



EVERYBODY WANTS TO RULE THE STREAMING WORLD:

How Advanced Data & Analytics Alleviate Video Streaming Pain Points

Subscription video-on-demand (SVOD) services have reshaped the way we enjoy television. But while our unquenchable thirst for content is changing our behavior around content consumption, it is not driving us to cut the cord with our pay TV provider, as many had feared. Instead, we are adding SVOD to the smorgasbord of video content we already enjoy.

In our survey of 1000 U.S. consumers, two-thirds of adults reported using an SVOD service. Of these, nearly half use them as much as, or more than, their pay television service. Considering the first SVOD service launched less than a decade ago, this explosive adoption is a remarkable achievement. Subscribers also state that the desire for more content leads them to sign up for a service – with the exception of Amazon Prime Video subscribers, who are more interested in the other benefits.

SVOD has sparked new consumer behaviors. Binge viewing has become so common that pay TV providers like Comcast

have adopted it for their own, heavily promoting “watchathons” that leverage their VOD systems. Another new learned behavior, password sharing, has been met with a much frostier reception by the industry. However, research in this report suggests these concerns are likely overblown, as a minority admit to sharing passwords outside of their immediate family.

What’s more, cross-device, multiscreen viewing has become very important to the SVOD experience. In our survey, a quarter of users stated that their primary screen for watching is a tablet or smartphone. That said, the connected TV commands the most attention, with 43% of users saying it is the primary screen they use to watch SVOD content.

With so much viewing that takes place on the TV set, it is no surprise that consumers have come to expect a TV-quality experience. Unfortunately, most are not getting it. Three-quarters of SVOD users report experiencing buffering and slow stream starts while viewing, and nearly 1 in 5 consider technical problems so serious they are likely to cancel their service because of it.

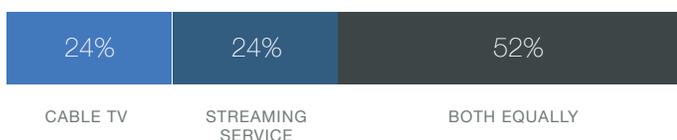
When it comes to churn, too many ads and high costs are the most common reasons that subscribers cancel an SVOD service. Not enough content to watch and technical problems are next on the list, emphasizing once again that viewers not only have a strong appetite for content, but also expect a premium experience.

I'LL BE WATCHING YOU: TAKING STEPS TOWARD SVOD

Since the launch of Netflix streaming services in 2007, subscription video on-demand (SVOD) services have been adopted by US consumers faster than any other pay media service. Today, almost two-thirds (63%) of consumers use them and spend a significant amount of viewing time with them. Nearly half of those with SVOD and pay television watch their streaming services as much as, or more than, cable. The difference is even more pronounced for younger viewers, with 72% of millennials stating they watch SVOD services as much as or more than pay TV.

WHICH DO YOU WATCH MORE:

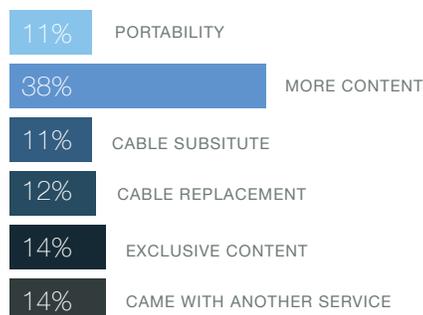
cable TV or your streaming service (Netflix, Hulu, etc.)?



When it comes to paying the SVOD bill, however, those same millennials would rather let someone else carry the load. Of those that use a service, 30% say that someone else pays the bill. As we shall see, password sharing is much more prevalent among this age group, too.

It will come as no surprise that Netflix completely dominates the SVOD category. Almost three quarters (72%) of SVOD users are Netflix subscribers. Amazon Prime Video is the next most popular service, but is far behind Netflix with 14%. Hulu is a distant third with 7% of SVOD users reporting that they use the service. HBO Now, which had been in US market just under a year when our survey was fielded, has been adopted by a little under 2% of consumers.

WHY DID YOU INITIALLY SUBSCRIBE TO YOUR FAVORITE STREAMING SERVICE?



Access to great content remains the primary reason people sign up for one or more services. Thirty-eight percent (38%) of US consumers simply can't get enough movies and TV, and added their SVOD service to augment existing sources. Fourteen percent (14%) said it was the only place they could find an exclusive show like House of Cards or The Man in the High Castle.

DO YOU SUBSCRIBE TO AMAZON PRIME SPECIFICALLY FOR VIDEO?

NO, I SUBSCRIBED FOR THE SHOPPING BENEFITS — I DIDN'T KNOW THEY OFFERED STREAMING VIDEO



NO, I SUBSCRIBED FOR THE SHOPPING BENEFITS, AND DON'T WATCH THE VIDEOS



NO, I SUBSCRIBED FOR THE SHOPPING BENEFITS, BUT I WATCH THE VIDEO TOO



YES, I LOVE THEIR VIDEO CONTENT!

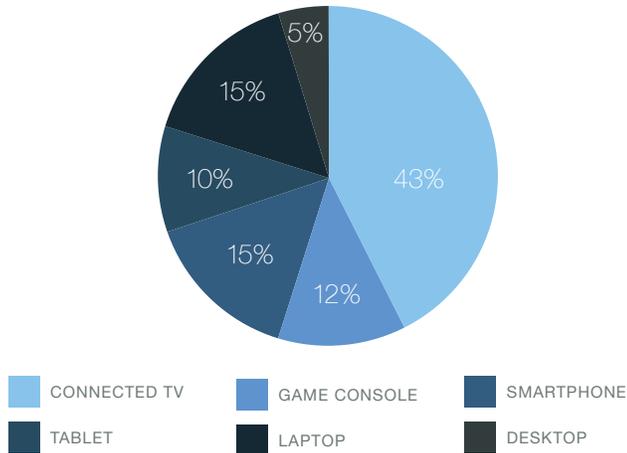


There is one group that didn't sign up primarily for more content: Amazon subscribers. In our survey, we specifically asked Prime members how free video affected their decision to subscribe. Just 14% said Prime Video was the main reason, while the rest signed up for the shopping benefits that accompany an Amazon Prime membership. The good news for Amazon is that, regardless of their motivation for subscribing, three quarters of Prime members use the free video services. However, this data suggests the new Amazon Prime Video standalone service, which costs \$8.99 a month and omits the shopping benefits, could struggle to find customers without the additional enticements.

WE ARE FAMILY: PASSWORD SHARING WITH YOUR NEAREST AND DEAREST

While the PC still holds sway for online video in general, it is the connected television that dominates for SVOD. Fifty-five percent (55%) of respondents say they primarily use their smart TV, Roku, Apple TV, game console or other connected TV device to watch their favorite streaming service. This underscores how far SVOD services have come in the past decade; for the vast majority, they are now analogous to television, no different from pay TV. As a result, consumers have come to expect the same quality, availability and experience as their pay TV service.

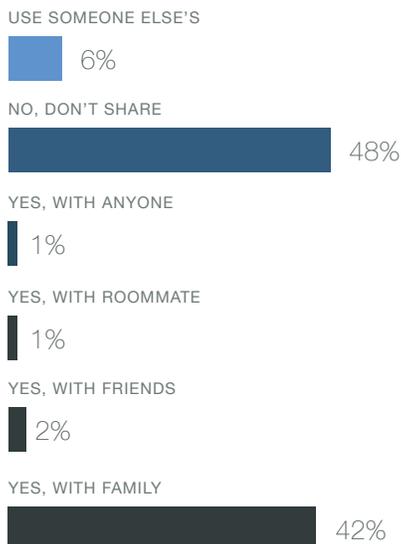
WHICH DEVICE DO YOU USE MOST OFTEN TO WATCH YOUR STREAMING SERVICE?



Every age group strongly prefers the connected television, though there are some differences between them when it comes to other devices. For example, millennials prefer PC (23%) and smartphone (16%), while the 30-44 year olds like smartphone (18%) and tablet (12%). As you would expect, more millennials say they use game consoles than any other group.

Password sharing is a subject that has attracted a lot of attention recently. For example, Variety reported that sharing was rampant, projecting that the SVOD industry could be missing out on a half billion dollars in revenue. Our data reveals a different picture.

DO YOU SHARE THE PASSWORD FOR THE STREAMING SERVICE YOU PAY FOR WITH ANYONE ELSE?



We asked survey participants if they borrowed a password to try a service before they subscribed, and 27% said they had done so. Though this might at first sound alarming, most of the borrowing appears to be happening between family members. A little under half say they do not share their password at all, and 42% say they share it with family members. Just over 4% share their password outside the family circle.

Millennials, who are widely believed to be the most promiscuous password sharers, are much more likely to have used a borrowed password before subscribing; half admit to doing this. That said, once they subscribe, they are no more likely to share their own password outside the family circle than anyone else.

There is one group that is more reluctant to share passwords than the rest: Amazon Prime members. Of those, 62% say they do not share their password. They have good reason to be more cautious, as sharing an Amazon Prime password provides access to all the shopping benefits (including one-click purchasing).

SHOULD I STAY OR SHOULD I GO? WHY VIEWERS LEAVE THEIR SVOD SERVICE

Reed Hastings, Netflix's CEO, claimed that the company was seeing an unusual number of "passive cancellations," where a credit card expires and the user fails to update the details. Our survey seems to suggest this could be a problem. Sixteen percent (16%) of respondents said that they had lost their subscription to a streaming service because they had received a new credit card and failed to update their billing information. Interestingly, this seems to impact 30-44 year olds much more than other age groups, with 28% of that group confirming passive cancellation has happened to them.

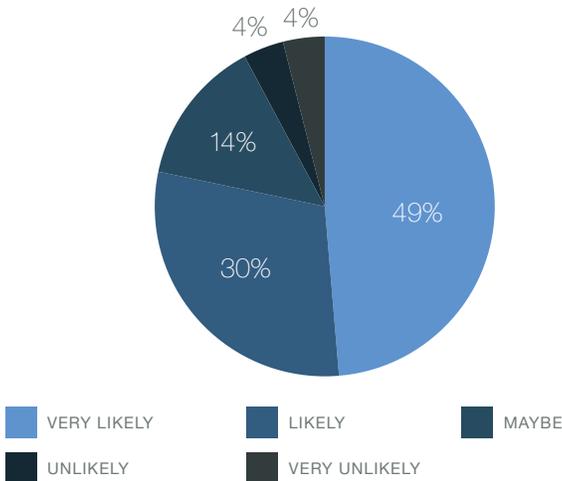
HAVE YOU EVER CANCELLED A STREAMING SERVICE SUBSCRIPTION?



It seems, however, that most people value their SVOD service enough to want to update their credit card details. Seventy-eight percent (78%) of respondents say they are either likely or very likely to fix the problem, and this remained true regardless of age group or primary SVOD service used. Of the the 16% of passive cancellers, only a quarter, or 4%, are really at risk of permanently leaving a service due to passive cancellation.

HOW LIKELY ARE YOU TO RE-SUBSCRIBE TO YOUR FAVORITE STREAMING SERVICE

if you get a new credit card and have to update your billing information?



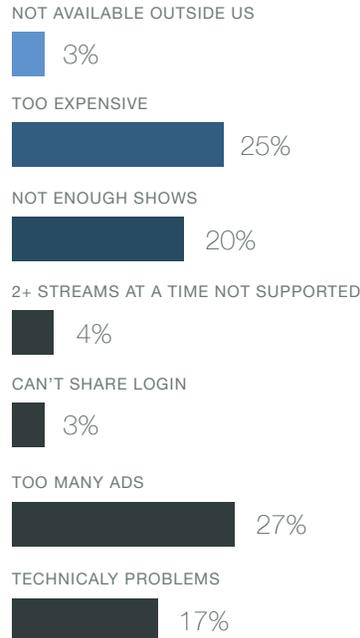
Deliberate cancellation of SVOD services is more common than the passive cancellations. Thirty-one percent (31%) of survey participants say they have cancelled an SVOD service at some point in time. This might seem very high at first, but looking at pay TV can give us some perspective on subscriber churn.

DISH Network reports that its churn, the proportion of subscribers that cancelled their service, was approximately 5% per quarter (22% on an annualized basis) in 2015. This is a huge problem for a pay TV operator like DISH as the costs involved in signing up a new customer (so-called subscriber acquisition costs, or SAC) are enormous, around \$730 in 2015. This issue is not nearly so troublesome for SVOD, as SAC is just a few dollars.

One interesting thing to note is that respondents who stated that their primary service is Hulu or Amazon are more likely to have cancelled service in the past. Forty percent (40%) said they had cancelled one of the former services, versus 30% for Netflix.

We asked our survey participants what factors were most likely to make them leave a service. Usually cost is the number one reason people cite for cancelling, but in our survey, more people indicated they were bothered by ads. Twenty-seven percent (27%) said too many ads would make them quit, compared to 25% citing cost. Nearly twenty percent (20%) indicated a lack of good content to watch would drive them away, and another 17% said technical problems would cause them to leave.

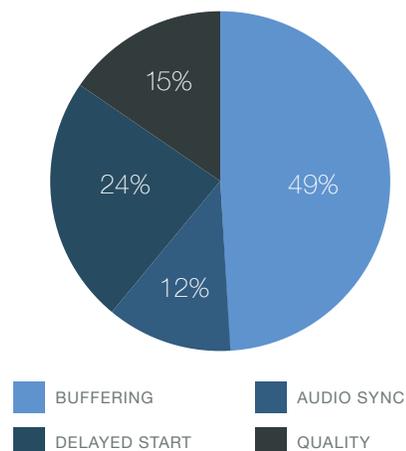
WHICH OF THESE ISSUES ARE MOST LIKELY TO MAKE YOU CANCEL A SUBSCRIPTION TO A STREAMING SERVICE?



RIGHT HERE WAITING... FOR YOUR VIDEO TO STREAM

Quality remains a critical component of SVOD experiences. Of all the problems that can afflict a streaming video session, delays in viewing remain the most pernicious. Alarming, buffering and delayed starts impacted nearly three-quarters of survey participants most often, with half of respondents citing buffering as the biggest problem. Video quality was an issue for 15%, and 12% reported problems with the audio being out of synchronization with the picture.

WHICH OF THESE TECHNOLOGICAL PROBLEMS HAVE YOU ENCOUNTERED MOST OFTEN WHILE USING A STREAMING SERVICE?

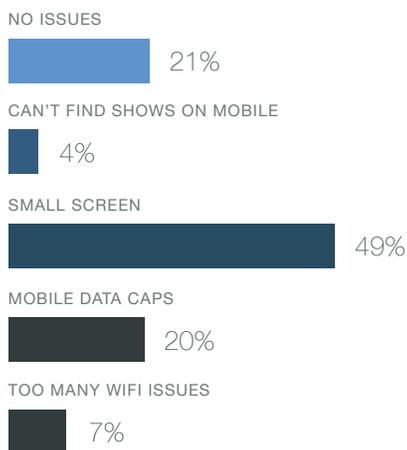


When examining the degree to which these issues impacted viewing, two-thirds of respondents stated that buffering and delayed starts are liable to drive them to quit streaming a video. Further, 17% said that technical problems would likely drive them to cancel an SVOD service altogether. As a result, streaming service providers must pay extra mind to backend mechanics to ensure users have the smoothest viewing experiences.

Many different issues can cause these technical problems with video streaming, and they can occur anywhere in the network. For example, a buffering issue could be due to the ISP under-provisioning bandwidth in its broadband network. It could equally well be the streaming service itself under-provisioning its streaming capacity. Unfortunately for ISPs, they are the ones that consumers call first when any of these problems occur; 71% said they blame their broadband provider first.

Mobile presents its own special set of challenges to consumers seeking to stream video. We asked our survey participants what their biggest challenges were when watching movies and TV shows on mobile devices. Given a choice, most people would select the biggest screen at their disposal to watch. So it is perhaps logical that half of our survey participants say screen size is a pain point. Streaming via a mobile data plan continues to be a problem; mobile data caps were cited as a big issue by 20% of respondents. Millennials are particularly sensitive to this, with 30% of them citing their mobile data cap as a problem. Wi-Fi seems to be much less fraught with streaming issues, as just 7% say the technology caused problems when trying to stream to their mobile or tablet.

WHAT'S YOUR BIGGEST CHALLENGE WITH WATCHING TV SHOWS OR VIDEOS ON YOUR MOBILE PHONE OR TABLET



Overall, it looks like mobile streaming is still problematic for many. Just 21% said they had no issues with mobile streaming at all. Clearly, there is room for growth on the side of both the streaming service and network provider to elevate the viewing experience on the smallest screens.

CONCLUSION

Streaming video is becoming increasingly popular worldwide as viewers seek out new ways to supplement the traditional television viewing experience with premium, more personalized content. In the race to stake a claim in today's increasingly crowded market and compete for audience attention, it is imperative that content providers understand their viewers' needs, wants, and pain points to maintain a successful business.

But how can streaming services best determine what content is likely to be most watched, which devices should be supported, and what price point is ideal? The answer lies in data.

During the growth phase, new SVOD entrants must maximize customer acquisition and reduce churn on a limited budget. Data allows service providers to fully understand which assets are most popular, at what point viewers drop out of videos, and which demographics engage with different types of content. Understanding these audiences preferences and content performance metrics enable SVOD services to make educated decisions about content acquisition and production. Since consumers prioritize the content available on the service as a reason to join and maintain their subscription, nailing the content offering is crucial to driving early momentum.

Taking that one step further, data provides SVOD services with a 360-degree view of their audience, allowing them to personalize the user experience to each individual's habits and preferences. Success in SVOD lies in delivering the right content to the right user at the right time. This also enables better ad targeting and could alleviate a pain point for 27% of respondents, who said that too many ads would cause them to cancel their subscription.

Our survey found that 42% of respondents shared their password with family members, which could pose a problem for service providers who want to deliver a personalized viewing experience. However, data can solve for this as well. By comparing general demographic trends across a large population, streaming services can predict how they expect users to consume content, and then can cross-check those patterns with cognitive findings. Thus, based on viewing behaviors and social insights, providers can determine who is

accessing content at a given time, and proactively surface the right video for the viewer -- even if multiple people are using one account.

Lastly, service providers cannot take technical infrastructure for granted. Of those surveyed, 17% of respondents reported that technical problems would likely drive them to cancel an SVOD, and 49% of expressed that the technical issue they encounter most often is buffering. As live-streaming grows in importance and prevalence, content providers must have the technology to handle massive spikes in viewer traffic at any given time to prevent site crashes and streaming disruptions. Data can help SVOD services better understand viewing habits and plan for peak demand.

Launching a new SVOD offering is a complex, and service providers must carefully consider many factors from the very beginning: what content to license and feature, which devices to support, how to manage pricing and billing, and which solution can guarantee the best technology and service quality. Data provides the necessary insights to inform these critical decisions, thus creating a better overall experience for each and every viewer.

ABOUT THE DATA

The online survey of 1007 US adult SVOD users was conducted in April 2016.

ABOUT IBM CLOUD VIDEO UNIT

Created in January 2016, IBM Cloud Video brings together innovations from IBM's R&D labs with the cloud video platform capabilities of Clearleap and Ustream. Through the unit, IBM delivers a powerful portfolio of video services that spans open API development, digital and visual analytics, simplified management and consistent delivery across global industries. IBM Cloud Video supports top media and enterprise companies with reliable video on-demand and streaming services. For more information on IBM Cloud Video, please visit www.ibm.com/cloud-computing/solutions/video/.

¹ Chris Welch, HBO Now launches on Apple TV, theverge, April 7 2015, <http://www.theverge.com/2015/4/7/8362229/hbo-now-available-now-apple-tv> (accessed on 5/6/16)

² Todd Spangler, Amazon Launches Prime Video Standalone for \$9 a Month, Variety, April 17 2016, <http://variety.com/2016/digital/news/amazon-prime-video-standalone-monthly-1201755340/> (accessed on 5/6/16)

³ Todd Spangler, Password Sharing: Are Netflix, HBO Missing \$500 Million by Not Cracking Down?, Variety, July 15 2015, <http://variety.com/2015/digital/news/netflix-hbo-password-sharing-illegal-1201538908/> (accessed on 5/6/16)

⁴ Sam Thielman, Netflix CEO blames credit card changes for subscribers leaving service, theGuardian, October 14 2015, <http://www.theguardian.com/media/2015/oct/14/netflix-ceo-blames-credit-card-changes> (accessed on 5/7/16)

⁵ Data obtained from Q1-4 public financial filing information published by DISH Network. <http://dish.client.shareholder.com/financials.cfm> (accessed on 5/7/16)
