

**How
smart is your
data? The new
differentiator for
video operators**



S P I D E O

Simply Relevant



Introduction

Data is the currency that drives the video operator's business, but simply having more of it will not translate into more revenue. In fact, too much data unfiltered by intelligent analysis can cloud decision making in the boardroom. On the other hand, gathering incomplete data from source can also lead to false steps in company strategy.

Using smart data coupled with analytical tools unlocks credible, actionable business insights. This powerful concept is already proven and in use at blue-chip content providers and VOD operators including M-GO (Technicolor and DreamWorks Animation), Canal +, Bouygues Telecom and Arte.

The foundation of smart data for video operators is a natural language approach to

recommendation and discovery that results in increased consumer engagement, long-term loyalty and wider catalog exposure. This gives operators clear and accountable intelligence to invest in content, inform ad targeting and devise business rules.

What's more, there are no gaps in the database. Smart data augmented by semantic fingerprinting technology analyses all movies, all TV shows and all premium content to understand customers from their video consumption in context of all their viewing habits cross-referenced by day, time and mood.

Recommendation engines are not confined to optimizing user search. Semantically enhanced smart data combined with analytics is a powerful business management tool of critical importance to every video distributor.

Summary

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- 1.1 Differences in the quality and relevance of data that recommendation engines use and produce
- 1.2 The value of semantic

2. How to measure the impact of recommendation engines?

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- 3.2 Efficient business rules go hand in hand with the user's trust



Boost your users' activity by improving your knowledge about them

Recommendation engines are all based on users' data, but there are significant differences in the quality and relevance of data that recommendation engines use and produce.

Historically, finding what to watch on TV involved reading through an electronic or interactive program guide with a two-week view of programs to be broadcast.

Basic search functionality, DVR recording and editorial curation were added to improve the experience and worked adequately in a world of linear broadcast content. The rapid expansion of media content, channels and viewing devices has created a fragmented and frustrating experience for viewers, and has made it harder for media companies to keep customers and grow revenue per user.

To remain competitive, content providers have to differentiate themselves with more compelling services. If a consumer is willing to pay for having access to a large VOD library and TV packages of high quality content, the value of that service is only demonstrated if they feel they can find their way around that profusion of content. Or even better, when they feel that they don't even need to search for content anymore, because relevant content is always within reach or directed at them.

This is where recommendation engines come into play, but the different design of these systems can fundamentally affect your business outcomes.

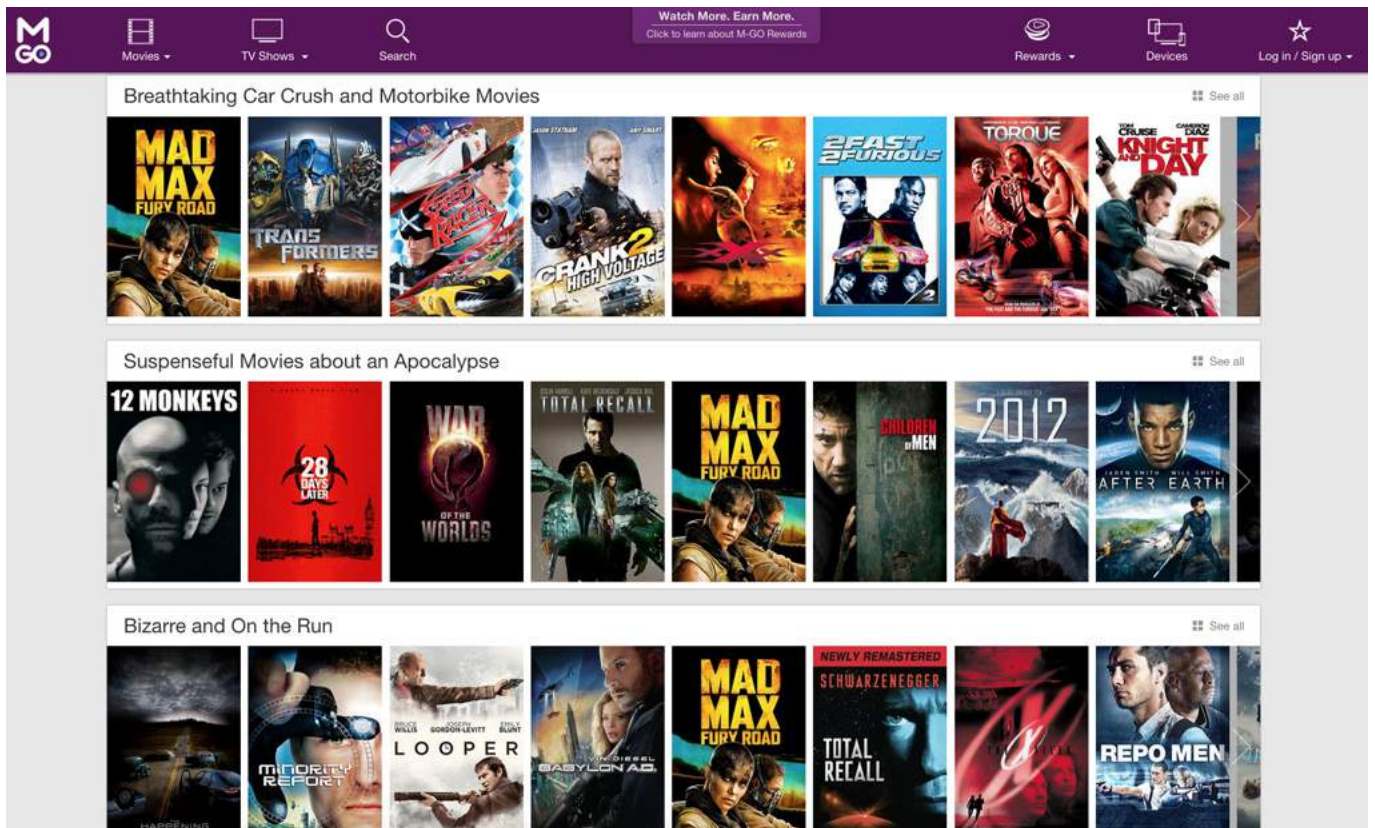
Collaborative filtering. Some content recommendation engines work primarily on the basis of statistical or quantitative algorithms, known as collaborative filtering. These systems are based on aggregating user behaviour (e.g. "people who watched this movie have also watched that movie"), but do not look at the nature of the films or TV shows themselves.

Statistical recommendation. Other systems based purely on statistics tend to suggest the most popular titles that the majority are watching, and won't necessarily address an individual's unique tastes.

“ **The value of large catalogs is only demonstrated if users feel they can find their way around that profusion of content. Or even better, when they feel that they don't even need to search for content anymore, because relevant content is always within reach or directed at them.** ”

Semantic solution. This form of recommendation uses metadata and algorithms to recognize the diverse and subtle themes of each film or TV show. By explaining to users in natural language why they're being shown a recommendation it improves their experience of using an online video service. Viewers quickly understand the key themes of the content shown and why it is being recommended.

Recommendation engines are not the only way to engage people with content of course. Traditionally, editorial efforts to promote new titles and original offers have always been



Personalized suggestions based on a natural language approach

necessary. But the weakness of traditional staff picks is the lack of personalization.

The value of semantic

Without semantic recommendation the nature of the business logic which operators are able to apply will be related to basic demographics or simplistic information about user consumption habits that tell you only about what they have watched and nothing about their motivation.

By learning about users' profiles in an extremely detailed manner, semantically enhanced recommendation engines collect huge amounts of user-related data that go way beyond traditional socio-demo user segmentation. Semantic systems bring a deeper understanding of motivation, preference and

the moods of users - in other words comprehension of their underlying psychology.

The value of knowing core data about what users watch, what their gender is and where they are from only becomes a tangible asset when you can:

- a. Put words in front of their interests
- b. Name content titles in front of their preferences and explain why you believe it's relevant for them
- c. Identify users' moods and tastes in real time depending on the day and time

Semantically enhanced recommendation provides the essential context in which all other data is understood. It is the basis for superior analytical decision-making.



How to measure the impact of recommendation engines?

Recommendation engines have a direct impact on the user experience. Netflix's impressive growth has shown that a video service with a strong focus on content discovery and recommendation innovation can win significant market share.

Outside Netflix, Video operators have started to communicate recently about the performance of recommendation engines. A study conducted by Australian telecommunications and media group Telstra and Kannuu Pty. revealed that "for some of the 'top 30' movies, more than 25% of the purchases resulted from discoveries on the Kannuu platform."

This is an interesting figure but it does not seem to take into account the integration context of recommendation engines. The truth is that:

- Figures are hard to interpret without knowing how these engines have been integrated
- You can't account for the quality of recommendation engines with only one indicator

According to other studies, leading VOD operators and blue-chip media organisations identify the discovery experience as the third most important preoccupation of users and a chief determinant of their activity within the service behind price and the quality of catalog. But how can we measure the performance of recommendation engines efficiently?

Measuring performance

There are four key indicators to take into account in order to assess the performance of recommendation engines:

→ **Transformation rate.** The transformation rate is the ratio between content watched after a recommendation and the total number of watched content. This KPI is very sensitive to semantic technologies that help with contextualizing recommendations. When efficiently integrated, self-explanatory recommendations using semantic technologies can boost this rate by up to 25%, compared to standard recommendations brought to users with no explanations.

“ **Self-explanatory recommendations using semantic technologies can boost transformation rates by up to 25%, compared to standard recommendations brought to users with no explanations.** ”

→ **Engagement rate.** The engagement rate measures the impact of recommendation not just in terms of overall viewings but also on a wider variety of interactions (such as clicks on trailers, additions to playlists, ratings, alerts, recordings). Like the transformation rate, the level of engagement depends a lot on the way recommendation engines are implemented on the front-end. The engagement rate of recommendations ranges between 5% and 15% in the case of content-to-content



suggestions integrated on movie pages only, to a level ranging between 60% and 75% when recommendations are implemented everywhere, including on a fully personalized homepage.

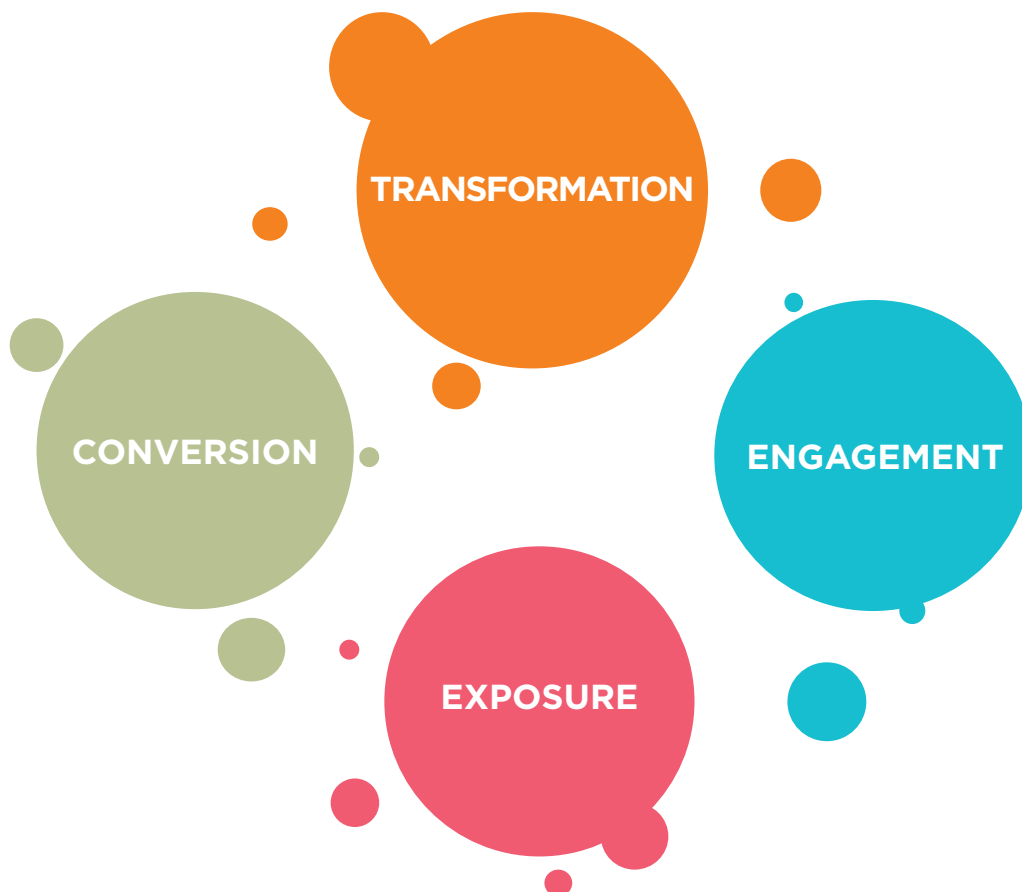
→ **Exposure rate.** The catalog exposure rate is the ratio between the number of titles watched / purchased by users and the number of titles available in a catalog. In direct comparison with recommendations based on collaborative filtering, semantically enhanced technologies can deliver a remarkable 50%+ uplift in library content awareness.

“ **Semantically enhanced technologies can deliver a remarkable 50%+ uplift in library content awareness.**

→ **Conversion rate.** The conversion rate measures how recommendations drive users from a free content watching behavior to a paying content watching behavior within a freemium video experience.

TEEC Analysis: Transformation, Engagement, Exposure, Conversion (TEEC)

Video operators cannot accurately evaluate the performance and quality of a recommendation engine with only one indicator. Transformation, Engagement, Exposure and Conversion indicators (TEEC) offer a comprehensive approach to understanding the many business challenges facing video operators.





More about TEEC analysis

The TEEC analysis is interesting because it sheds light on different aspects of the digital video business. Transformation, Engagement, Exposure and Conversion indicators have a specific relevance depending on the business model.

From an SVOD (subscription video on demand) perspective: Tracking the activity of users is the best way to anticipate churn behaviors. When the user activity goes down, the probability of churn goes up. For SVOD users, watching is not more expensive than clicks on trailers or additions to playlists. The Transformation rate tends to be close to Engagement.

As the overall activity is mainly based on “watch” events, the transformation rate of recommendations is a key factor of loyalty. Users who interact with content and do not click on “watch” will stop paying just as quickly as users who don’t come on your platform anymore.

From a TVOD (transaction video on demand) standpoint: Engagement is as important as Transformation. Users click on “watch” when they have decided that they are willing to pay for a movie. There are significant segments of users that visit TVOD platforms to have a look at what’s available, just click on trailers, add a couple of movies to their playlists and go. Engagement is key because it plays a major role in a user’s buying / renting decision-making process. When users are ready to pay, they will pay on the platform that they like best. More precisely, they will pay

on the platform where they have been more engaged and the one that captured enough engagement to notify them at the right time that there was a movie available.

In both cases, SVOD and TVOD, the quality of catalog is the second determinant of user attraction behind price. Most users do not spend more than 10 minutes browsing libraries of content. This is where recommendation engines play a significant role in optimizing the catalog exposure rate.

From a TV operator’s point of view: Exposure rates can be presented in a slightly different

manner here. The value of TV bundles in Triple Play packages is built on the depth and variety of TV line-ups. It is a major issue to make sure that consumers understand the benefit of having access to a wide variety of channels. Instead of comparing the

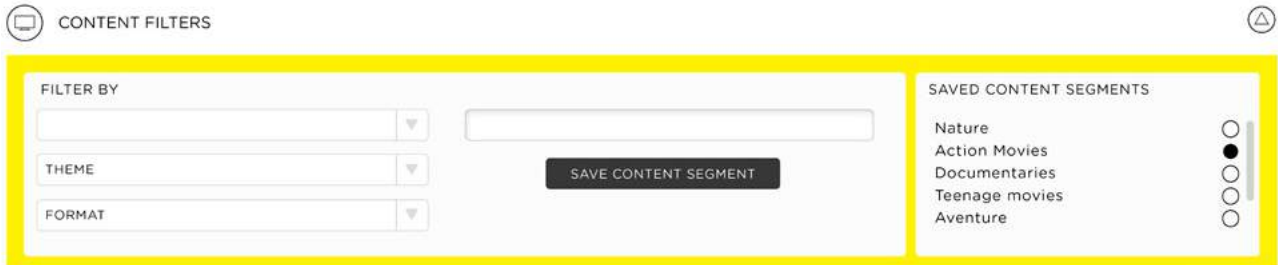
number of titles watched vs. the number of titles available, the idea is to measure up, for every line-up segment, the number of channels watched by users vs. the number of channels available, and see how recommendation engines applied to linear TV content increases that ratio.

Beyond linear TV, the more recommendation engines allow the merger of TV and VOD services in one single, intuitive and coherent experience for users, the more efficient they are in converting TV-only watchers into VOD consumers.

“Transformation, Engagement, Exposure and Conversion rates (TEEC) offer a comprehensive approach to understand the many business challenges facing video operators.”

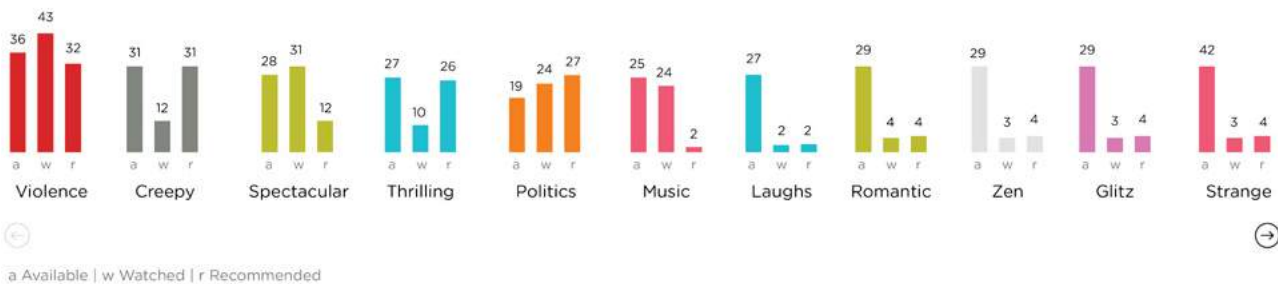


The value of analytics lies in the relevance and accuracy of data



Action Movies CONTENTS 320

Comparative tools



Example: 31% of movies in the Action section of the VOD catalog are highly relevant in the Creepy mood. On average, Creepy stories represent only 12% of Action movie viewings. This highlights a potential mismatch between availability and demand.

Optimizing catalog management and customer relationship management (CRM) with smart data solutions

The added value of recommendation technologies in analytics is not just about measuring KPIs. The use of semantically enhanced technologies results in collecting huge amounts of data about users' behaviors and content properties. When handled astutely, data matured into intelligence can lead to new opportunities.

Using semantically enhanced content-related data allows content owners to:

→ Make consistently better, more personalized suggestions when tested by customers.

→ Significantly improve the exposure rate of content provider catalogs. You will recommend a broader set of titles that, while not necessarily popular, will be a good match with a specific user's taste based on the program profile, thereby maximizing the value of the content library.

→ Optimize content acquisition strategies by comparing the mood-related distribution of content available in a catalog with the mood-related distribution of content watched by your viewers. You will be able to highlight - in an efficient manner - potential gaps between acquisition strategies and audience preferences and reduce the number of titles that do not match your audience's needs.



→ Improve your knowledge about users. Smart use of this knowledge can enhance CRM tools and allows you to personalize direct marketing campaigns. Personalized recommendations have a marked influence

on a user's engagement with marketing activity. The efficiency of click-through rates in email campaigns is significantly improved by semantically enhanced and self-explanatory recommendations.

Mature users w/ kids

USERS
26 248

INTERACTIONS

PROFILE

USER MATURITY

12 months



SERIES MAINLY / MOVIES MAINLY

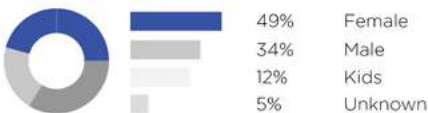


RECO ADDICT / RECO RELUCTANT



USER TYPE

Female



TRANSFORMATION RATE

12 %



ENGAGEMENT RATE / EVOLUTION

31 %



PREFERRED TIMESLOT

Prime Time

PREFERRED DEVICE

Web

PREFERRED PUBLISHER

Universal

SEMANTIC FINGERPRINT



FRIENDS



FAMILY



FANTASY



LAUGHS

AVERAGE INTERACTIONS / DAY

424 216

AVERAGE INTERACTIONS / DAY / USER

9

Set of key data for a segment of users that have been active for more than a year with a Kids profile



Efficient business rules go hand in hand with the user's trust

The output of recommendation engines is a reflection of the user's interests. To remain efficient, personalized recommendations have to be trusted and self-explanatory. If users don't recognize themselves, they just stop using it. It doesn't mean that there is no room for business rules in recommendation engines at all. It means that relevancy must remain the basic principle of recommendations. In other words, **you can boost the visibility of titles in the recommendations when they are already relevant for users, but you shouldn't force titles to appear in recommended lists when they're not relevant at all.**

This is why a Customer Insight platform can help video operators devise efficient business rules to promote content according to business oriented decisions at the same time as preserving the user's trust in recommendations. This platform allows VOD services to easily implement A/B testing and fine-tune recommendation services depending on promotional offers, user segments, editorial needs or any other strategic goals.

Here's an interesting example of Business rule implemented: Boost Warner Bros.

The screenshot displays a configuration interface for a business rule. On the left, the 'BUSINESS RULE' section is titled 'Warner Boost' and has three buttons: 'BAN', 'REDUCE', and 'BOOST' (which is highlighted). Below this, several criteria are listed with expandable sections: 'WHEN' (Anytime), 'CONTENT PROPERTIES' (VoD, Warner), 'USER SEGMENT' (Movies mainly, Reco Addicts), 'RECOMMENDATION TYPE' (Profile), 'SECTION' (New Releases), and 'DEVICE' (TV, Mobile, Web). On the right, the 'USER SEGMENT' sidebar shows a 'FILTERS' section with dropdown menus for FRIENDS, THEME, USER MATURITY, and FORMAT. Below that is a 'SAVE USER SEGMENT' button. At the bottom of the sidebar is a 'SAVED SEGMENTS' list containing: Reco Reluctant, Kids, New users, Mature Users, Comedy people, and Action lovers.

Boost Movie titles in personalized recommendations whenever Warner Bros. movies are relevant for users.



Conclusion

More than a recommendation technology, smart data is a core business management tool that links directly into asset optimisation, management and acquisition. Semantically enhanced systems are essential to an operator's optimal use of smart data.

Smart data is the union of semantically enhanced recommendation with a suite of analytics that not only augments the customer experience but also significantly improves the value of insights to drive the business.

About Spideo

Spideo is a content recommendation and analytics platform that uses semantic-based technologies to deliver personalized viewing suggestions based on natural language for users, and customer insight platforms for digital TV operators.

At Spideo, we understand that the highest quality recommendations are trusted, personally relevant and simple to deploy. We are committed to delivering trusted and personally relevant recommendations that drive enjoyment for the end user and value to our service provider partners.



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