



Engaging Next-Gen Video Viewers: Leveraging AI and ML

IN PARTNERSHIP WITH

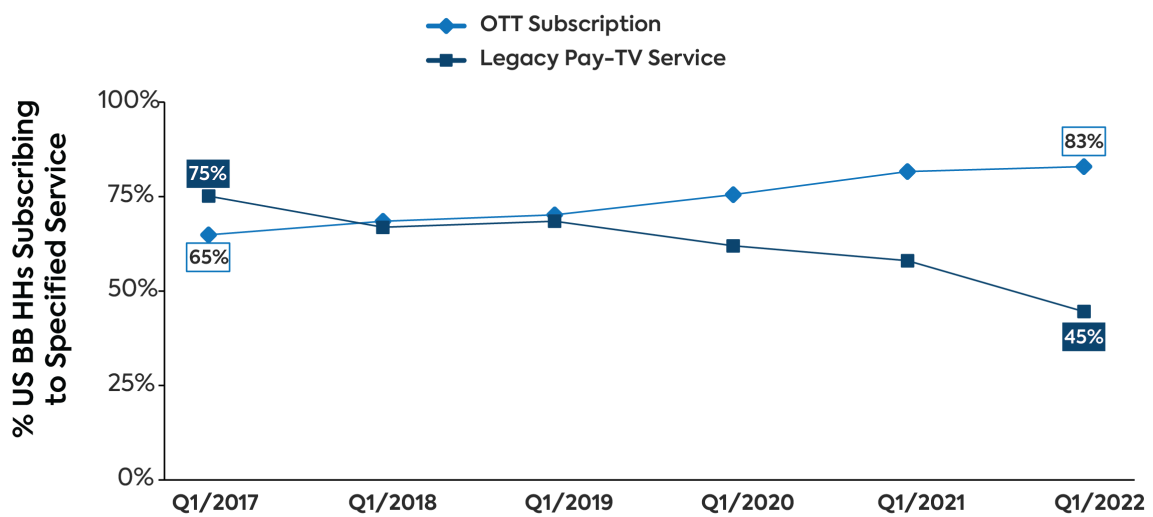


Introduction

How consumers watch video has dramatically changed in the past five years. Currently, 83% of US internet households subscribe to at least one streaming video service. In contrast, only 45% subscribe to traditional pay-TV services like AT&T or Comcast — a dramatic drop from almost 10 years ago in 2012 when this figure was at 87%. This is not the end of linear programming, however, as almost half of households are still holding on to a traditional linear model. Instead, this 45% emphasizes how almost half of households still value this form of content delivery.

Streaming services that incorporate both active and passive content into business models may be the ones who are ultimately the most successful.

Petration of Legacy Pay-TV vs. OTT Services



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Whether for traditional pay TV services or streaming video services, there is pressure to drive retention and growth in an increasingly churn-prone consumer environment. Strong viewer data now play a critical role in whether new services succeed in this hyper-competitive video service market.

This white paper addresses how businesses can leverage data supplied into artificial intelligence (AI) and machine learning (ML) models to drive personalization, automation, and more. It also discusses the increased use of video services, content preferences, discovery challenges, and the role of bundles.

The most successful of the next generation of video services will be dominated by innovative technologies, including AI and ML, that drive sustained high levels of engagement with consumers through advanced content moderation and curation, thus increasing advertising effectiveness, as well as customer retention (i.e., reducing churn) and satisfaction (e.g., NPS).

Artificial Intelligence (AI)

AI is the capability of computer systems to simulate human intelligence processes on a large scale. AI algorithms are trained to employ human-like intelligence in analyzing and solving complex business problems in a fast, efficient, and automated way.

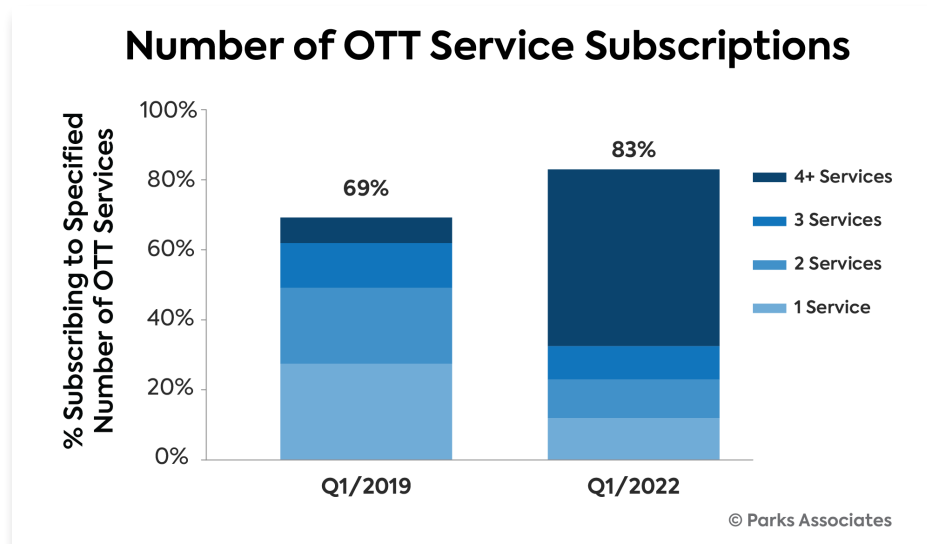
Machine Learning (ML) is the ability of an AI system to autonomously learn from its data and improve its own algorithms.

- Supervised ML: The AI system learns from human input by being trained on existing data. The AI develops its model based on its ability to accurately match correlations, predictions, and other analytical functions within sample data sets.
- Unsupervised ML: AI is not limited to the factors currently known by humans. Instead, the AI learns autonomously and detects anomalies and correlations that have yet to be identified, even across large, heterogeneous data sets.



The Triumph of Streaming: How It Won Against Pay TV

Today's viewers consume video content across a range of content types and business models, gravitating toward online streaming services instead of traditional cable and satellite to meet their entertainment needs. Parks Associates' data as of Q1 2022 finds that US internet households subscribe to an average of five OTT services. Among OTT subscribers only, the number of services jumps to an average of six — more than double the average in 2019. As a result, traditional pay-TV companies are joining the 300+ direct-to-consumer streaming services already present in the US market alone.



Consumers fully embrace service stacking and bundling to cope with the overwhelming number of options available, but the no-contract model for OTT services makes it just as easy for consumers to cancel a service as it does to subscribe. The average subscription duration for established services (e.g., Netflix) is 33 months while newer services tend to have shorter subscriptions. Services with a loyal fan base such as Disney+, Apple TV+, and Crunchyroll have a subscription duration of over 12 months.

As consumers experiment with various services and refine their stack, churn rates increase. Parks Associates measures churn as the percentage of households that report canceling a video service in the prior 12 months.

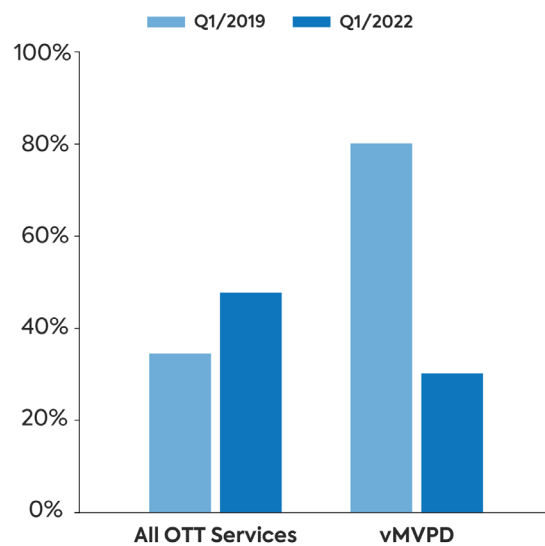
The streaming video subscriber churn rate is 48%, reflecting a rising rate since 2018 when it was just 28%. In contrast, the churn rate for virtual multichannel video programming distributor (vMVPD) subscribers is 31%, a decreasing rate since 2019 indicative of increasing traction for the linear experience among consumers.

This unprecedented increase in entertainment consumption is simultaneously generating vast amounts of valuable data. As a result, many providers are going beyond the traditional big-data-based analytics and turning to AI and ML-based systems to fully understand their customer base, their performance, and potential. AI- and ML-enabled data equip video services with relevant, actionable, and prescriptive insights to guide decision-making processes.

Consumers today are aware of the diversity of options available and are increasingly more comfortable going outside of the more popular streaming services — Netflix, Amazon Prime Video, Disney+, Hulu, HBO Max, Paramount+, Peacock — to satisfy their content demands; only 27% of households exclusively subscribe to these seven services.

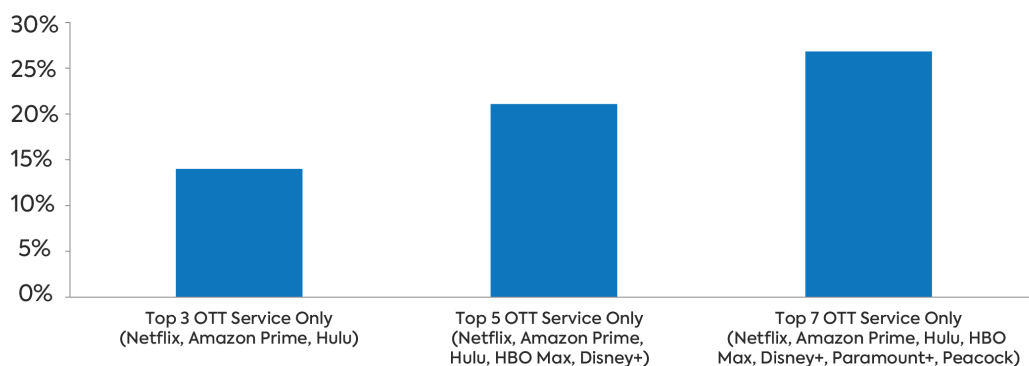
Smaller OTT service providers must be proactive to attract and keep customers as consumers rotate among the options available.

Subscribers Cancelling Service as % of Subscriber Base



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OTT Service Subscriptions Among All US Internet Households: Top 3 vs. Top 5 vs. Top 7



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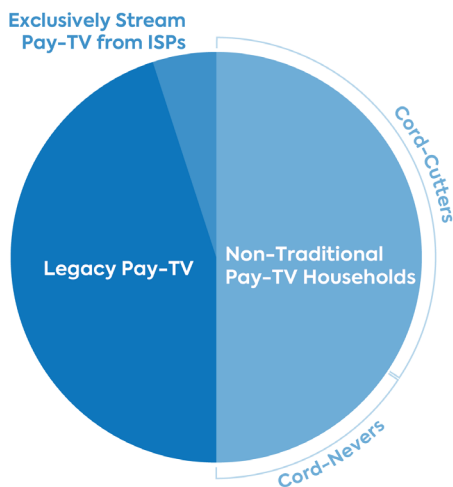
Thriving in a Rapidly Changing Video Market

“Cord-cutters,” or consumers who have terminated traditional pay-TV services, make up around 37% of all US internet households. They reflect the rising consumer interest in streaming video services.

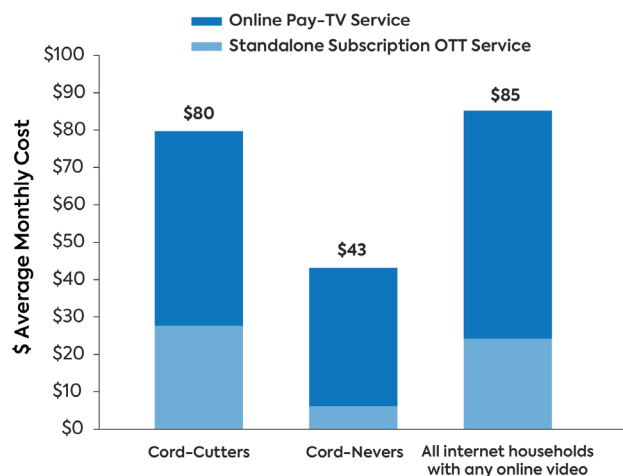
Cord-cutter spending is about 6% less than the overall OTT subscriber population and 32% less than what consumers were paying in a traditional pay-TV agreement.

On average, cord-cutters spend about \$80 per month on OTT services.

Traditional Pay-TV Subscription and Cord-Cutters vs. Cord-Nevers



Average Monthly Spending on OTT Services by Type



© Parks Associates

The Role of Ads and Linear Television

AVOD services (e.g., Crackle Plus) include a library of on-demand content that viewers can access at any time with ad breaks built in. Free Ad-Support Television (FAST) services (e.g., Pluto TV) are more similar to linear TV as viewers can choose among a variety of channels with scheduled programming and commercial breaks. Both services are free to users.

Ad-based services are becoming more popular among consumers increasingly fatigued by the plethora of options, associated costs, and pressure to choose that comes with a subscription video-on-demand (SVOD) service. Today, 33% of US internet households watch ad-based OTT services, possibly because FAST services in particular offer a no-cost “lean back” experience where choosing content is simplified to selecting a channel rather than a particular program. As budgets tighten, even more consumers may gravitate towards these ad-based services.

Providers then have an opportunity to partner with advertising companies to design tailored content and marketing campaigns based on specific interests and behaviors derived from data.



Some examples of recent unique ad-based partnerships:

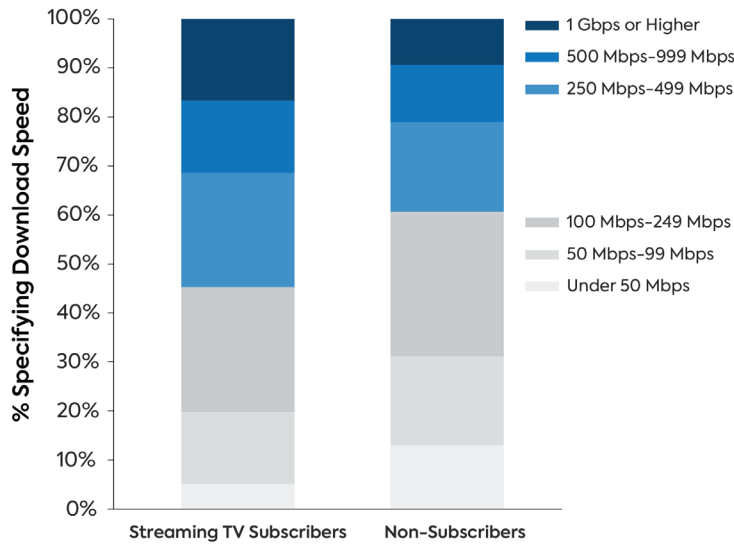
- VIDAA and Amagi announced a partnership to expand FAST services globally.
- AVOD service Crackle Plus partnered with PetSmart to deliver Pet Caves, a pet-centric home improvement series.
- A + E partnered with Opendoor to create Move or Improve, a show about the decision to sell or remodel.

The Great Simplification: Bundles and Aggregation

Companies benefit from new partnerships by increased brand awareness, expansion into new markets, and enhanced value for their products and services (e.g., “The Disney Bundle” — Hulu, Disney+, ESPN+). The Disney package is a content bundle built to appeal to multiple audience segments. Through its mix of content for sports fans, die-hard Disney fans, and entertainment enthusiasts, Disney is boosting viewership across all its streaming properties while consumers gain a simplified budget and content discovery experience.

Partnerships among various industry players can increase revenues while still providing a way for consumers to customize their service stacks. Then, leveraging new available data to refine AI recommendation engines can further improve the customer experience and result in a “stickier” customer. These partnerships are not exclusive to OTT service providers. Internet service providers (ISPs) are also offering their own bundles as consumer need for higher broadband speeds rises with OTT subscriptions.

Consumer-Reported Download Speed



Current partnerships:

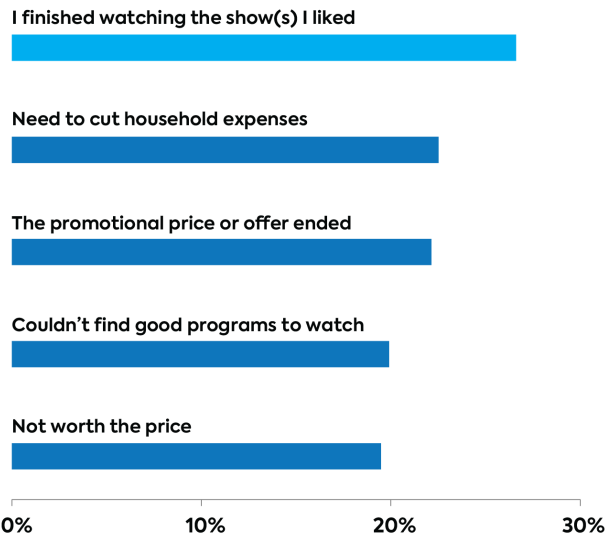
- Streamlined access to Paramount+ with The Roku Channel
- Walmart+ members get free access to Paramount+ Essential
- Free Peacock+ for 12 months with Spectrum TV (90 days with Spectrum Internet)
- World Wrestling Entertainment (WWE) streaming exclusively on Peacock+
- MLB “Friday Night Baseball” streaming on Apple TV+

Content Driving Subscriptions: Managing Churn

Parks Associates research shows that the top three reasons consumers chose an OTT service were related to the availability of content — namely specific titles, genres, and the availability of original programming. Conversely, changes in an OTT service user’s activity, whether sudden or gradual, can be an indicator of dissatisfaction and future churn behavior. Top reasons include having finished a series, budgetary concerns, and an absence of appealing content.

Streaming services can capture and analyze data relating to users’ viewing habits for the creation of data-based retention efforts targeted toward churn-prone users. There is also an opportunity to use this data for recapturing users who have already cancelled their OTT service by promoting content related to past viewing habits. AI-enabled solutions can proactively detect behaviors indicative of churn as well as identify appropriate retention measures.

Top Five OTT Churn Triggers





OTT Hopping: Video Service Transformation and Churn

These consumers do not necessarily intend to subscribe for a short period of time but are more willing to cancel a service and move to another one offering a desired program. In cases such as these, using data to identify churn risk and deploy proactive retention tactics that offer targeted content offerings, a compelling user experience, and reasonable price points may prove competitively advantageous.

Combating Churn

Data collection and analysis reveal new insights into:

- How to attract and retain viewers
- Optimizing revenue
- Communicating value to subscribers, understanding new ways to license content
- Detecting and predicting churn
- Better understanding what keeps subscribers engaged

While churn cannot be eliminated, AI can help providers by identifying subtle indicators that a subscriber may churn, and then subsequently identifying the promotional offers, pricing, messaging, and personalized content most likely to retain each individual subscriber at risk at the optimal time. AI can also help services combat the significant retention challenges displayed by service hoppers requiring a more multifaceted retention strategy. Smarter, more insightful retention practices are key to maximizing an OTT service's chances of a stable spot in consumers' service stacks.

The Role of Content Personalization

In today's competitive landscape, video service providers must be attuned to the detailed wants, needs, and preferences of their subscribers. AI and ML can help cultivate a more personalized user experience by leveraging data to identify patterns and relationships that provide increasingly more accurate content recommendations and customization and ultimately drive engagement. These systems can identify relationships at a very granular level — beyond recommendations that “standard” big-data-based systems may be capable of — exposing viewers to content they otherwise would not see and facilitating content selection decisions. This means more satisfied and engaged customers, which leads to less churn. It also means consumers will spend more time on the service, equating to higher revenue in the form of subscriptions and/or advertising partnerships.

Leveraging Data and AI to Retain Customers

AI-enabled solutions can detect and evaluate behaviors that preemptively identify churn-prone viewers. They can also identify appropriate retention measures through a lens that incorporates theoretically unlimited data volume, analysis, variables, and depth. AI-assisted retention enables service providers to calculate the statistical probability of success for various retention tactics instantaneously and automatically recommend or even execute specific prescriptive retention campaigns for high-risk subscribers based on its calculations. That is, AI can automate the process of churn detection and prediction, and ML can learn, adapt, and improve detection and prediction algorithms as churn behavior evolves.

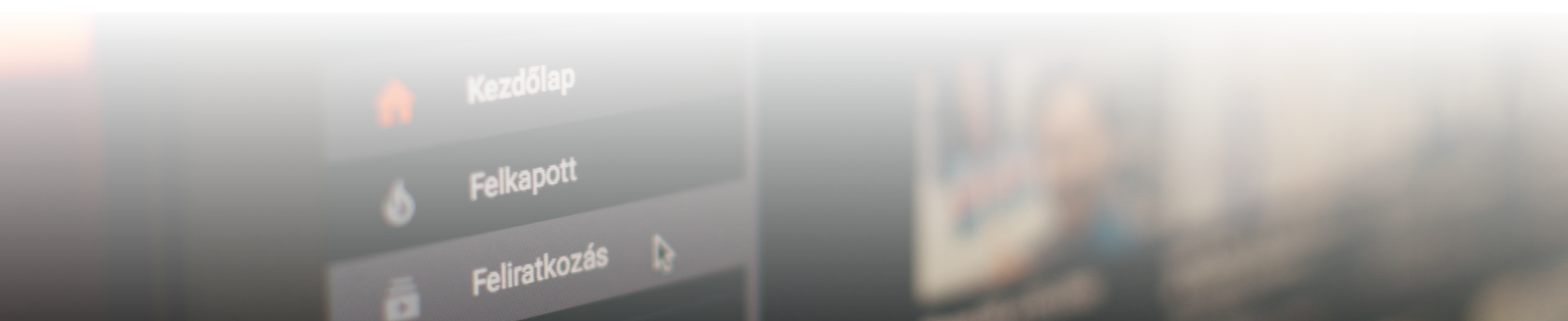
Advertising and AI Solutions

The new generation of entertainment and advertising companies innovate around consumer targeting by leveraging their extensive libraries of data to better link advertisers to prospective customers. Often, there is an assumption that consumption and demographic data are the most valuable data types given their relationship to advertising and the ability to show direct interactions between viewer and content. Other data types, however, are valuable as well and provide a more complete picture of the viewer experience, in addition to helping guide business decisions more accurately.

Challenges and Considerations

Effective innovation and adoption of technology require awareness of potential obstacles and constraints. While AI and ML can provide businesses with valuable insights, there are some core elements to consider. First, ensuring a robust IT infrastructure that can power AI-based solutions as well as protect the sensitive data involved is essential. Consumers are already sensitive about how their data is used and with whom it is shared. Importantly, Parks Associates finds that 74% of consumers are concerned about the security of their personal data. As a result, some users may not consent to sharing data at all. Proper data handling and transparency about how data are used is key to gaining customer trust.

Most importantly, an AI/ML model is only as good as the data input into it. The immense amount of data available has enormous potential, but to draw the best conclusions possible, the data must be current and of high quality; strict data quality standards are critical. Data scientists can help maintain data integrity, consistently adapt the algorithm, and safeguard against unintentionally misleading results (and massive revenue losses).



Addressable Advertising

Traditional addressable advertising uses data based on a consumer's characteristics and behaviors to identify prospective future customers and determine which ads will be most applicable. Businesses can then maximize revenue by showing ads only to those who are most likely to be new customers. Meanwhile, service providers can deliver a more personalized experience to the viewer, generating more revenue for both the network and advertisers as more ads are being shown because consumers are engaged with the content longer.

According to Parks Associates, 26% of US households first access an ad-based service when deciding to watch TV shows and movies.

Likewise, the TiVo Video Trends Report 2021 found that 81% of respondents would rather use a free, ad-based service than pay for another subscription.

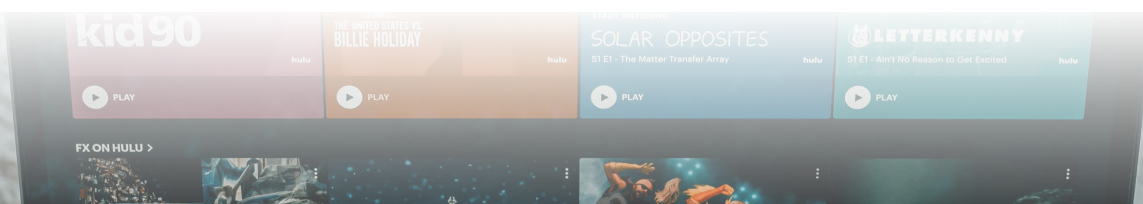
AI specifically can help businesses identify messaging appropriate to each target audience and propel the preference of ad-based services. It can also facilitate micro-targeting, a strategy that involves identifying specific interest groups. With the help of AI, advertisers can ensure they reach the intended receptive audience. This in turn can increase the value (and rates charged) for advertising, resulting in higher revenues for service providers.

Predictive Targeting

Predictive targeting uses ML and large data sets about existing customers to identify patterns and correlations between behaviors, characteristics, and purchasing. The system is then fed information about non-customers, and it identifies the best prospects from the group. These prospects are flagged as potential purchasers and will receive targeted ads for products or services.

Retargeting

Retargeting identifies purchase intention based on past purchasing-related activity such as re-watching an ad or adding an item to an abandoned online shopping cart. The system then flags that person for follow-up ads, discounts, or other incentives to move them forward in their consideration and purchase process. For example, a streaming service looking to bolster subscriber numbers can use an AI algorithm to gather data about website traffic and visitors. It can then use the data to create user clusters to determine which visitors are most likely to subscribe through retargeting. The streaming services can then serve self-relevant ads to those who visited the website but did not purchase a subscription or offer promotions to those looking for specific discounts (e.g., student, first-responder).



Measuring Success of Advertising

Measuring the success of OTT advertising (attribution) is important for marketers to gauge the effectiveness of campaigns and for OTT services to justify the rates charged to advertisers. Unlike online digital advertising, where a user clicking on an ad that leads to a purchase, download, or some other desired activity can be easily tracked, OTT advertising is harder to link to a desired outcome. Companies are addressing the challenge in different ways. For example:

- **TVDataNow:** Uses AI and two embedded pixels to generate a graph that can demonstrate ad effectiveness. The ad exposure pixel is embedded into the digital ad stream and collects information about when and where an ad runs. The site conversion pixel is embedded during purchases, downloads, etc.
- **Samba TV:** Developed an identifier (SambaID) that can provide marketers with insights relating to their target audience without the need for cookies. Integrated into 24 of the leading CTV brands, software from SambaTV supplies first-party viewer data across broadcast, cable, OTT, and digital media.
- **NBCUniversal:** Launched NBCUnified, a platform that aggregates first-party user data from more than 230 million monthly users across multiple sources and provides this data to advertisers, agencies, and other partners.
- **Origin Media:** Provides advertising solutions that engage and activate viewers on connected TV (CTV) devices. The company's native solution, Slingshot, created a 368% viewer attention boost for a political CTV ad.





Optimizing Engagement and Value

Maintaining subscriber loyalty and viewer engagement is vital as service hoppers continue to inflate churn rates. Proper content organization, categorization, and personalization are some of the leading ways to provide consumers with the most positive experience possible. According to the TiVo report, recommendations drive engagement about 40% of the time. Providers can optimize engagement by immersing viewers in content as fast as possible through strategic arrangement of content that aligns with their entertainment preferences.

AI Solutions for Personalization, Marketing, and Conversion

Only through deep understanding of the viewer can businesses properly provide a positive experience that drives acquisition, satisfaction, and retention. AI and ML models can provide this understanding and identify factors that result in higher customer acquisition and long-term subscriptions. For example, categorizing churn risk into high, medium, and low categories, then identifying characteristics common to those segments can create better strategies for customer acquisition, retention, marketing outreach, and user experience preferences, among others.

Considerations When Using AI Solutions

AI best practices include data standardization, consistent algorithm training, aggregating data from multiple sources, and developing a widely applicable AI solution; while non-exhaustive, this list of considerations helps maximize output from most AI models.

- Data standardization involves normalizing data that originates from different sources. It can increase model stability, reduce algorithm training time, and facilitate data mapping.
- Guided, consistent, and tailored training ensures the algorithm adapts to the most current industry trends, producing the most accurate solutions.
- Aggregating data from multiple sources provides a comprehensive understanding of current, past, and future outcomes, optimizing strategy planning.
- A widely applicable AI solution can be implemented by multiple parties and limits gatekeeping during the decision-making process.

AI-Based Solutions for Subscriber Satisfaction

Having a steady supply of personalized and relevant content on an easy-to-use platform is fundamental to maintaining subscriber satisfaction. To achieve this satisfaction, AI and ML can aid in the identification of content most relevant to large segments as well as to the individual subscriber. AI can also aid in predicting and driving content suggestions that are likely to generate maximum revenue per user and segment. This includes improving recommendations over time as it acquires and digests more data.

Importantly, overall user experience is enhanced with the help of AI and ML. Metadata derived from the analysis of video scenes and closed captions for example, can help create precise audience segments and micro-genres as well as optimize search engine results so users can access content faster. Service providers with advanced search and recommendation engines and rich metadata and indexing are more likely to provide an engaging experience to their viewers, ultimately leading to higher satisfaction and retention.

Optimizing Distribution

AI-based solutions can deliver content valuation and revenue performance throughout the content value chain, from pre-production to ongoing distribution. By suggesting solutions consistent with audience demand and revenue predictions, AI can guide:

- Financing
- Creative decisions
- Marketing
- Operational optimization (e.g., content delivery network [CDN] optimization)

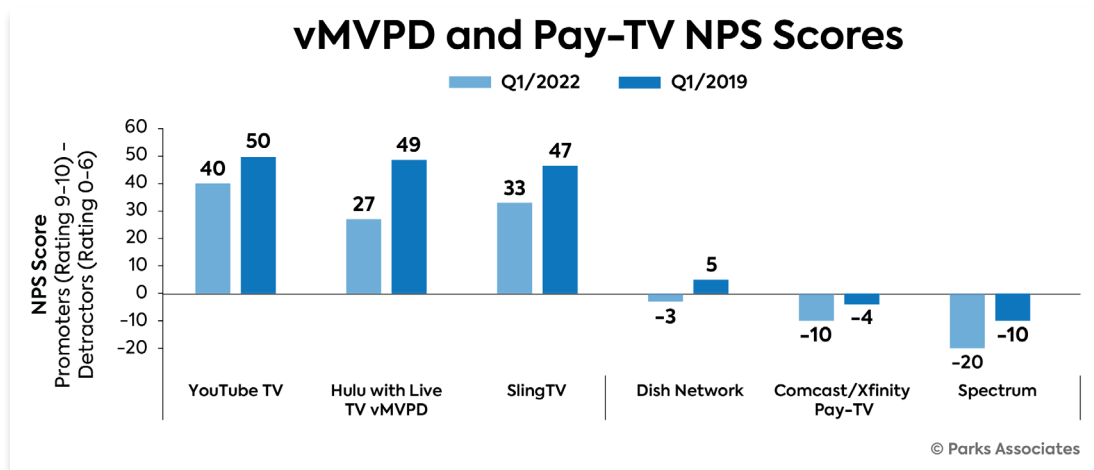
To drive pricing, promotions, releases, and licensing terms, distribution can be similarly optimized through use of both historic revenue and forecasted demand by:

- Audience
- Release date
- Platform

Understanding the value of each asset in a portfolio puts content owners in a position to fully monetize content libraries.

Customer Satisfaction and NPS Scores

The Net Promoter Score (NPS), a longstanding measurement of overall customer satisfaction and loyalty, is an indicator of how customers feel about their OTT experiences. Generally, a positive NPS is considered good, and a score of 50 or higher is considered excellent. All the vMVPDs far outscore all the traditional pay-TV providers, most of which score near or below zero. While pay-TV NPS scores show gradual improvement, it may be because only the most satisfied customers remain with a service.



Moving forward, consumer preferences will continue to shift online as video viewers perceive these services to be less costly, more convenient, and more aligned with how they want to consume video programming. Service providers must adjust accordingly using the insights they gather from consumer data.



Implications

Surviving in the video market today requires focusing on and understanding available data — analyzing viewing and subscription patterns to maintain loyalty and promote engagement. Technology integration and innovation are critical to the services that will benefit from that growth.

Businesses that harness AI develop more effective and efficient strategies for customer acquisition, engagement, and retention. The top reasons consumers decide to churn is content selection and price. AI models use valuable viewer data to identify patterns and relationships which ultimately supply viewers with personalized content recommendations to get viewers engaged with the content faster and keep them on the platform longer. These models can also generate personalized strategies to entice new subscribers and keep current ones from churning away to other services. Likewise, as more consumers gravitate towards ad-supported services, advertisers have an opportunity to leverage this data and identify ads most relevant to specific interest groups, further driving engagement and revenue.

AI and ML models provide the following capabilities, among others:

- Predicting churn before it happens.
- Optimizing recommendation engines.
- Matching advertisements to the appropriate viewer segment.
- Enhancing video quality.
- Leveraging metadata to provide meaningful search engine results.
- Generating subtitles.
- Recommending the best retention and promotional strategy.
- Increasing convenience through improved voice control functionality.

Such features are key to generating maximum revenue but are only possible through using valuable data with AI analysis, and a genuine interest in understanding a customer base.

Harnessing available data for implementation into artful solutions can help grow revenues and differentiate services, even as much as 6-12%.

US OTT service subscriptions will rise from 518 million in 2022 to nearly 617 million in 2027, a 19%+ increase over five years.

About Parks Associates



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ATTRIBUTION

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