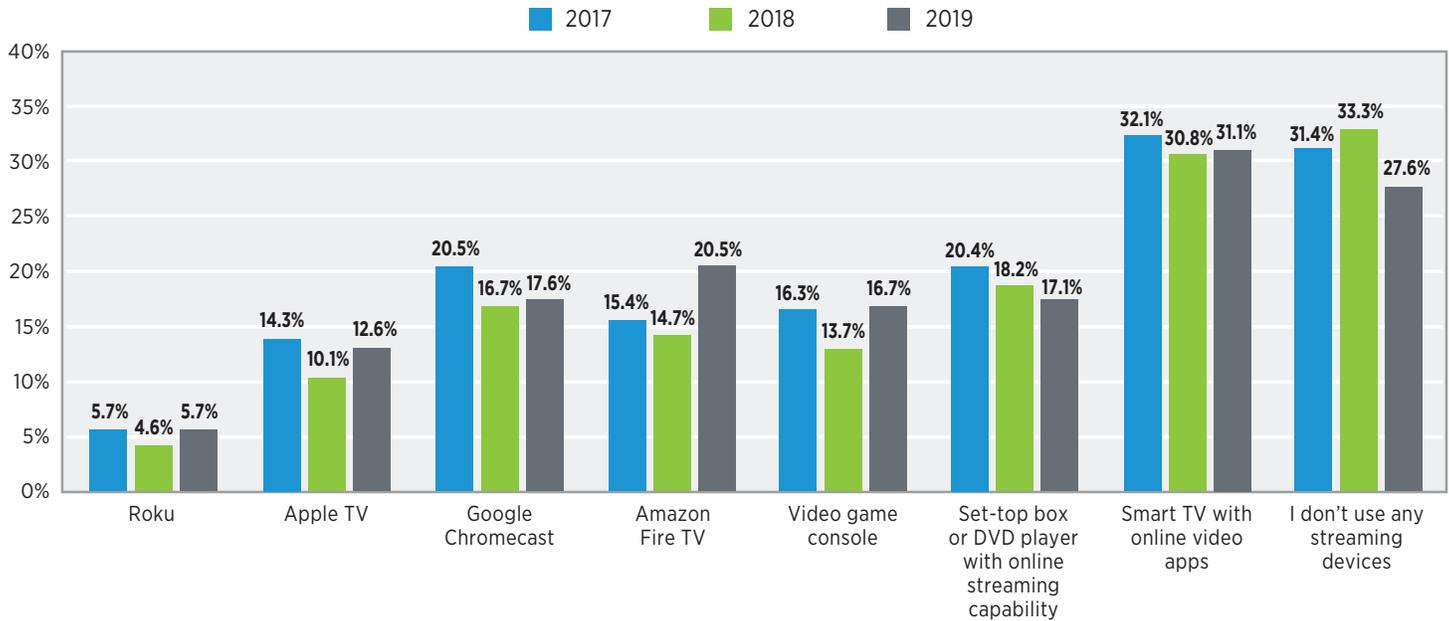


Figure 21: Which streaming devices do you use to watch online video on your television (by year)? (Select all that apply)

Streaming device preference varies by country with smart TVs having the highest usage in Singapore at 48.5 percent, set-top boxes and DVD players in South Korea at 25.6 percent, Google Chromecast at 26.6 percent in India, Amazon Fire TV at 34.4 percent in India, Apple TV at 18.2 percent in South Korea, and Roku has the highest usage in the U.S. Japan has the highest number of people who do not use dedicated streaming devices at 38.8 percent.

Country	Roku	Apple TV	Google Chromecast	Amazon Fire TV	Video game console	Set-top box or DVD player with online streaming capability	Smart TV with online video apps	I don't use any streaming devices
France	2.0%	11.8%	19.6%	12.2%	23.6%	15.8%	22.8%	35.0%
Germany	3.0%	11.0%	14.0%	31.9%	17.2%	12.0%	30.8%	39.7%
India	4.2%	12.6%	26.6%	34.4%	13.4%	33.0%	42.6%	17.6%
Italy	1.8%	10.8%	19.8%	16.2%	18.0%	6.6%	46.8%	25.4%
Japan	2.0%	10.6%	9.8%	19.8%	16.2%	9.8%	11.6%	38.8%
Singapore	2.2%	14.8%	16.0%	7.0%	10.4%	23.4%	48.5%	27.9%
South Korea	3.2%	18.2%	23.4%	7.4%	10.8%	25.6%	31.8%	30.4%
United Kingdom	7.2%	11.2%	17.1%	29.7%	19.7%	15.5%	40.8%	14.3%
United States	26.0%	12.0%	12.4%	25.8%	20.8%	10.4%	35.4%	19.2%
Global	5.7%	12.6%	17.6%	20.5%	16.7%	17.1%	31.1%	27.6%

Figure 22: Which streaming devices do you use to watch online video on your television (by country)? (Select all that apply)

Video game consoles and smart TVs are more commonly used by younger viewers. Older ones are more likely to not use any streaming devices.

Age	Roku	Apple TV	Google Chromecast	Amazon Fire TV	Video game console	Set-top box or DVD player with online streaming capability	Smart TV with online video apps	I don't use any streaming devices
18-25	6.4%	18.9%	17.8%	18.9%	26.6%	7.9%	32.1%	21.3%
26-35	7.2%	21.6%	22.7%	27.1%	26.8%	6.9%	40.2%	13.3%
36-45	7.2%	15.4%	23.1%	26.0%	21.1%	9.5%	36.0%	16.2%
46-60	4.7%	7.7%	14.8%	17.9%	12.0%	7.5%	27.7%	26.1%
Over 60	4.3%	4.8%	12.4%	14.7%	4.1%	7.6%	23.2%	34.9%
All Ages	5.7%	12.6%	17.6%	20.5%	16.7%	17.1%	31.1%	27.6%

Figure 23: Which streaming devices do you use to watch online video on your television (by age)?
(Select all that apply)

MOST VIEWERS SUBSCRIBE TO SVOD SERVICES

The popularity of SVOD services has risen 17 percent in the last year, to 70.4 percent of online viewers now subscribing to one or more SVOD service. The highest rate is in the U.S., where viewers subscribe to an average of 1.7 services. The lowest rate is in Japan, where viewers have an average of 0.86 services and more than 40 percent do not subscribe to any.

Country	None	One	Two	Three	Four	Five or more	Average number of SVOD services
France	30.6%	41.0%	18.8%	6.2%	2.0%	1.4%	1.1
Germany	35.3%	27.5%	26.5%	8.2%	1.0%	1.4%	1.1
India	21.6%	26.2%	23.6%	14.0%	7.6%	7.0%	1.6
Italy	27.4%	32.8%	25.4%	10.2%	3.4%	0.8%	1.3
Japan	41.6%	37.6%	12.8%	5.0%	1.6%	1.4%	0.9
Singapore	36.1%	41.1%	14.2%	4.4%	1.4%	2.8%	0.9
South Korea	34.2%	33.2%	19.6%	6.0%	3.6%	3.4%	1.1
United Kingdom	21.9%	36.9%	28.1%	9.0%	2.8%	1.2%	1.3
United States	17.8%	23.8%	29.2%	20.6%	5.4%	3.2%	1.7
Global	29.6%	33.4%	22.0%	9.3%	3.2%	2.5%	1.2

Figure 24: How many pay online streaming video services (i.e., Netflix, Amazon Prime, etc.) do you currently subscribe to (by country)?

Viewers age 18-45 are more likely to subscribe to SVOD services than older ones, with over 20 percent subscribing to three or more services.

Age	None	One	Two	Three	Four	Five or more	Average number of SVOD services
18-25	21.5%	28.8%	28.5%	12.9%	4.1%	4.3%	1.5
26-35	15.4%	33.2%	29.0%	14.9%	4.1%	3.5%	1.6
36-45	20.0%	33.8%	25.9%	10.9%	5.8%	3.7%	1.5
46-60	35.7%	34.4%	19.4%	7.3%	2.0%	1.2%	1.0
Over 60	47.2%	34.8%	12.1%	3.4%	1.3%	1.3%	0.8
All Ages	29.6%	33.4%	22.0%	9.3%	3.2%	2.5%	1.2

Figure 25: How many pay online streaming video services (i.e., Netflix, Amazon Prime, etc.) do you currently subscribe to (by age)?

PRICE IS THE PRIMARY REASON TO CANCEL SVOD SERVICES

Price continues to be the primary reason consumers around the globe would cancel SVOD services. The availability of interesting content is the second top concern.

Country	It is too hard to find content I am looking for	The content available for viewing was not interesting to me	The price of the service became too expensive	The quality of the video playback was not good	The service doesn't support all of the devices I use for viewing
France	7.6%	18.6%	59.2%	9.8%	4.8%
Germany	3.6%	29.7%	49.1%	13.6%	4.0%
India	9.6%	23.6%	45.2%	13.4%	8.2%
Italy	4.2%	18.4%	62.4%	11.4%	3.6%
Japan	9.6%	34.0%	43.0%	6.4%	7.0%
Singapore	6.2%	27.5%	55.5%	7.4%	3.4%
South Korea	12.4%	29.2%	40.4%	10.2%	7.8%
United Kingdom	4.2%	27.3%	54.6%	9.8%	4.0%
United States	5.2%	19.2%	60.2%	10.6%	4.8%
Total	7.0%	25.3%	52.2%	10.3%	5.3%

Figure 26: Which of the following is most likely to cause you to cancel your subscription to an online streaming service?

MOST ONLINE VIEWERS ALSO SUBSCRIBE TO CABLE

Globally, 60.6 percent of people who watch online video also subscribe to a cable or satellite television service. Subscription rates varied from a high of 88.8 percent in India to a low of 39 percent in Japan.

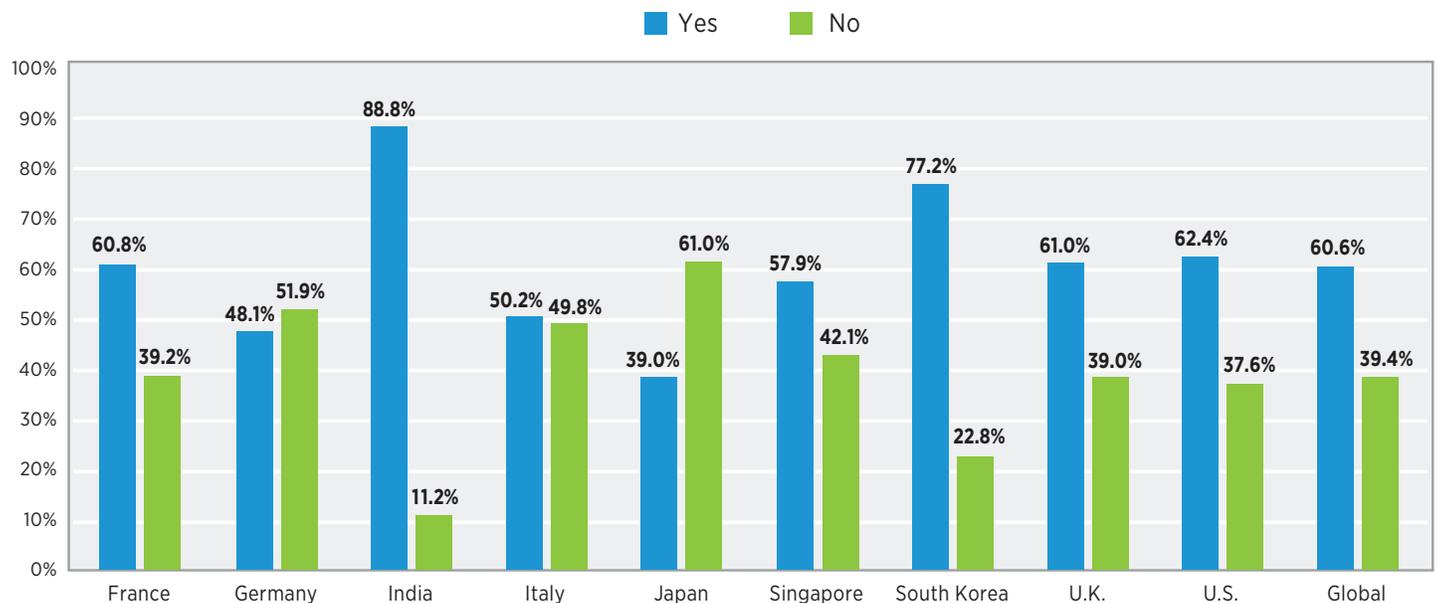


Figure 27: Do you currently subscribe to a cable or satellite provider for your television service (by country)?

People under 26-45 are most likely to subscribe to cable and satellite television, however there isn't a significant variance by age group.

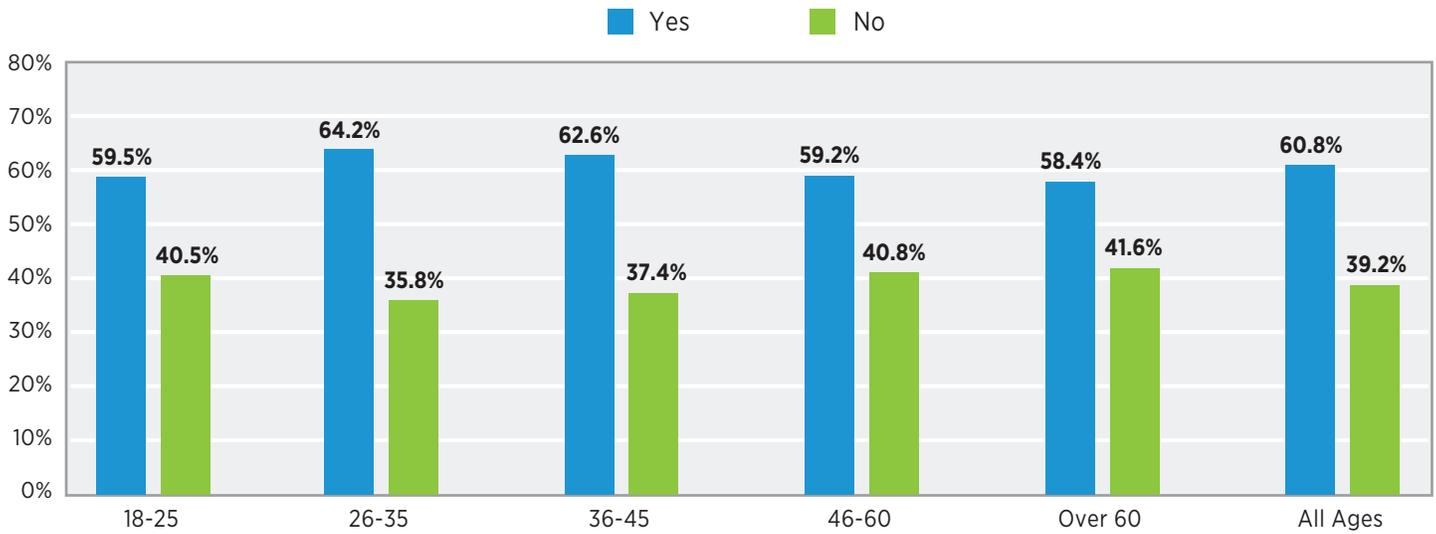


Figure 28: Do you currently subscribe to a cable or satellite provider for your television service (by age)?

PRICE IS THE PRIMARY REASON FOR CANCELLING CABLE

Similarly to the primary reason people would cancel an SVOD service, price is the primary reason global consumers would cancel their cable or satellite television subscriptions. 42.3 percent said they would cancel their service if the price continues to rise.

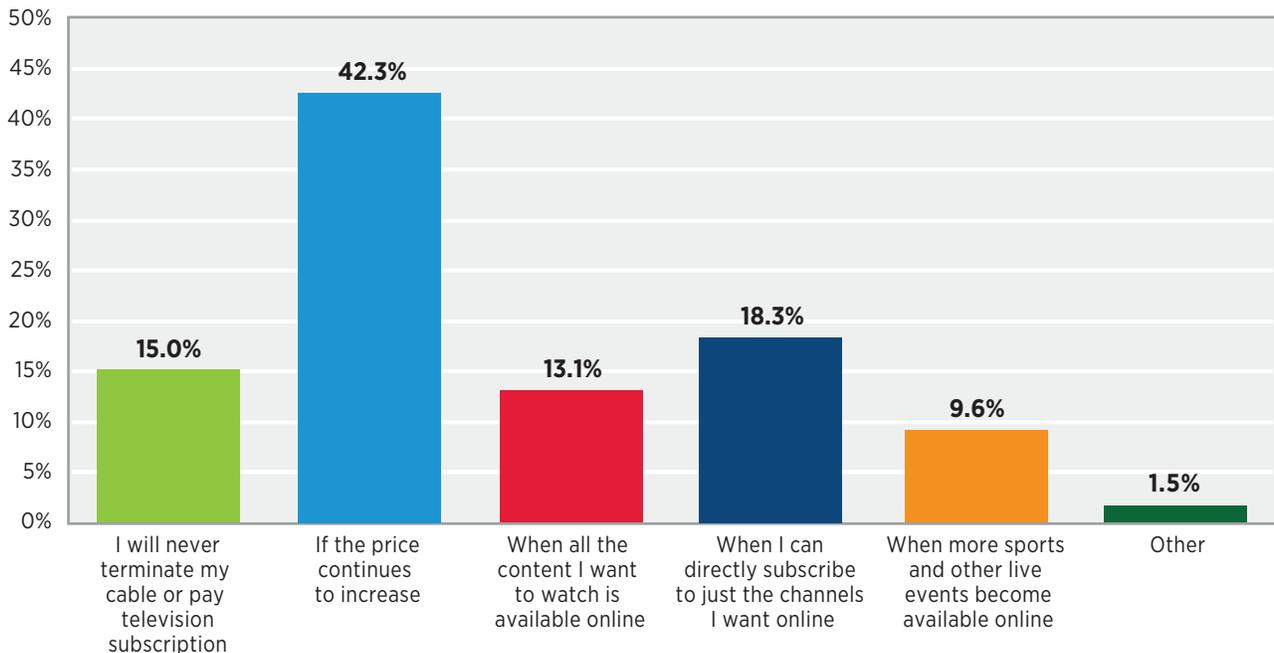


Figure 29: Which of the following is most likely to make you terminate your cable or satellite television subscription?

Concern about the price of cable and satellite TV was highest in the U.K. at 58.9 percent. Japan has by far the lowest percentage of consumers who would cancel cable service if the price continues to increase, at only 4.1 percent.

Country	I will never terminate my cable or pay television subscription	If the price continues to increase	When all the content I want to watch is available online	When I can directly subscribe to just the channels I want online	When more sports and other live events become available online	Other
France	12.4%	53.4%	8.1%	17.0%	7.8%	1.4%
Germany	19.6%	43.3%	10.7%	15.6%	8.9%	1.8%
India	22.1%	27.5%	14.7%	24.7%	9.1%	1.9%
Italy	7.0%	53.5%	7.0%	16.1%	16.1%	0.4%
Japan	23.7%	4.1%	34.1%	26.0%	8.7%	3.5%
Singapore	7.3%	46.9%	18.5%	16.4%	9.1%	1.8%
South Korea	20.4%	36.9%	12.3%	18.4%	11.2%	0.8%
United Kingdom	8.4%	58.9%	8.4%	14.8%	8.4%	1.0%
United States	13.0%	51.1%	10.8%	15.0%	8.1%	2.0%
Global	15.0%	42.3%	13.1%	18.3%	9.6%	1.5%

Figure 30: Which of the following is most likely to make you terminate your cable or satellite television subscription (by country)?

VIEWERS DISCOVER CONTENT BY BROWSING STREAMING SITES

With online video content available across multiple platforms, there’s no one directory of content, making it challenging to quickly find new movies and series that are the most interesting to them. Viewers rely on a streaming service’s website to find content (27.3%), followed by recommendations from friends and family (22.4%), recommendations from a streaming service (18.4 percent), news coverage (13.1%), and message boards and websites (7.1%). Viewers in France and the U.K. rely on recommendations from friends and family more than any other method.

Country	Browsing a streaming service’s website on my own	I don’t stream series and movies	Message boards and social media websites	News coverage of trending shows	Recommendations from a streaming service	Recommendations from friends and family
France	28.4%	13.6%	6.0%	9.6%	15.8%	26.6%
Germany	23.8%	17.6%	6.6%	9.6%	17.8%	24.8%
India	28.8%	7.6%	6.8%	15.4%	24.0%	17.4%
Italy	26.0%	11.8%	7.0%	15.8%	16.0%	23.4%
Japan	36.8%	14.0%	3.6%	17.8%	19.8%	8.0%
Singapore	29.9%	12.2%	7.6%	12.2%	14.8%	23.3%
South Korea	18.0%	8.0%	13.4%	11.0%	25.8%	23.8%
United Kingdom	25.5%	10.8%	5.4%	13.9%	16.7%	27.7%
United States	28.8%	10.0%	7.2%	12.2%	15.2%	26.6%
Global	27.3%	11.7%	7.1%	13.1%	18.4%	22.4%

Figure 31: How do you typically learn about new series and movies that you want to stream online (by country)?

Men and Women both rely primarily on a service's website to find content.

Gender	Browsing a streaming service's website on my own	I don't stream series and movies	Message boards and social media websites	News coverage of trending shows	Recommendations from a streaming service	Recommendations from friends and family
Male	25.4%	11.9%	7.7%	11.6%	18.4%	25.1%
Female	29.2%	11.6%	6.5%	14.5%	18.5%	19.7%
All	27.3%	11.7%	7.1%	13.1%	18.4%	22.4%

Figure 32: How do you typically learn about new series and movies that you want to stream online (by gender)?

MOST VIEWING HAPPENS AT HOME

With smartphones now being the preferred device for online viewing, consumers have the ability to watch content from anywhere, however, they overwhelmingly watch online video from home more than any other location. The U.K. had the highest home viewing of any country. South Korea had the highest number of people who watch from work or school, while India had the greatest number who watch while travelling or commuting.

Country	At Home	At Work or School	While Traveling or Commuting	Somewhere else
France	3.06	0.75	1.11	0.69
Germany	3.16	0.64	0.92	0.80
India	2.87	1.13	1.58	1.19
Italy	3.03	0.75	1.17	1.09
Japan	2.76	0.40	0.52	0.23
Singapore	3.05	1.00	1.40	1.00
South Korea	2.81	1.19	1.51	1.03
United Kingdom	3.19	0.61	0.92	0.71
United States	3.16	0.79	1.09	0.89
Global	3.01	0.87	1.19	0.89

Figure 33: How often do you watch online video from the following locations? (Scale 0-4)

VIEWERS BINGE-WATCH FOR TWO HOURS AND 29 MINUTES AT A TIME

Binge-watching ramped up. In the last year it has increased significantly, with a 18 percent increase in the time people binge-watch, with viewers binge-watching shows for an average of two hours, 29 minutes at a time. 30 percent watch for three hours or more at a time. Binge-watching times are the longest in the US, where viewers watch for over three hours at a time.

Country	I do not binge-watch online series	Less than one hour	1-3 hours at a time	3-5 hours at a time	5-7 hours at a time	7-10 hours at a time	More than 10 hours at a time	Average hours
France	13.8%	16.0%	44.0%	17.4%	5.0%	3.0%	0.8%	2.37
Germany	24.0%	17.0%	37.9%	15.4%	4.2%	0.4%	1.2%	1.95
India	18.8%	20.6%	34.8%	11.2%	7.8%	4.6%	2.2%	2.43
Italy	19.8%	13.8%	43.0%	15.0%	5.0%	2.0%	1.4%	2.21
Japan	21.4%	10.4%	32.6%	20.8%	8.0%	2.0%	4.8%	2.72
Singapore	17.4%	12.2%	38.3%	19.6%	7.6%	2.0%	2.8%	2.58
South Korea	6.0%	25.8%	49.2%	12.4%	3.6%	2.4%	0.6%	2.22
United Kingdom	18.7%	6.8%	38.6%	23.1%	7.6%	3.2%	2.0%	2.69
United States	19.8%	5.2%	31.0%	24.6%	10.2%	5.0%	4.2%	3.11
Global	17.7%	14.2%	38.8%	17.7%	6.6%	2.7%	2.2%	2.48

Figure 34: How long do you typically spend binge-watching an online series in one sitting (by country)?

Binge-watching is highest among younger viewers, with those 18-35 watching an average of over three hours at a time, while those over 60 watch for an hour and a half.

Age	I do not binge-watch online series	Less than one hour	1-3 hours at a time	3-5 hours at a time	5-7 hours at a time	7-10 hours at a time	More than 10 hours at a time	Average hours
18-25	8.0%	8.9%	37.4%	24.5%	13.8%	4.0%	3.5%	3.33
26-35	6.8%	11.1%	41.3%	24.7%	9.7%	3.5%	3.0%	3.10
36-45	11.1%	12.8%	40.6%	22.2%	7.2%	4.2%	2.0%	2.81
46-60	21.7%	16.0%	39.9%	14.0%	4.3%	2.0%	2.1%	2.15
Over 60	34.0%	19.1%	34.6%	8.6%	1.5%	1.1%	1.2%	1.52
All Ages	17.7%	14.2%	38.3%	17.7%	6.6%	2.7%	2.2%	2.48

Figure 35: How long do you typically spend binge-watching an online series in one sitting (by age)?

Women are more likely to binge-watch online content and for longer periods of time than men.

Gender	I do not binge-watch online series	Less than one hour	1-3 hours at a time	3-5 hours at a time	5-7 hours at a time	7-10 hours at a time	More than 10 hours at a time	Average hours
Male	19.5%	15.3%	38.9%	16.3%	7.1%	2.3%	1.9%	2.45
Female	16.0%	13.1%	38.7%	19.1%	6.0%	3.1%	2.6%	2.50
All	17.7%	14.2%	38.8%	17.7%	6.6%	2.7%	2.2%	2.48

Figure 36: How long do you typically spend binge-watching an online series in one sitting (by gender)?

Binge-watching has increased the most in France and the U.K., and by an average of 18 percent across the countries surveyed.

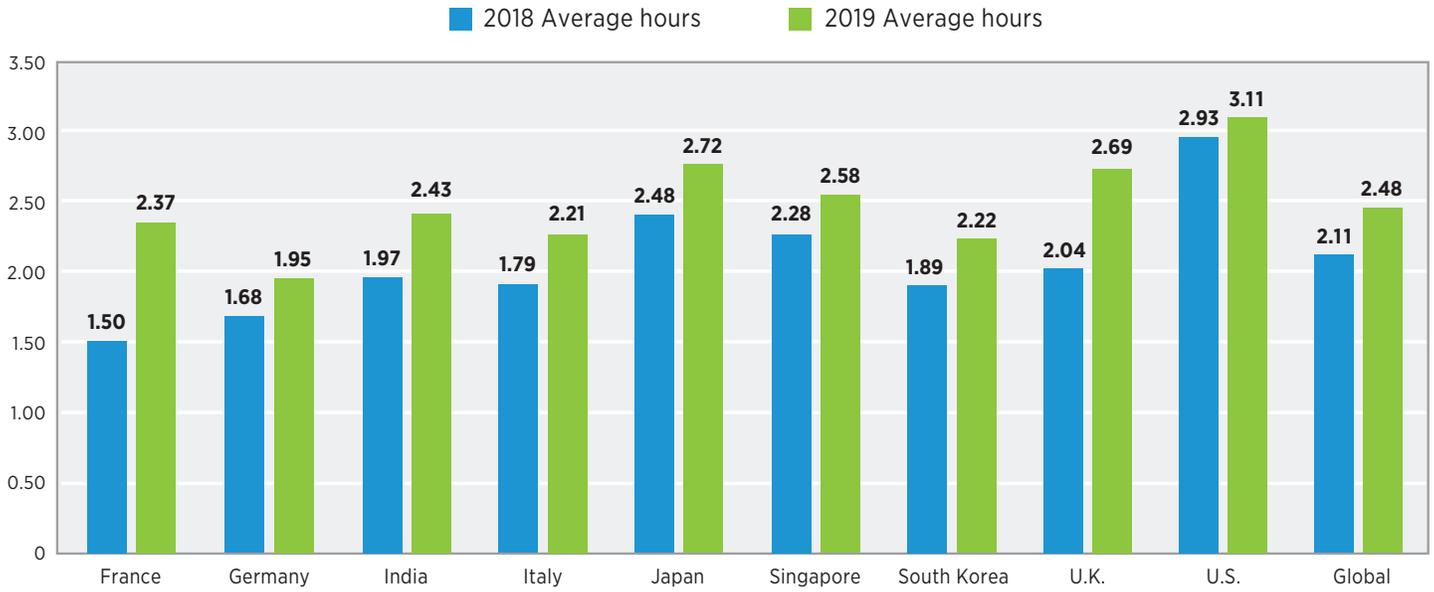


Figure 37: How long do you typically spend binge-watching an online series in one sitting (by year)?

VIEWERS ARE MOST ACCEPTING OF PRE-ROLL ADVERTISING

Viewers are most accepting of advertising in online video if content is free. However, if online ads are of interest them, 74 percent are okay or neutral with ads. Opposition is highest in France, while viewers in India and South Korea are most likely to welcome ads that interest them.

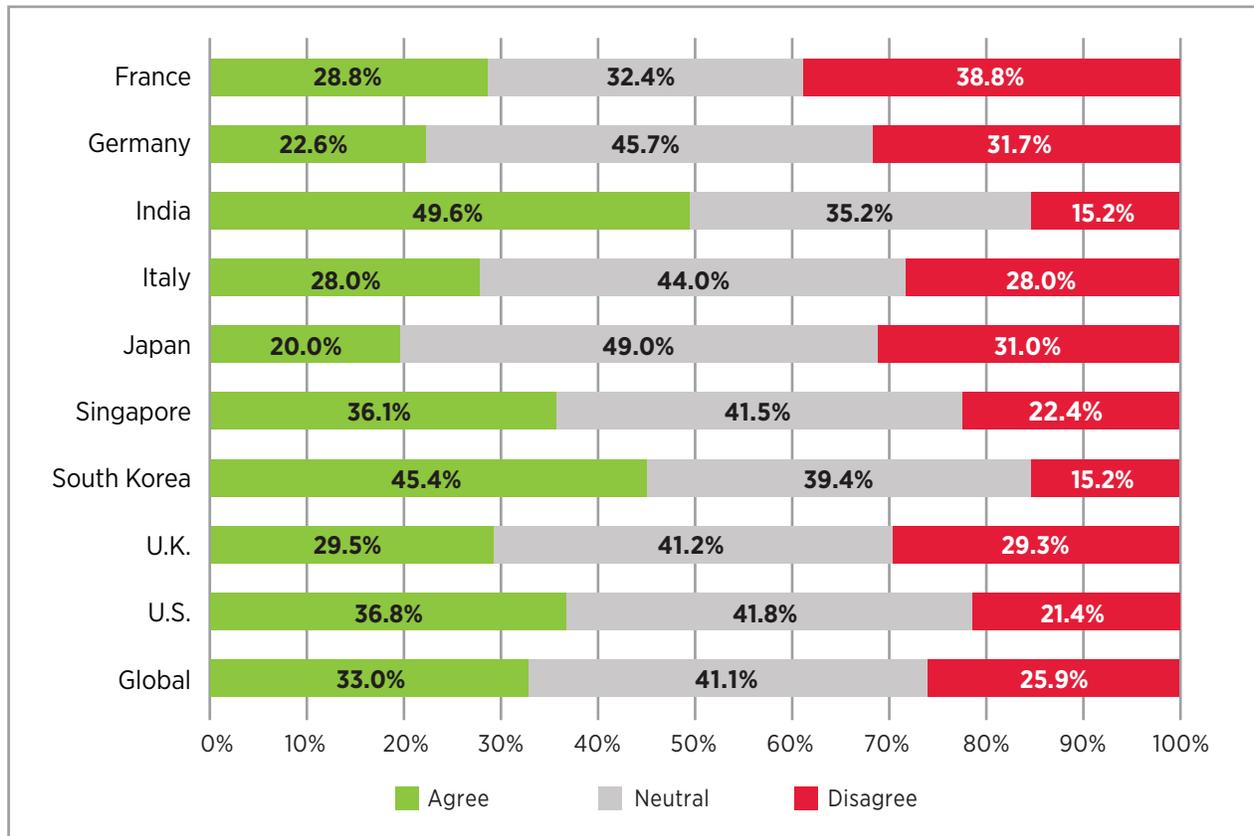


Figure 38: I'm okay with advertising in online video as long as I'm interested in it (by country)

Younger viewers are more likely to be accepting of and to watch ads that interest them than older ones.

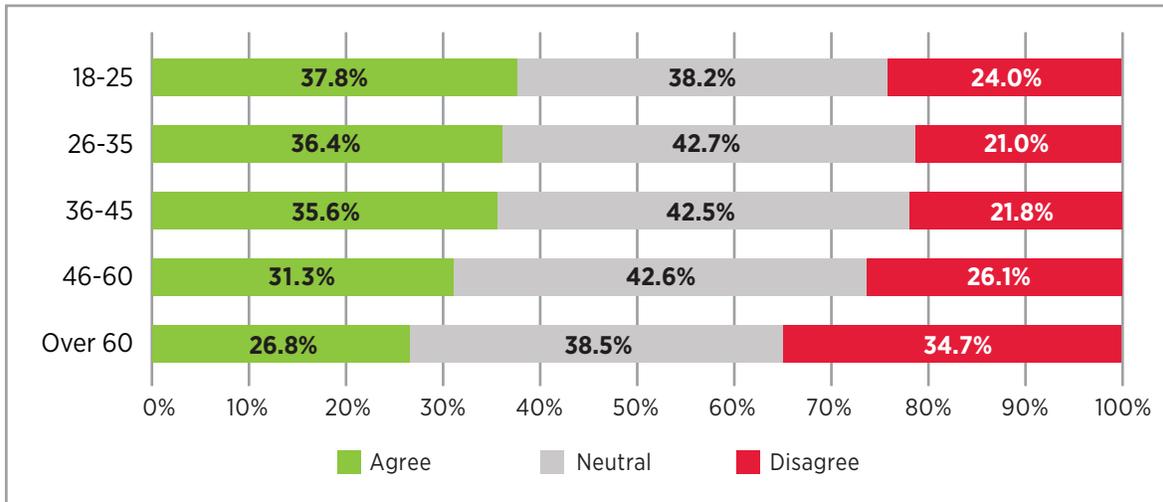


Figure 39: I'm okay with advertising in online video as long as I'm interested in it (by age)

Global consumers overwhelmingly accept ads in online video as long as they have the ability to skip them.

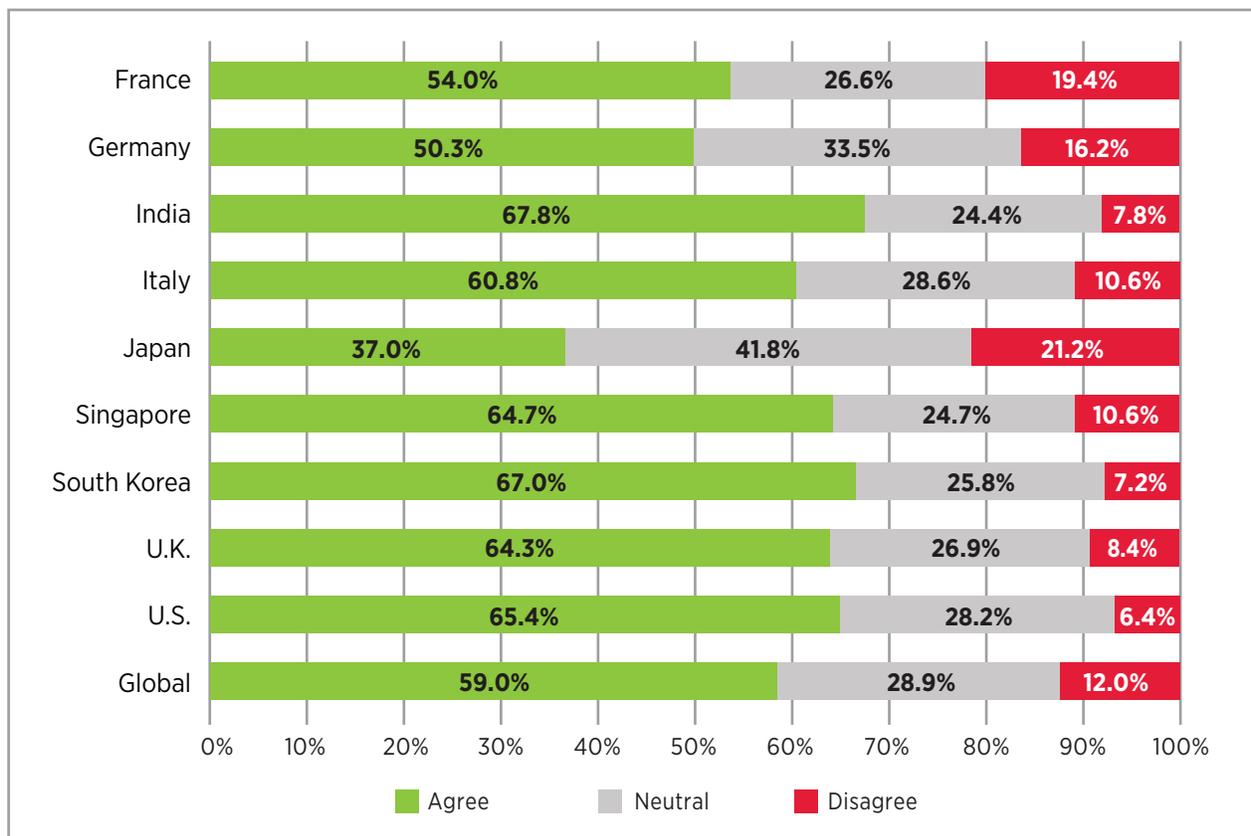


Figure 40: I'm okay with advertising in online video as long as I can skip it

Advertisement based video on demand (AVOD) is a popular option to viewers. Most people (87%) are fine with short advertisements before a video if content is free.

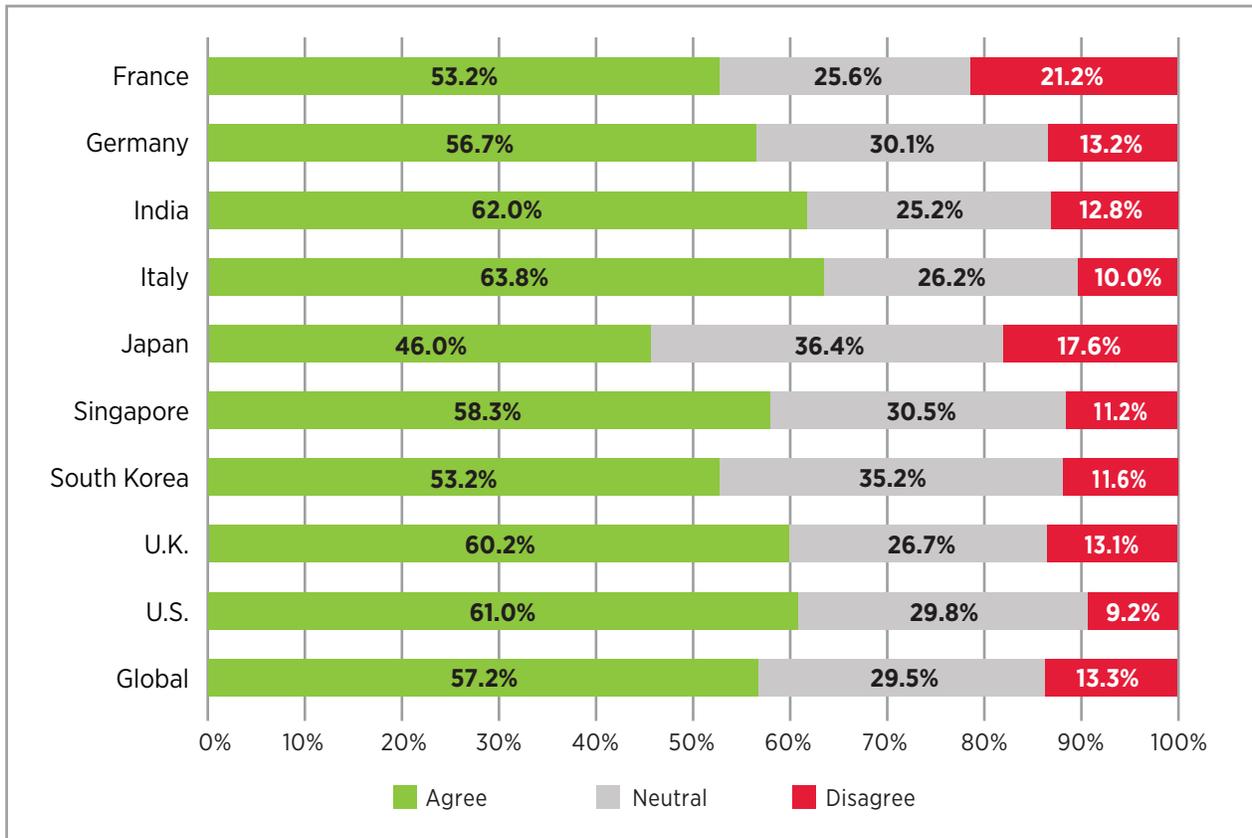


Figure 41: I'm okay with a short advertisement before the video if the content is free

However, consumers are not so accepting of mid-roll ads in free content, with 36 percent saying they do not like this format.

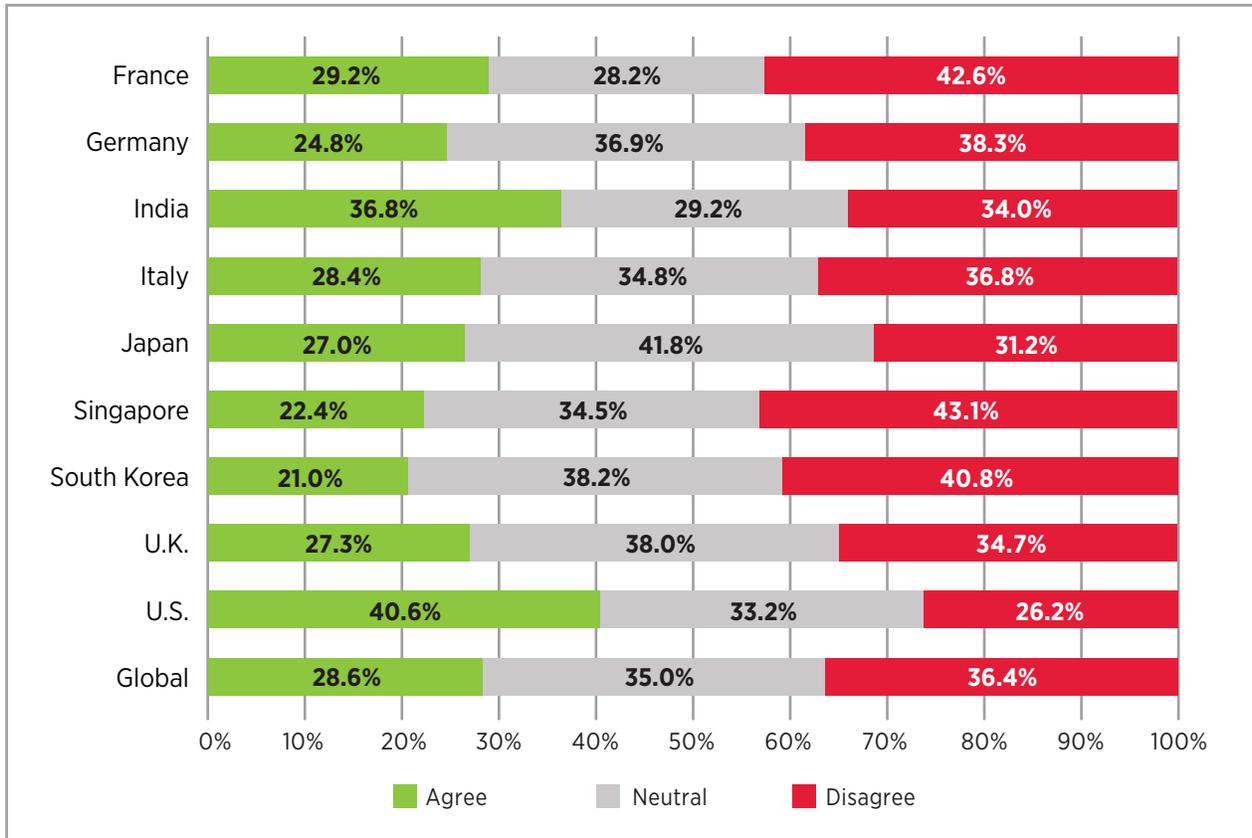


Figure 42: I'm okay with multiple advertisements during a longer video if the content is free

VIDEO REBUFFERING IS THE PRIMARY VIEWING FRUSTRATION

Video rebuffering (when the video pauses during playback so it can reload) remains the most frustrating aspect of online viewing. 43.1 percent of global consumers noted it as their primary issue with watching online video.

Country	When I have to wait for the video to start playing	When the quality of the video is poor (i.e., blurry, hard to see, etc.)	When the video is unavailable from the device I am using	When the video rebuffers (i.e., the video pauses during playback so it can reload)
France	18.6%	43.0%	7.6%	30.8%
Germany	15.4%	25.1%	11.2%	48.3%
India	15.6%	37.4%	8.2%	38.8%
Italy	10.6%	29.2%	8.6%	51.6%
Japan	15.0%	27.2%	25.6%	32.2%
Singapore	10.2%	33.1%	10.2%	46.5%
South Korea	22.6%	31.4%	9.8%	36.2%
United Kingdom	11.8%	27.5%	9.4%	51.2%
United States	11.8%	24.8%	11.0%	52.4%
Global	14.6%	31.0%	11.3%	43.1%

Figure 43: What is the most frustrating aspect of watching video online?

Most viewers will wait out a single rebuffer before they will stop watching but after a second rebuffer 66.3 percent of people will stop watching.

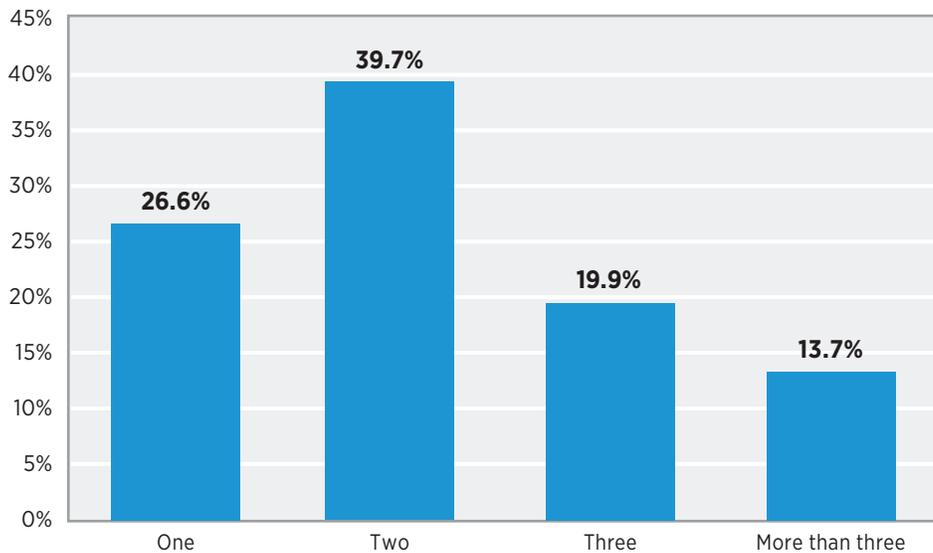


Figure 44: How many times will you let an online video rebuffer before you stop watching and abandon it?

Globally, viewers will abandon a video after an average of 2.2 rebuffer. The most impatient viewers are in South Korea, where people will stop watching after an average 1.9 rebuffer. The most tolerant are in Japan at an average of 2.63 rebuffer.

Country	One	Two	Three	More than three	Average
France	37.2%	39.8%	17.6%	5.4%	1.91
Germany	31.3%	43.1%	17.0%	8.6%	2.03
India	26.4%	42.4%	17.8%	13.4%	2.18
Italy	37.0%	38.8%	16.2%	8.0%	1.95
Japan	23.6%	23.4%	19.2%	33.8%	2.63
Singapore	17.8%	36.7%	25.1%	20.4%	2.48
South Korea	34.4%	47.0%	12.6%	6.0%	1.90
United Kingdom	18.9%	44.2%	23.1%	13.9%	2.32
United States	13.0%	42.2%	30.6%	14.2%	2.46
Global	26.6%	39.7%	19.9%	13.7%	2.21

Figure 45: How many times will you let an online video rebuffer before you stop watching and abandon it (by country)?

Expectations for online video performance vary by age. Older viewers are the least less patient with rebuffering. 33.6 percent of people over 60 will stop watching after the first rebuffer. Only 18.4 percent of those 18-25 will stop watching the first time.

Age	One	Two	Three	More than three	Average
18-25	18.4%	36.7%	27.7%	17.2%	2.44
26-35	21.5%	43.5%	20.5%	14.5%	2.28
36-45	25.4%	40.6%	21.8%	12.2%	2.21
46-60	29.6%	39.3%	17.2%	13.9%	2.15
Over 60	33.6%	38.3%	16.3%	11.9%	2.06
All Ages	26.6%	39.7%	19.9%	13.7%	2.21

Figure 46: How many times will you let an online video rebuffer before you stop watching and abandon it (by age)?

Viewers expectations for high quality online videos have increased over time.

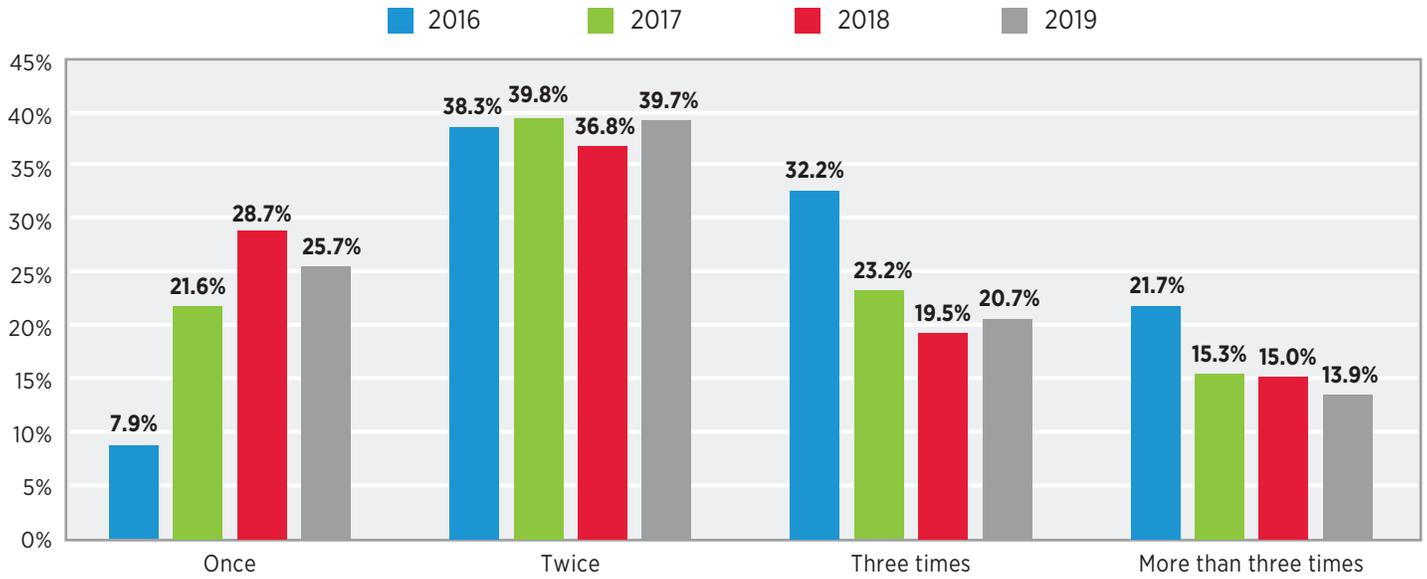


Figure 47: How many times will you let an online video rebuffer before you stop watching and abandon it (by year)?

CONCLUSIONS AND RECOMMENDATIONS

Content distributors should consider the following recommendations to provide consumers with a viewing experience that maximizes engagement regardless of device or location.

MAKE CONTENT AVAILABLE ON ANY DEVICE

Online video is viewed on a broad range of internet connected devices all over the world. Viewers expect the same performance regardless of where or how they are watching video. To allow for consistent experiences across devices, Content Delivery Networks (CDN) provide video services to make packaging and distribution of live and on-demand content simpler, by automatically packaging video in the correct format for each of the many different devices used to watch online video. This offloads the complex workflow used to create the different streaming media formats, such as HLS, MPEG-DASH, and MSS. For on-demand content, this eliminates the need to pre-encode and store multiple versions, saving storage costs. For live streaming, a single high bitrate ingest can be transcoded to the multiple bitrates required for adaptive bitrate delivery. These services ensure online video can be easily and efficiently delivered at the highest quality to as many viewers as possible.

ENSURE HIGH-QUALITY MOBILE VIEWING EXPERIENCES

It's more important than ever for content providers to take a mobile first viewing focus. Many regions don't have a robust broadband infrastructure in place, and mobile connections are often subject to changes in bandwidth and latency that can cause video to rebuffer when network conditions change during playback. Content providers can solve these challenges by using a CDN video delivery service that continually monitors and optimizes video delivery based on realtime conditions. This ensures each viewer receives the highest picture quality while minimizing rebuffering that causes viewers to stop watching.

DELIVER REALTIME LIVE CONTENT

Live video stream viewing is growing in popularity across sports, online auctions, gambling and esports. Sub-second live video enables creating interactive online experiences by integrating live data with video. Sports fans can now have more options for how they watch, such as which camera angle they would like to view, right from their computer or mobile device. Fans of eSports can participate in event commentary along with the live in-arena audience. Realtime live video opens up new business opportunities in sports, gaming, auctions, and more by making live viewing a more interactive social experience. More than half (58%) of viewers would be more likely to watch live sports online if the online stream was not delayed from the television broadcast. To capture these viewers, sports broadcasters and other distributors of live online content should choose a streaming partner that offers live streaming that can deliver content to viewers with a range of latencies appropriate for specific use cases, including sub-second latency where viewer interactivity is important. This will ensure online viewers experience the action as it happens, increasing both online viewership and revenue opportunities.

APPENDIX - DEMOGRAPHICS

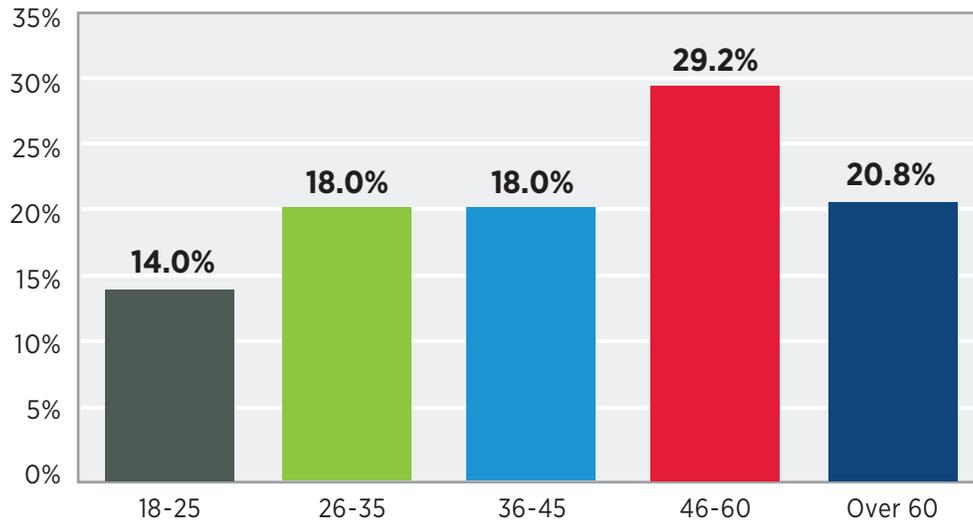


Figure 48: How old are you?

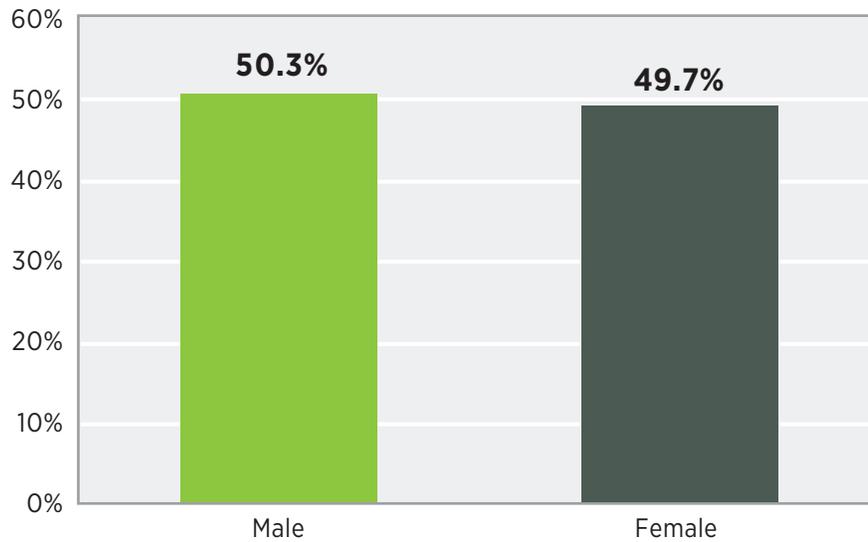


Figure 49: What is your gender?

METHODOLOGY

This survey was fielded by a third-party company with access to consumer panels in France, Germany, India, Italy, Japan, Singapore, South Korea, the U.K., and the U.S. Approximately 500 responses were collected from each country for a total of 5,000 global responses. Survey responses were collected between August 1-12, 2019.

ABOUT LIMELIGHT NETWORKS

Limelight Networks Inc., (NASDAQ: LLNW), a leading provider of digital content delivery, video, cloud security, and edge computing services, empowers customers to provide exceptional digital experiences. Limelight's edge services platform includes a unique combination of global private infrastructure, intelligent software, and expert support services that enable current and future workflows. For more information, visit www.limelight.com, follow us on Twitter, Facebook, and LinkedIn.

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