The Threat of Credential Sharing & Theft

Credential sharing is a common consumer behavior and its impact on streaming video providers is significant.

A recent Cartesian survey of streaming video service users found that 22% of US residents admit to using credentials obtained from someone outside their household to access video content without paying for it. The problem is even greater among younger generations, as 42% of those aged 18-24 years report using shared credentials to watch content for free.

These numbers are daunting, but there's a potential upside – streaming video providers have as many as 46 million engaged viewers who are not paying for their service today that could be targeted. While this sounds like a challenging sales proposition, consumer sentiment is encouraging: 56% of US residents who reported using shared credentials also indicated they would be willing to pay if their free access no longer worked. Capturing this opportunity will require providers to navigate a tricky balance. How do you prevent credential sharing and theft outside the household, without negatively affecting the experience for paying users?

The following research from Cartesian will help providers understand the impact of credential sharing on their business and understand ways they can respond to it effectively.

Login Password Content Access Free Don't tell Credentials Secret

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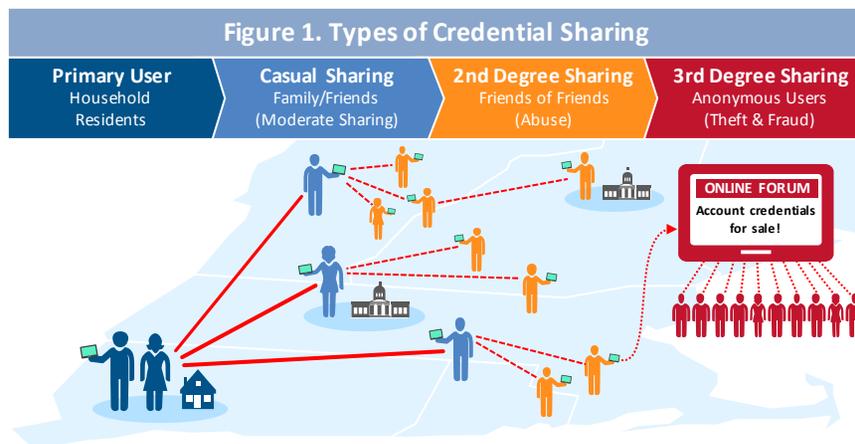## Credential sharing is a common consumer behavior.

The activity we assess in this report focuses on individuals accessing content using a set of credentials that are not paid for by someone in their household. These users typically obtain credentials from someone in their social network or from online sources.

Understanding the impact of this specific activity is critical for the streaming video industry, as there are several potential negative impacts, including lost revenue, risk of customer data exposure and increased operational costs.

Cartesian conducted a survey of US residents aged 18-60 to understand the scale of the problem, why credential sharing happens, and what actions can be taken to prevent it.
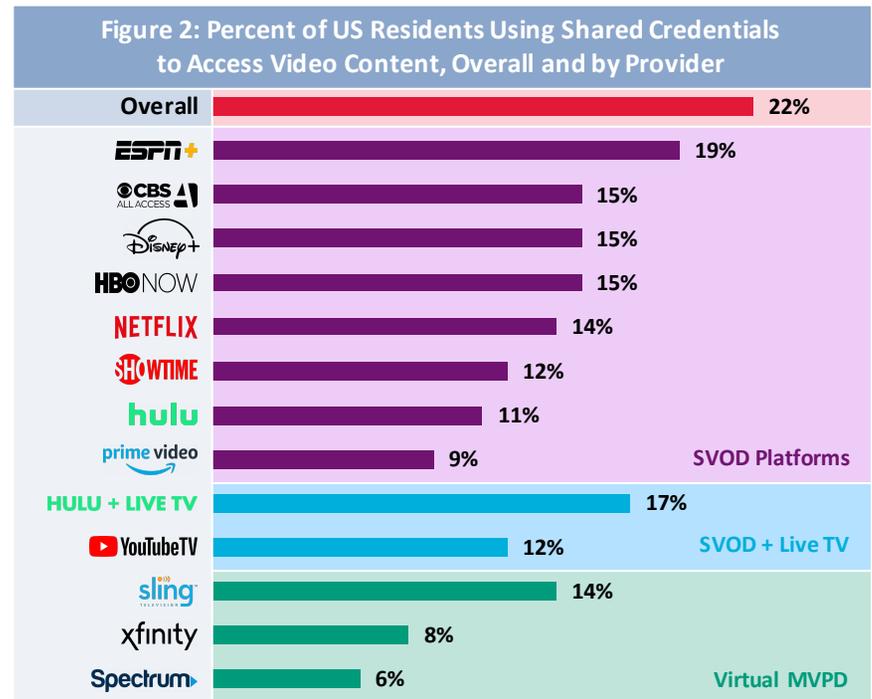
In this report, we analyze the responses to answer the following questions:

1. How many people use shared credentials, and on which platforms?
2. Who is using shared credentials?
3. Where do shared credentials come from?
4. Why do people believe that credential sharing is OK?
5. Would people pay if shared credentials stopped working?
6. How much does credential sharing cost providers, and how can they prevent it?

Figure 1. Types of Credential Sharing

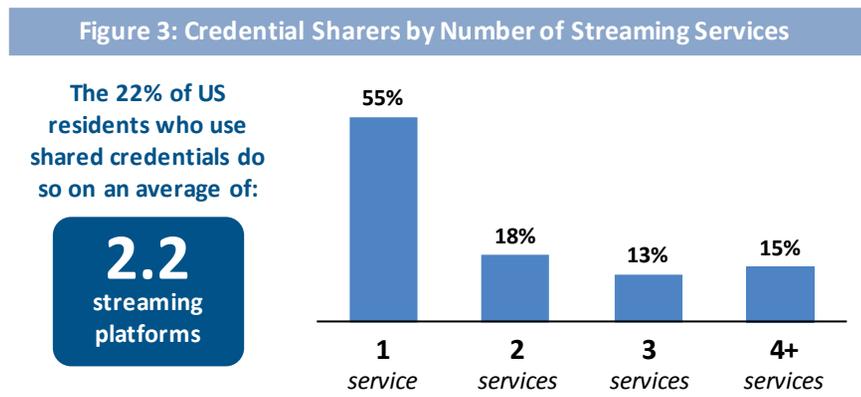| Primary User Household Residents | Casual Sharing Family/Friends (Moderate Sharing) | 2nd Degree Sharing Friends of Friends (Abuse) | 3rd Degree Sharing Anonymous Users (Theft & Fraud) |

ONLINE FORUM
Account credentials for sale!

1 How many people use shared credentials, and on which platforms?

We found that 22% of US residents – 46 million people – are using credentials borrowed, purchased or stolen from someone outside their household to access video content without paying for it. This is typically prohibited behavior within streaming video providers' terms of service. However, since the barriers to using shared credentials are low, many individuals engage in this behavior without hesitation, often for multiple services.

Figure 2: Percent of US Residents Using Shared Credentials to Access Video Content, Overall and by Provider

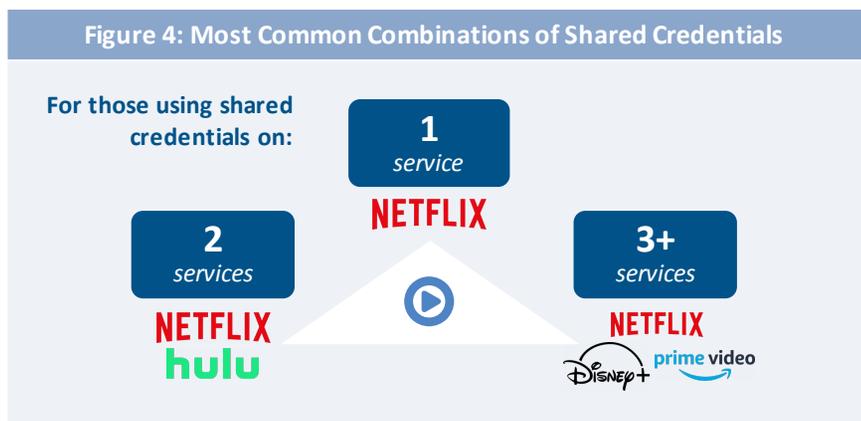|	
Overall	22%
ESPN+	19%
CBS ALL ACCESS	15%
Disney+	15%
HBO NOW	15%
NETFLIX	14%
SHOWTIME	12%
hulu	11%
prime video	9% — SVOD Platforms
HULU + LIVE TV	17%
YouTube TV	12% — SVOD + Live TV
sling	14%
xfinity	8%
Spectrum	6% — Virtual MVPD

Credential sharing is common across nearly all popular streaming video platforms. As the top services continue differentiating their offers through a mix of new original content, deep archives, live sports, linear channels, content aggregation, and content recommendations, demand for access to these platforms remains strong, and a subset of users do not feel compelled to pay to access the content.

Those who engage in credential sharing often do so on multiple platforms. Of the 22% of US residents who admit to using shared credentials, on average they are doing so for 2 services, and the top 15% are using shared credentials for 4 or more services:

Figure 3: Credential Sharers by Number of Streaming Services

The 22% of US residents who use shared credentials do so on an average of:

2.2 streaming platforms

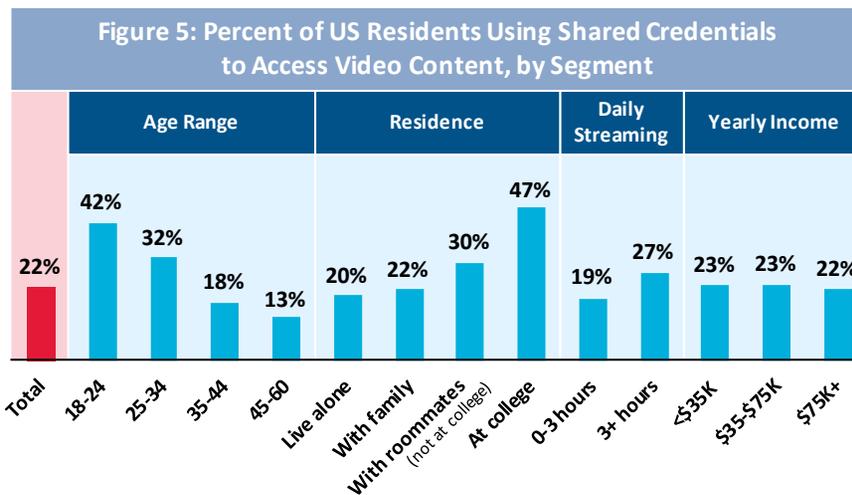| 1 service	2 services	3 services	4+ services
55%	18%	13%	15%

Once an individual starts using shared credentials, many eventually progress to doing so across multiple platforms to obtain access to a compelling mix of content. Netflix is a popular choice, whether users are using shared credentials for one service or multiple:

Figure 4: Most Common Combinations of Shared Credentials

For those using shared credentials on:

1 service: NETFLIX

2 services: NETFLIX hulu

3+ services: NETFLIX Disney+ prime video

Services that provide access to content from a range of genres frequently appear in popular combinations. It's notable that Disney+ is already a common choice for users that access 3+ services with shared credentials, less than a year after launch.

2 Who is using shared credentials?

Credential sharing is most common among younger generations. 45% of college students, 42% of 18-24 year-olds, and 32% of 25-34 year-olds use shared credentials to access at least one service:

Figure 5: Percent of US Residents Using Shared Credentials to Access Video Content, by Segment

Total	Age Range				Residence				Daily Streaming		Yearly Income		
	18-24	25-34	35-44	45-60	Live alone	With family	With roommates (not at college)	At college	0-3 hours	3+ hours	<$35K	$35-$75K	$75K+
22%	42%	32%	18%	13%	20%	22%	30%	47%	19%	27%	23%	23%	22%

The strongest predictors of shared credential usage are age and college attendance. While younger segments are more likely to use shared credentials, the behavior does not stop when they reach their mid-twenties. In fact, 32% of 25-34 year-olds used shared credentials which is substantially greater than average (22%), followed closely by 30% of those with non-collegiate roommates.
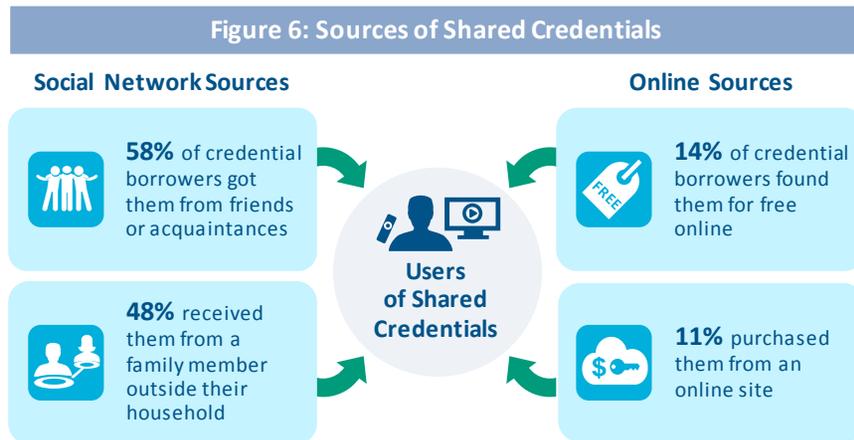
Higher levels of daily streaming video consumption is also associated with greater use of shared credentials. Income, on the other hand, has almost no relationship with shared credential use, suggesting that the decision to use shared credentials is not just a function of disposable income. We explore this more in section 4.

A key question for providers is whether these younger generations will naturally convert to paid customers over time, as free access to content could be a strong marketing tactic. However, our research suggests a

more nuanced journey: while some younger individuals will likely convert to paid customers as they age, a large portion will likely continue the status quo unless credentials become difficult to obtain and use.
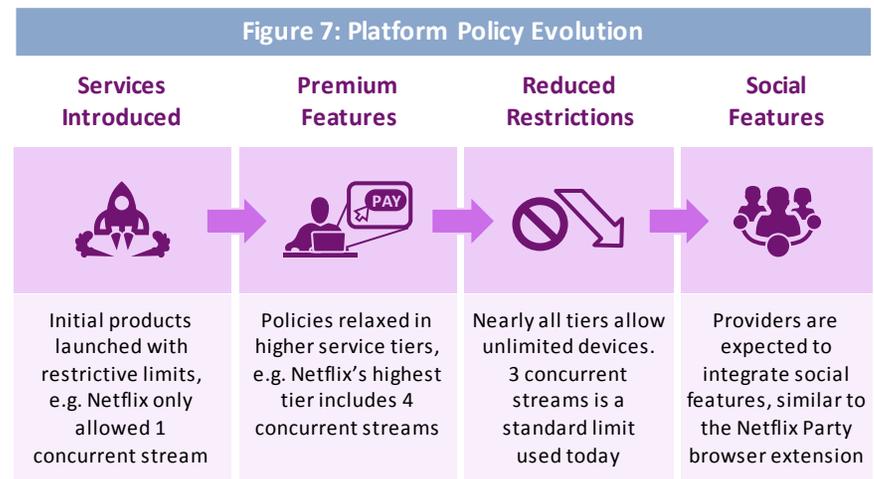
3   Where do shared credentials come from?

A significant portion of people share credentials from services they pay for – 27% of individuals surveyed reported sharing credentials with someone outside of their household. Most sharing occurs within existing social networks, as it's most common for people to obtain shared credentials them from someone they know. From the individuals who reported using shared credentials, 58% get them from a friend or acquaintance, and 48% get them from a family member outside of their household.

Figure 6: Sources of Shared Credentials

Social Network Sources

58% of credential borrowers got them from friends or acquaintances

48% received them from a family member outside their household

Users of Shared Credentials

Online Sources

14% of credential borrowers found them for free online

11% purchased them from an online site

There are some users who obtain credentials from people they do not directly know – 14% of people found credentials online and 11% purchased illegally from an online site, suggesting that online forums and dark-web markets are a go-to source for a significant minority of people. This type of behavior is even more common among younger segments, as 20% of 18-24 year-olds surveyed reported that they purchased credentials online. Many of these credentials are initially obtained through an account takeover and represent theft.

Our research also found another way that users obtain credentials from people they do not directly know: 60% of those who use shared credentials indicate they further share them with others, effectively making them *super sharers*. These individuals are enabling second- and third-degree sharing and may be one source of credentials that ultimately end up online.

The evolution of streaming video provider policies has helped to make this possible. Over the past decade, streaming video providers have taken steps to increase their value propositions by improving end-user experiences. Many of the actions taken were designed to make the services more appealing to large households with multiple users, but they have simultaneously reduced the barriers and friction associated with credential sharing.

Figure 7: Platform Policy Evolution

Services Introduced	Premium Features	Reduced Restrictions	Social Features
Initial products launched with restrictive limits, e.g. Netflix only allowed 1 concurrent stream	Policies relaxed in higher service tiers, e.g. Netflix's highest tier includes 4 concurrent streams	Nearly all tiers allow unlimited devices. 3 concurrent streams is a standard limit used today	Providers are expected to integrate social features, similar to the Netflix Party browser extension

Today, streaming providers have converged on a standard and permissive set of policies. Subscribers who share their passwords with family and friends outside their household rarely need to worry about hitting device limits when they add new household devices or bumping up against concurrent streaming limits when they are trying to watch content.

Figure 8: Current Platform Policies

Provider	Product	Concurrent Stream Limit (Number of Simultaneous Viewers Allowed)	Device Limit (Devices Usable on One Account)
NETFLIX	Netflix	1, 2 or 4	✗ (none)
amazon	Prime Video	3	
Apple	Apple TV Plus	6	
hulu	Hulu	1 or 2	
NBC	Peacock	3	
HBO	HBO MAX	3	
SHOWTIME	Showtime/Showtime Anywhere	3	
CBS	CBS All Access	2	
Disney	Disney Plus	4	10 mobile, none for others
STARZ	Starz	2	4

Figure 9: How People Justify Credential Sharing

I choose who has access to my passwords	37%
Everyone does it	33%
There is no additional cost to share my streaming services	30%
Paying for me is the same as paying the rest of my family who live elsewhere	27%
The streaming services I share are not that valuable to me	18%
It is OK if it is just for temporary use	16%
It is just not worth the cost	16%
I can charge people for sharing my password	5%

Monetary concerns were a key driver for some sharers

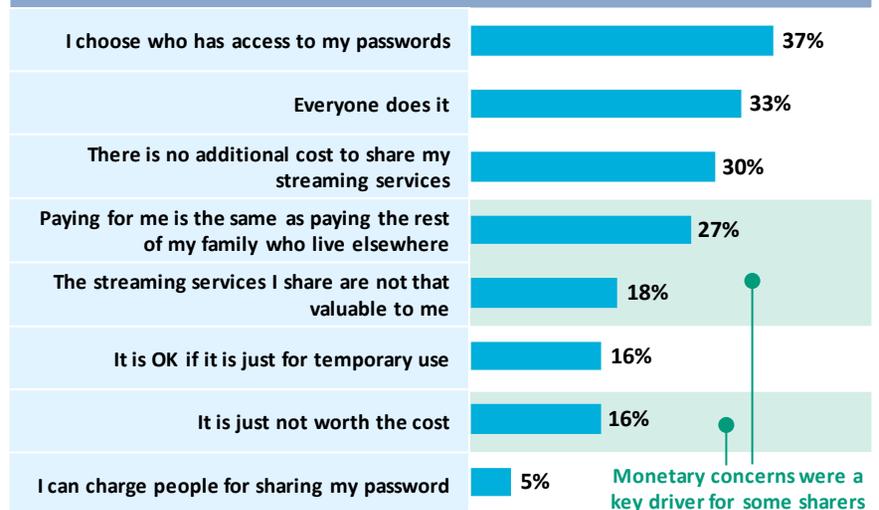## 4 Why do people believe credential sharing is OK?

It's clear that credential sharing is common: 22% of US residents admit to using shared credentials to access one or more streaming video services, and 27% of US residents admit to giving their credentials away. So why do people believe this behavior is acceptable?

We found that individuals justify it for a wide range of reasons, but the common theme is that the behavior doesn't appear to be perceived as theft (see Figure 9).

Subscribers generally view their credentials as something they own and control. Since they're paying for the service, they believe they should be able to choose who can access their accounts, even if those individuals do not live in their household, which is generally a violation of streaming providers' terms of service.

This view likely evolved over time and became more widespread as password sharing has become more common. 33% of individuals simply justify the behavior by suggesting that everyone else does it, and across

all surveyed individuals, only 7% indicated it's not OK to share. It's notable that nobody aged 18-24 years old indicated it's not OK to share, indicating younger generations perceive no ethical issues.

A small number of subscribers appear to be motivated by financial gain, as 5% of all sharers indicated they can charge people for their credentials. In most cases, this likely represents subscribers subsidizing the cost of their services by selling access within their network of family and friends, but in some cases could represent selling credentials online to strangers.
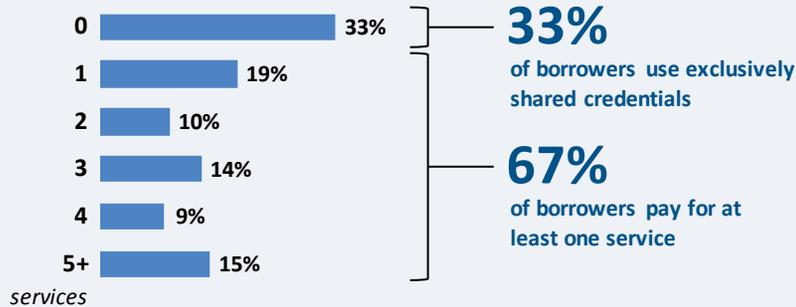
5 Would people pay if shared credentials stopped working?

What would happen if providers were able to prevent credential sharing? Would the estimated 46 million people using shared credentials just stop using the services, or would some decide to pay?

We found that 67% of credential sharers also pay for at least one other service, indicating they're willing to pay for at least some video content.

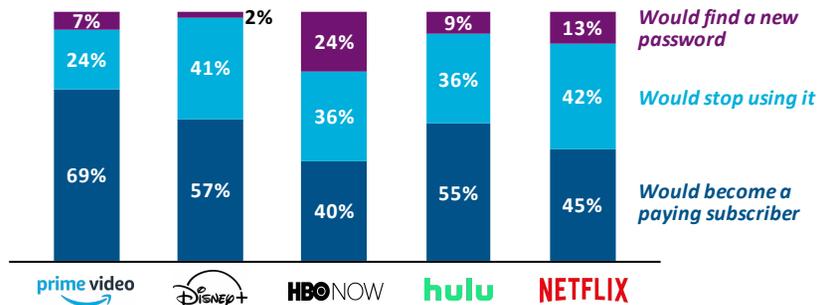**Figure 10: Number of Services Paid for by Credential Borrowers**

The 22% of US residents who use shared credentials also pay for:

services	
0	33%
1	19%
2	10%
3	14%
4	9%
5+	15%

33% of borrowers use exclusively shared credentials

67% of borrowers pay for at least one service

It turns out a high proportion of credential sharers – 56% – indicated they would pay for continued access if those credentials stopped working. This indicates at least a sizeable proportion of credential sharers are open to purchasing a subscription if their access no longer works.

Figure 11: Percent Who Claim They Would Pay if Their Credentials Stopped Working

Across the top SVOD services, if a borrower's credentials stopped working:

	prime video	Disney+	HBO NOW	hulu	NETFLIX
Would find a new password	7%	2%	24%	9%	13%
Would stop using it	24%	41%	36%	36%	42%
Would become a paying subscriber	69%	57%	40%	55%	45%

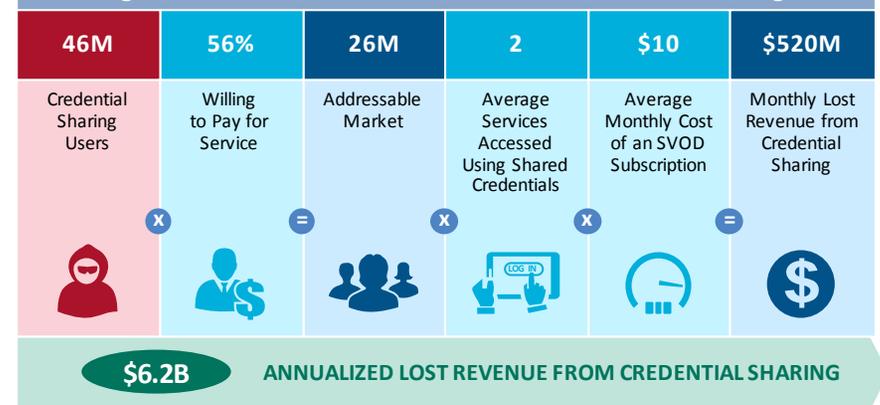**56%** of credential borrowers said they would start paying if their borrowed credentials stopped working

This suggests that many individuals using shared credentials value the content and streaming experience more than the monthly cost. However, despite this, they still choose not to pay because the barriers to obtaining and using credentials are low and many do not perceive their actions as unethical.

For providers, this should be extremely encouraging. Each provider has a sizeable base of active users who are not paying today, but value the product and would be willing to pay for it.

6 How much does credential sharing cost providers, and how can they prevent it?

Credential sharing represents a significant missed revenue opportunity for streaming providers. We estimate that this costs providers $6.2B per year in the US. Beyond that, it results in increased operational costs due to extra infrastructure use and, if left unchecked, places customer data security at significant risk. The cost to providers is real and substantial.

Figure 12: Estimated Lost Revenue from Credential Sharing

46M	56%	26M	2	$10	$520M
Credential Sharing Users	Willing to Pay for Service	Addressable Market	Average Services Accessed Using Shared Credentials	Average Monthly Cost of an SVOD Subscription	Monthly Lost Revenue from Credential Sharing
×	=	×	×	=	

$6.2B ANNUALIZED LOST REVENUE FROM CREDENTIAL SHARING

To maximize the value of their services and recoup some of the missed revenue opportunity, providers should take notice and develop thoughtful credential sharing detection and prevention programs. In doing so, it's critical to put customer experience first.

This means that rather than applying blanket rules and policies across platforms that limit devices, concurrent streams, or the locations of streaming usage, providers should apply machine learning and artificial intelligence practices to their data to identify the subset of subscriber accounts that are the source of credential abuse.

After identifying accounts, providers can apply a range of targeted light-touch tactics that encourage the subscribers to protect their account credentials by creating just enough friction to make credential sharing undesirable.

Cartesian has worked closely with many of the largest global streaming video providers to identify which accounts are engaged in credential sharing behavior, and to design thoughtful detection and prevention programs that reduce credential sharing and theft, and drive subscriber growth. <>

Methodology:

Results and findings based on a survey of 704 US adults aged 18-60, conducted in Q1 2020.

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