



Seamless Insight Premium

Because video service providers must make impactful data-driven decisions, the ability to observe and understand viewers' cross-platform interactions is invaluable. Currently, most video service providers make adjustments and decisions based on limited data or insight. The analysis of viewer engagement and the effectiveness of content discovery experiences remain incomplete at best. Tivo's Seamless Insight delivers reporting and analytics that empower video service providers to gain and maintain viewers' trust. With Seamless Insight, video service providers can optimize content discovery efforts, deliver targeted content promotions, monitor and improve viewer engagement, and ensure achievement of internal business goals. Furthermore, Seamless Insight provides key performance indicators (KPIs) that fuel data-driven decisions and answer many questions video service providers have today, including:

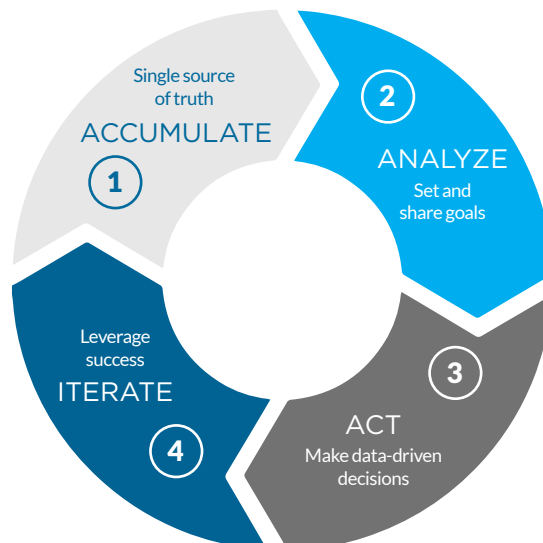
- Are viewers finding desired content across all devices and products?
- Are viewers successful when searching for content and at what rate?
- Do viewers trust their content recommendations?
- Which promotions and offers should be tested, executed and tracked?
- Which data is most valuable, which data can be ignored, and which insights and trends should be reviewed on a regular basis?

Accumulate Better:

Data streams from Seamless Discovery ensure this step is comprehensive. Pre-integration is already done.

Iterate Better:

A/B test results and optimal settings are passed back to the Seamless Discovery Console, enabling seamless iterations.

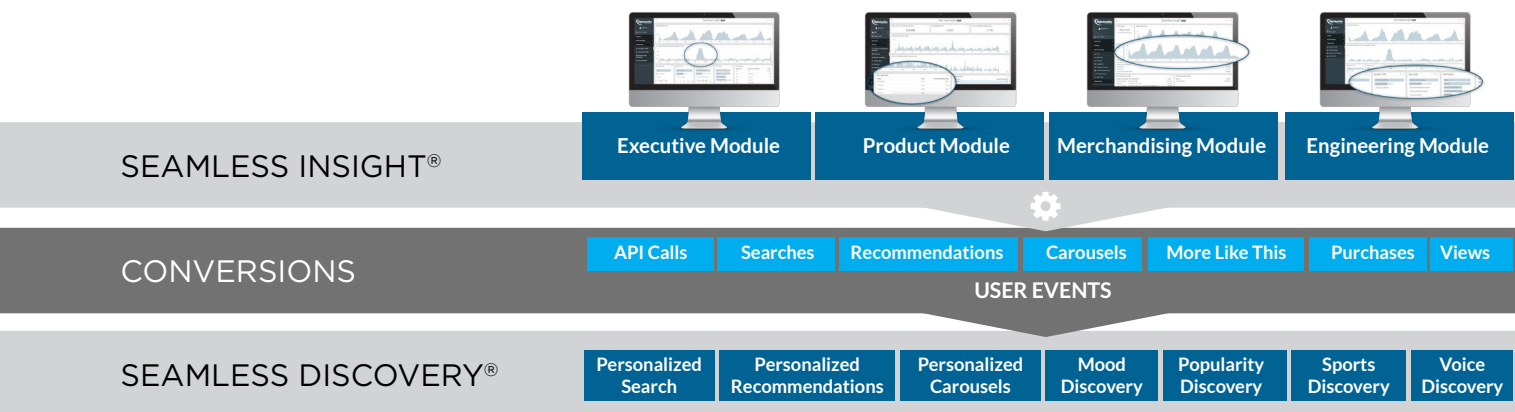


Analyze Better:

Seamless Insight provides not only the basic KPIs, but also advanced KPIs that allow you to measure the right aspects of your business.

Act Better:

Integrated back-end multivariate A/B testing supports cross-platform experiments. Segmentation allows detailed targeting.



THE KEY COMPONENTS OF SEAMLESS INSIGHT

Executive Module

A high-level understanding of how the UI/UX is performing, the executive module leverages Seamless Insight's new KPI – referred to as “content discovery sessions” – so video service providers can track adoption by platform and viewers' overall engagement with each platform, as well as gain an understanding of which content discovery efforts are effective, which should be modified, and which should be replaced.

Product Module

A comprehensive dive into the performance of each content discovery use case, the product module helps video service providers understand which use cases are performing, track sessions by clicks and duration, monitor conversion rates down to the individual title level, and identify UI/UX elements to A/B test in order to optimize the viewer experience.

Merchandising Module

The merchandising module allows video service providers to track views, recordings and purchases. They can also create, deliver and analyze the performance of targeted multivariate A/B experiments, such as campaigns to increase revenue on premium content packages, and other various marketing efforts.

Engineering Module

A means to track all content discovery implementations across various products and devices, the engineering module provides at-a-glance confirmation that API queries are flowing, events are being received, and business rules are executing.

API and CSV Export

Each module of Seamless Insight makes data available to export via API or a manual CSV export. Beneficial for enterprise-level customers who have existing business intelligence, business analysis and data science teams, exported data can not only power content discovery-related dashboards in other analytics platforms, but also dashboards and reports that require a combination of discovery metrics as well as non-discovery metrics.



SEAMLESS INSIGHT: EXECUTIVE MODULE

Seamless Insight gives executives the ability to track the performance of a content discovery implementation – removing the guesswork of what is working and what is not. Now, key stakeholders can track the overall engagement of each product and the ROI of each content discovery implementation. The key features and functionality in Seamless Insight’s executive module include:

Module	Dashboard	Function
Executive Module	Content Discovery Performance Dashboard	Provides visibility into the ROI on any content discovery implementation through high-level metrics and overall performance trends. Insight into overall conversion metrics by each discovery session, or use case, as well as trends of direct view sessions (when viewers achieve their consumption goal with one click), enable video service providers to easily identify areas of success plus areas that might need immediate attention.
Executive Module	Discovery Type Performance Dashboard	Provides clear insight into the performance of various types of content discovery use cases deployed, such as personalized search, personalized recommendations, personalized carousels and “more like this” functionality. Video service providers can monitor performance by custom-defined viewer segments, product, device and conversion types.



SEAMLESS INSIGHT: PRODUCT MODULE

Seamless Insight gives product teams the necessary visibility to keep a pulse on how each content discovery use case is performing, across all products and devices. The key features and functionality provided in Seamless Insight's product module include:

Module	Dashboard	Function
Product Module	Use Case Performance Overview Dashboard	Provides performance metrics down to each use case or content discovery feature, including conversion rates and types, and conversions by product and device. Video service providers can quickly identify which areas need a closer look in order to improve views, conversions and overall engagement.
Product Module	Carousels Dashboard	Provides performance reports, metrics and trends for all deployed personalized carousels. Video service providers can easily track conversions against previously set goals, overall conversions by title, conversion types as well as top surfaced titles and episodes by device, product, segment and more. These insights ensure personalized carousels are contributing to viewer engagement across all devices and products, and provide visibility to easily identify the best- and worst-performing carousels.
Product Module	Recommendations Dashboard	Provides performance reports, metrics and trends for all deployed content recommendations. Video service providers can easily track top recommended titles and episodes by device, product, segment and more. These insights ensure personalized recommendations are contributing to viewer engagement across all devices and products, and provide visibility to easily identify optimization areas to further improve conversions.
Product Module	"More Like This" Dashboard	Provides performance reports, metrics and trends for all deployed "more like this" functionality. Video service providers can easily track top titles and episodes surfaced through "more like this" functionality by device, product, segment and more. These insights ensure the "more like this" functionality is contributing to viewer engagement across all devices and products, and provides visibility to easily identify optimization areas to further improve conversions.

TIVO SEAMLESS INSIGHT: PRODUCT MODULE

Module	Dashboard	Function
Product Module	Searches Dashboard	Provides performance reports, metrics and trends on the overall volume of searches, conversions rates, top searches and failed searches — plus a breakdown of all searches by device, product and segment across any time period. Video service providers should leverage these insights to ensure their thesaurus is updated, to identify up-sell and promotional opportunities for content the viewer is not currently entitled to access, or for content that may not be available in the catalog at all.
Product Module	Discovery Sessions Dashboard	Provides an overview of viewers' engagement levels with the content surfaced through all content discovery functionality. Video service providers can understand viewers' average duration and number of clicks to find relevant content per discovery session. Provides the ability to analyze engagement at various levels; for example, the ability to drill down to the product and user ID level. When used in conjunction with A/B testing, this can be leveraged to track performance changes by comparing before/after metrics.
Product Module	UI/UX Optimization Setup Dashboard	Provides full visibility into how each multivariate A/B experiment is set up, and at-a-glance, which variables are being tested, across what product offerings, devices and custom defined segments. Video service providers can easily test all aspects of a product offering to ensure the highest quality experience is released to viewers. <i>(This dashboard is enabled when TiVo's Professional Services Team becomes engaged.)</i>
Product Module	UI/UX Optimization Performance Dashboard	Provides an analysis of the performance and trends associated with all A/B experiments, whether univariate or multivariate. Video service providers can understand the impact of each test variable by device, product offering, date, time of day, and conversion rates. This information ensures video service providers are making data-driven decisions based on previously set goals and KPIs. <i>(This dashboard is enabled when TiVo's Professional Services Team becomes engaged.)</i>



SEAMLESS INSIGHT: MERCHANDISING MODULE

Seamless Insight's merchandising module provides innovative technology to build and deliver numerous multivariate experiments to subsets of viewers, and tracks which merchandising campaign performed the best. This insight replaces guessing and optimizes future promotions to maximize results, guaranteeing the implementation of only the top-performing promotions. The merchandising module enables video service providers to create and test various promotions for channels, packages, premium content and even pay-per-view across all applications and devices.

Module	Dashboard	Function
Merchandising Module	Views Dashboard	Provides performance reports, metrics and trends on the top-viewed titles, episodes and networks as well as views by device, product, date, time of day, custom defined segment and event sub-type. The Dashboard ensures video service providers can clearly understand viewership data as well as if the right content is being discovered and viewed across all devices and products.
Merchandising Module	Recordings Dashboard	Provides reports, metrics and trends to track and identify top recorded titles, episodes and networks by device, product, customer defined segment, date, and time of day. Video service providers can leverage these insights to ensure future episodes, or similar content to what is being recorded, is surfaced in search results and content recommendations.
Merchandising Module	Purchases Dashboard	Tracks content purchases such as premium content and packages across various content types, devices, product offerings, custom defined segments, date and time. This insight into purchases provides video service providers the ability to keep a pulse on their efforts to increase average revenue per user (ARPU).
Merchandising Module	Engagement Dashboard	Provides insight into viewer engagement through overall performance metrics, as well as through detailed reports that show API activity, click activity, views and favorite series additions. Reports automate the grouping of viewers by engagement level, which can be easily exported and leveraged to run multivariate A/B experiments to test methods that will further increase engagement.

TIVO SEAMLESS INSIGHT: MERCHANDISING MODULE

Module	Dashboard	Function
Merchandising Module	Engagement Trends Dashboard	Provides insight into how to optimize engagement efforts through a clear analysis of viewer engagement metrics and trends across numerous factors, including views, clicks, favorite series and API calls across all content discovery implementations. See cyclical trends and understand how multivariate A/B experiments affect and/or increase views and overall engagement.
Merchandising Module	Audience Segmentation Dashboard	Identifies audiences and permits ability to create sub-groups of viewers based on dominant viewing habits. Video service providers can leverage data in multivariate A/B experiments to ensure the right content is in front of the right audience. The insights provided through this dashboard automate the ability to target promotions or campaigns to the most relevant viewers.
Merchandising Module	Segmentation & Campaign Setup Dashboard	Provides full visibility into how each content promotion, or multivariate A/B experiment is set up, and at a glance, video service providers can understand which variables are being tested across what product offerings, devices and audiences. <i>(This dashboard is enabled when TiVo's Professional Services Team becomes engaged.)</i>
Merchandising Module	Segmentation & Campaign Performance Dashboard	Provides insights and analysis on the performance of content promotions, whether through univariate and/or multivariate A/B experiments. Video service providers can understand the impact of each test variable by device, product offering, date, time of day, and conversion rates. This dashboard automates the ability to easily identify the top-performing content promotions by audience segment and test variables. <i>(This dashboard is enabled when TiVo's Professional Services Team becomes engaged.)</i>



SEAMLESS INSIGHT: ENGINEERING DASHBOARD

The engineering module provides technical teams the necessary visibility to monitor the stability of each platform and/or product offering. The dashboards and reports in this module provide the necessary information to identify any red flags in data, APIs and business rules.

Module	Dashboard	Function
Engineering Module	API Query Traffic Dashboard	Tracks the stability of a content discovery implementation through reports on API requests, API requests per hour, average response time per hour, query types and error codes. These insights provide the necessary visibility to quickly identify problematic API calls by device, product offering and date, as well as problematic areas that need immediate attention.
Engineering Module	API Post Traffic Dashboard	Identifies when products or platforms experience posting event issues or failures, or when event posting goes offline.
Engineering Module	Business Rule Activations Dashboard	Provides visibility and performance into what business rules are active across key variables such as frequency of business rule activations, devices, product offerings, custom defined segment, date, time of day and query type.
Engineering Module	Feedback Events Dashboard	Provides a breakdown of posted traffic, including timestamps of when events occurred. At a glance, video service providers can confirm that all types of events are being posted to Seamless Discovery, and have the ability to drill down to specific geographic regions, products, devices, time/date and asset titles. Any gaps in event reporting can be easily investigated.