

Video Metadata

Deep Discovery

Increase the size and relevance of your effective catalog.

TiVo's Deep Discovery package, an option with Video Metadata, allows TV and video service providers, consumer electronics manufacturers and new media companies to maximize the value of their catalogs and drive conversion, engagement and loyalty. With Deep Discovery, your titles are enriched to a new level of detail with metadata like Moods, Tones, Themes, Weighted Keywords, Age Descriptors and Popularity Scores, resulting in highly relevant search results and recommendations. Help your customers — even brand new ones — find programming and movies they'll love, and that they might not even know existed, with Deep Discovery.



Behind Deep Discovery are four components that integrate with our video ID system:

- **Mood, Tone, Theme and Time Period** create delightfully unexpected results.
- **Topics** bring in granular details from the content to form connections to special interests.
- **Popularity Scores** link older titles to trending content, taking advantage of social and cultural topics to add timeliness.
- **Weighted Keywords** provide quantitative and qualitative insights into content relationships.

Only TiVo links these fields to standardized video metadata, differentiating and improving the overall user experience.

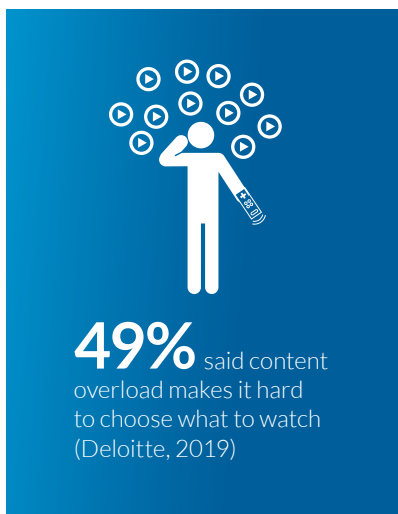
Relevance, relevance, relevance.

Advanced personalization and relevance are fundamental for products and services as consumers increasingly want to interact with brands that know what they want, before they even search for it. (In other words, “brands that get me.”) From targeted ads and customizable product designs to tailored recommendations, people have grown to expect and demand a more personalized experience.

Relevance in recommendations is especially important in entertainment, where 49 percent of consumers surveyed indicated the sheer amount of content available in their video subscription services makes it hard to choose what to watch.¹

As an example, Netflix users lose interest after just 60 to 90 seconds of browsing content.² This is vital in understanding recommendations and their impact.

Your customers want to see recommendations that they actually want to watch. Out of more than 10,000 people surveyed, nearly 80 percent said that a superior content discovery experience was a compelling reason to sign up for a new subscription video service.³

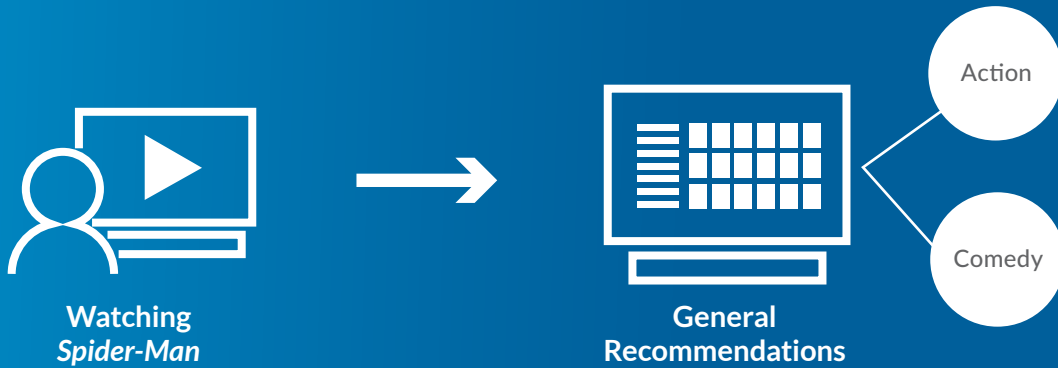


1) Deloitte, 2019: <https://www2.deloitte.com/insights/us/en/industry/technology/digital-media-trends-consumption-habits-survey/summary.html>

2) Netflix, 2016: https://dl.acm.org/ft_gateway.cfm?id=2843948&ftid=1654113&dwn=1&CFID=155182084&CFTOKEN=185cab5bf86826ee-AD376095-9E76-236F-574FC8C85F1D986B

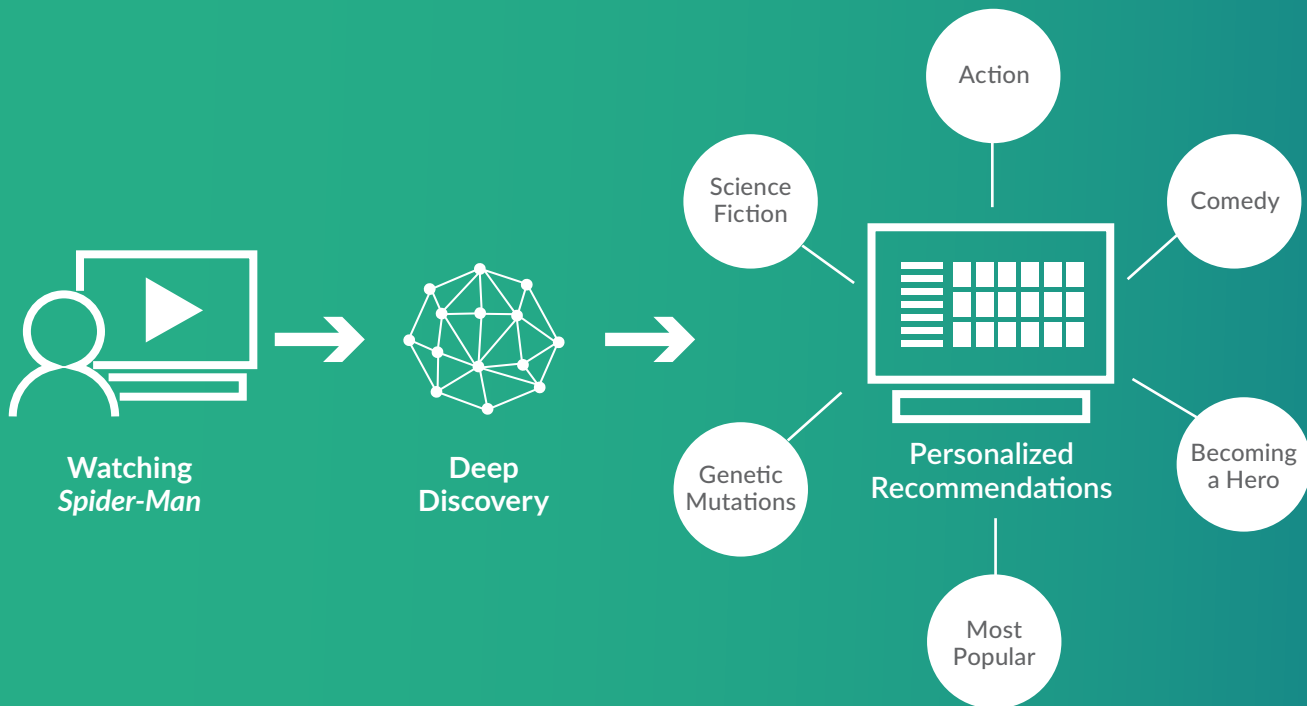
3) Digital TV Europe, 2018: https://www.digitaltveurope.com/files/2018/02/DTVE_Survey18_lo-2.pdf

Current Experience



Due to metadata limitations, recommendations can be too general, with broad results based on genre.

Future Experience



With **Deep Discovery** powering the experience, recommendations are highly personalized and more relevant.

Overcoming discovery limitations.

Some providers have found their video metadata limiting when it comes to providing relevant recommendations, for a variety of reasons:

- Limited depth of detail, often genre or category only
- Limited coverage of all linear, video-on-demand (VOD) and over-the-top (OTT) catalogs
- Limited country/language options for international content

In the early part of your relationship with a customer, before a rich user profile is built out, how can you make engaging recommendations if all your platform knows about your content is the genre?

To enhance the discovery experience, a deeper level of content understanding is necessary. AI and machine-learning are making it easier to build rich user profiles that inform much of the discovery process. Profiles include data about your user, his or her preferences and the context of the user's content behavior — but that barely scratches the surface in understanding the DNA of the content your users prefer.

Deep Discovery can help you overcome discovery limitations with the necessary depth of metadata detail and breadth of coverage to deliver next-generation relevance.



Consumer & Context

With readily available service provider data, deliver basic recommendations based on individual characteristics:

- **What** the user watches
- **How** the user consumes content and any patterns that emerge



Content

Having a deeper understanding of the characteristics of and relationships between your content is key to relevance. Richer metadata can help your service understand:

- **What** the content they watch is about
- **What other content** shares those characteristics, and ultimately
- **Why** they watch what they watch

Effective catalog size and the customer lifecycle.

Deep Discovery can help you serve more, and more relevant, recommendations from cold start to loyal customer.

Cold start and trial conversion

A 2017 study showed 68 percent of free trials for a video subscription failed to convert to paying subscribers.⁴ Surveys indicate that the low conversion rate is likely because the prospective customers can't find anything to watch, despite an extensive catalog of movies and series to choose from.

The new datasets in Deep Discovery enable more relevant suggestions, even without historical user data, and up to a 3 percent lift in conversion with more emotionally engaging carousels.



Engaging carousel examples for cold start

New content discovery

A Vimeo study of OTT providers showed that, once you have over 200 videos in your service, an increase of 10 to your effective catalog size correlates to customers watching 2 hours more.⁵

With new capabilities to identify deeper relationships between your titles, your customers will have continuously refined, enriched and refreshed content carousels through the life of their subscription.



Cloverfield has a number of Topics, each leading to potential new and relevant recommendations.

4) Parks & Associates, 2017: <https://www.parksassociates.com/blog/article/pr-04242017>

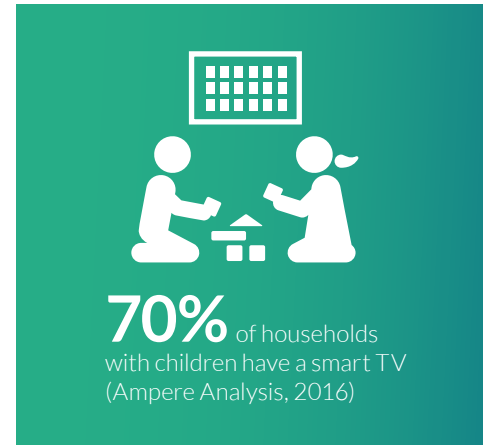
5) Vimeo, 2016: <https://vimeo.com/blog/post/what-conversion-rate-can-you-expect-for-a-subscription-network/>

Household engagement

According to an Ampere study, close to 70 percent of households with children have a smart TV⁷, and our own research indicates households that have high engagement with kids' content have churn rates at approximately half of that of the regular population. From the Ampere paper: "The key to standing out amongst the competition is to offer something that kids can't find elsewhere and is worth their time." With new metadata tying content to discrete age groups, your customers gain additional personalization, convenience and enjoyment across the entire household.



Age-specific examples

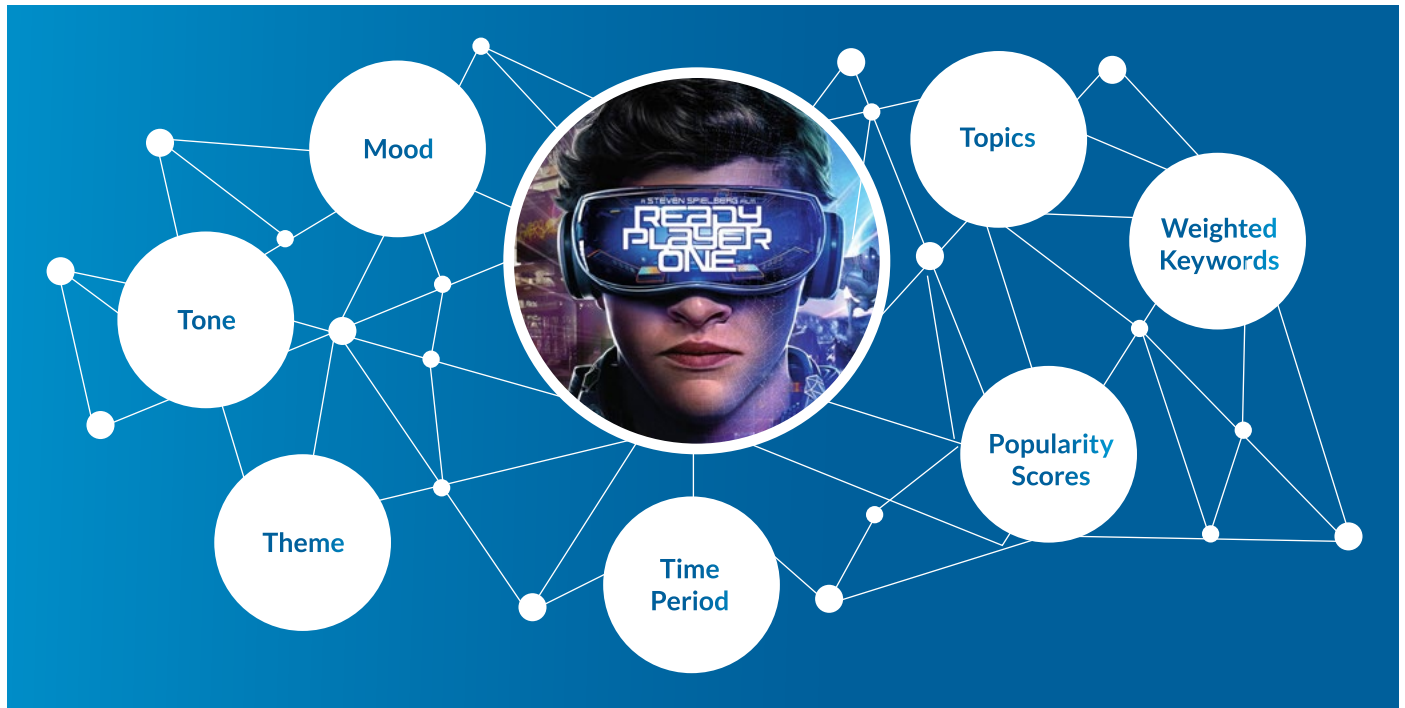


6) TiVo Customer Study, 2019

7) Ampere Analysis, 2016: <http://www.miptrends.com/wp-content/uploads/2016/09/miptv-mipcom-ampere-analysis-kids-tv-future-of-entertainment-whitepaper-1.pdf>

How TiVo's Deep Discovery works.

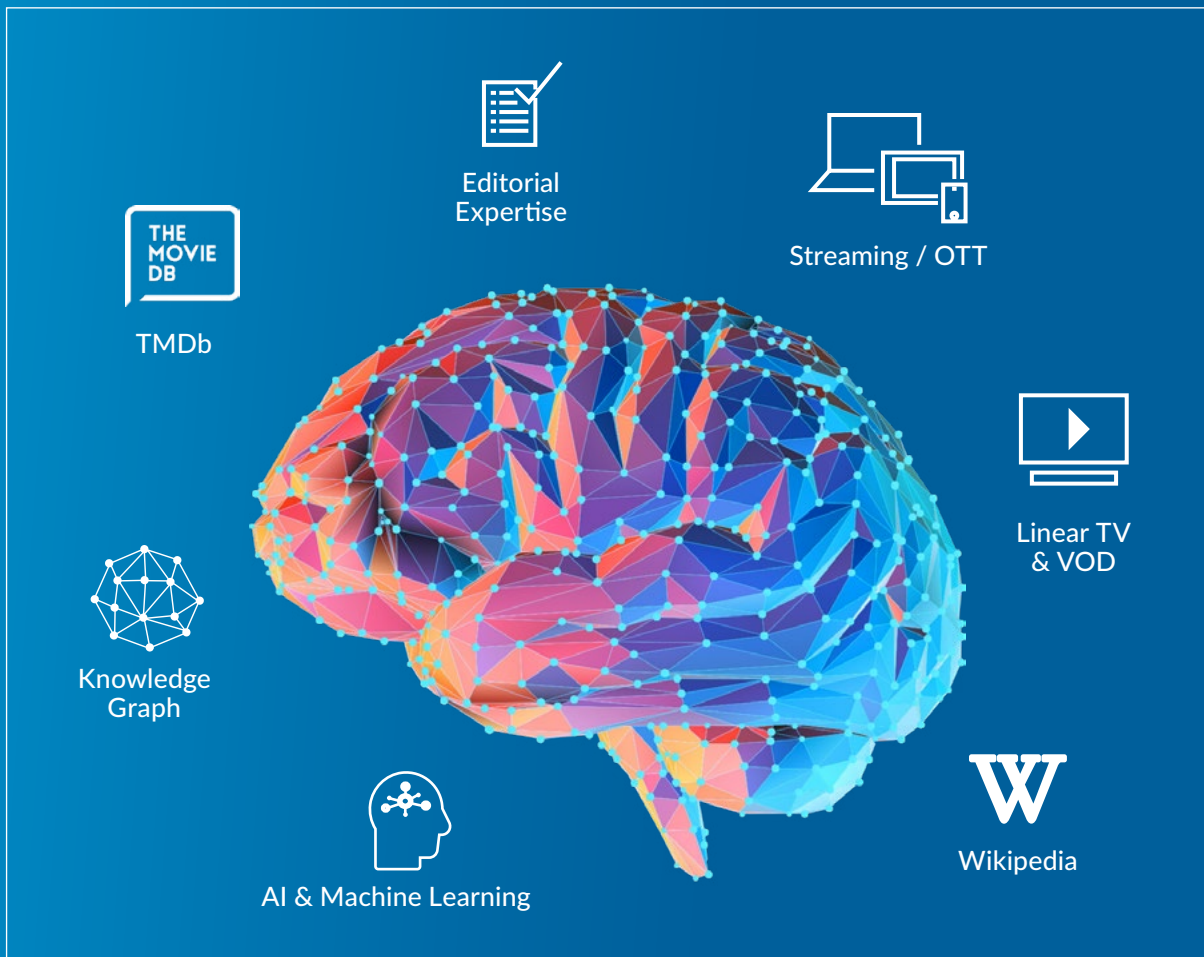
Deep Discovery adds an enrichment layer to your current dataset, including:



Content	Weighted Keywords	Qualities	Topics	Popularity Scores
<i>Ready Player One</i>	2040s (83), Evil Corporation (83), Dystopia (80), Virtual Reality (76), Video Game (75), Atari 2600 (73), Anorak (71), Head Of Operations (71), Atari (70), Bounty Hunter (70), Aunt Alice (68), Recorded Message (68), Golden Egg (67), 2045 (64), Sixers (63), 2600 (60), Oasis (60), Force Field (59), Easter Egg (59), Nostalgia (58), High Five (56), Sho (55), Columbus Ohio (54), Gregarious (54), Overlook Hotel (47), Adventure (46), Quest (46), Virtual (42), Challenge (42), Real World (41)	<p>Mood: Fantastic Reality, Other Dimensions</p> <p>Tone: Disturbing, Heartwarming, Ominous, Outrageous, Paranoid, Stylized, Tense, Visceral</p> <p>Theme: Bounty Hunters, Computer Paranoia, Future Dystopias, Priceless Artifacts And Prized Objects, Treasure Hunts, Virtual Reality</p> <p>Time Period: 21st Century, Future Times</p>	Atari 2600, Video Game, Adventure, Ready Player One, Avatar, Quarter, Virtual Reality, Easter Egg	384 (max 550)

The TiVo Difference

- Linear, OTT and VOD coverage
- Constantly growing knowledge graph
- Exclusive user-generated metadata access
- International language coverage



Availability

Deep Discovery will be available in the U.S., Canada, Caribbean, U.K., France, Italy*, Germany, Spain, Belgium and the Netherlands*, and will continue to expand globally with customer demand.

* Available soon in upcoming 2020 releases.

For more information: business.tivo.com

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