

A modern, bright living room with large windows, a white sectional sofa, a round coffee table, and a staircase with a glass railing. The room is filled with natural light and has a clean, minimalist aesthetic.

# Wayfair Rugs Market Intelligence

AI Agent Demo

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# Executive Summary



## Objective

Help Wayfair's Rugs category team automate trend discovery, monitor competitors, and generate content ideas.



## Solution

Built 3 connected AI agents that feed into one centralized Market Intelligence Dashboard.



## Key Insights


- Eco-friendly rugs trending ↑30%
- Washable rugs expanding under \$200
- Geometric patterns gaining traction



## Core Outputs

- Trend Discovery Agent
- Competitor Monitoring Agent
- AI Insights & Content Agent

# Agent 1: Moodboard Generator

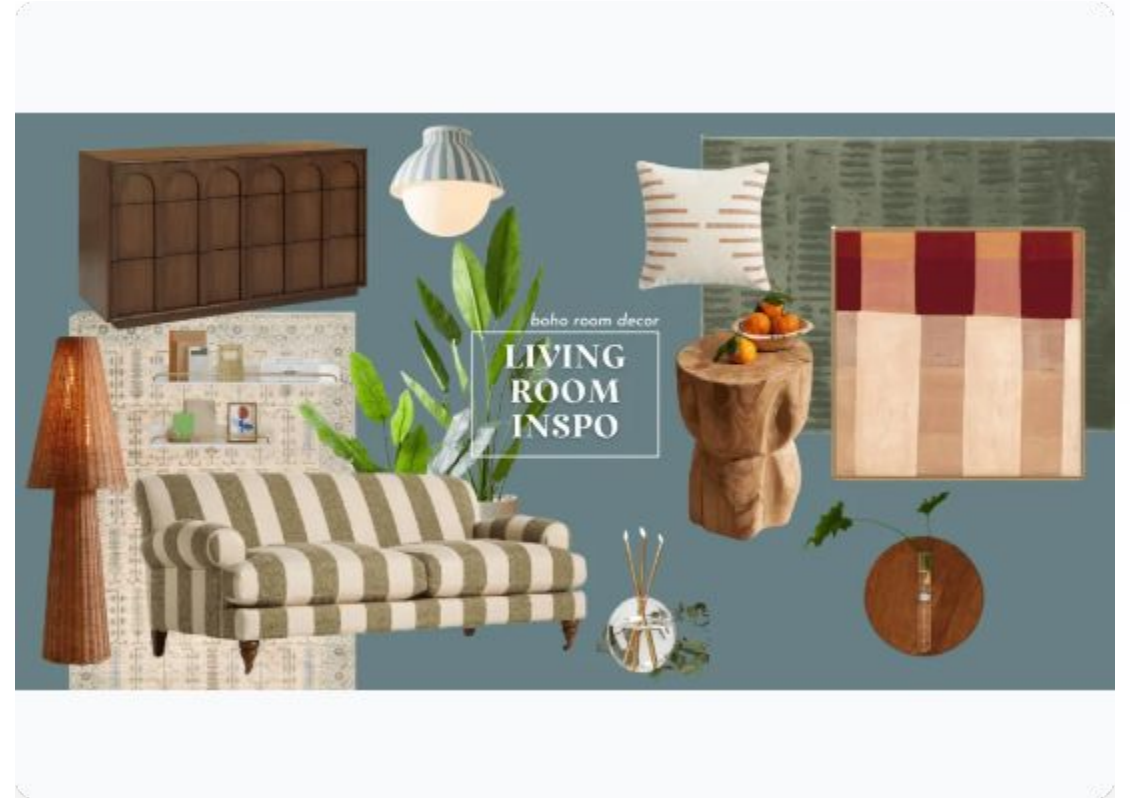
 **Objective** Transform simple text prompts into AI-generated moodboards that reflect emerging rug design styles.

## Input Logic

**Prompt:** "Bohemian rugs, neutral tones"

- Keep prompts short (under 10 words).
- Use clear style + material keywords.
- Avoid subjective adjectives like "beautiful".

*Note: Google Gemini's free tier allows ~20 generations/day.*



AI-Curated Visual Output

# Agent 2: Trend Discovery

 **Objective** Detect emerging product trends (size, color, material) by analyzing RSS, Search, and Amazon data.



## Workflow

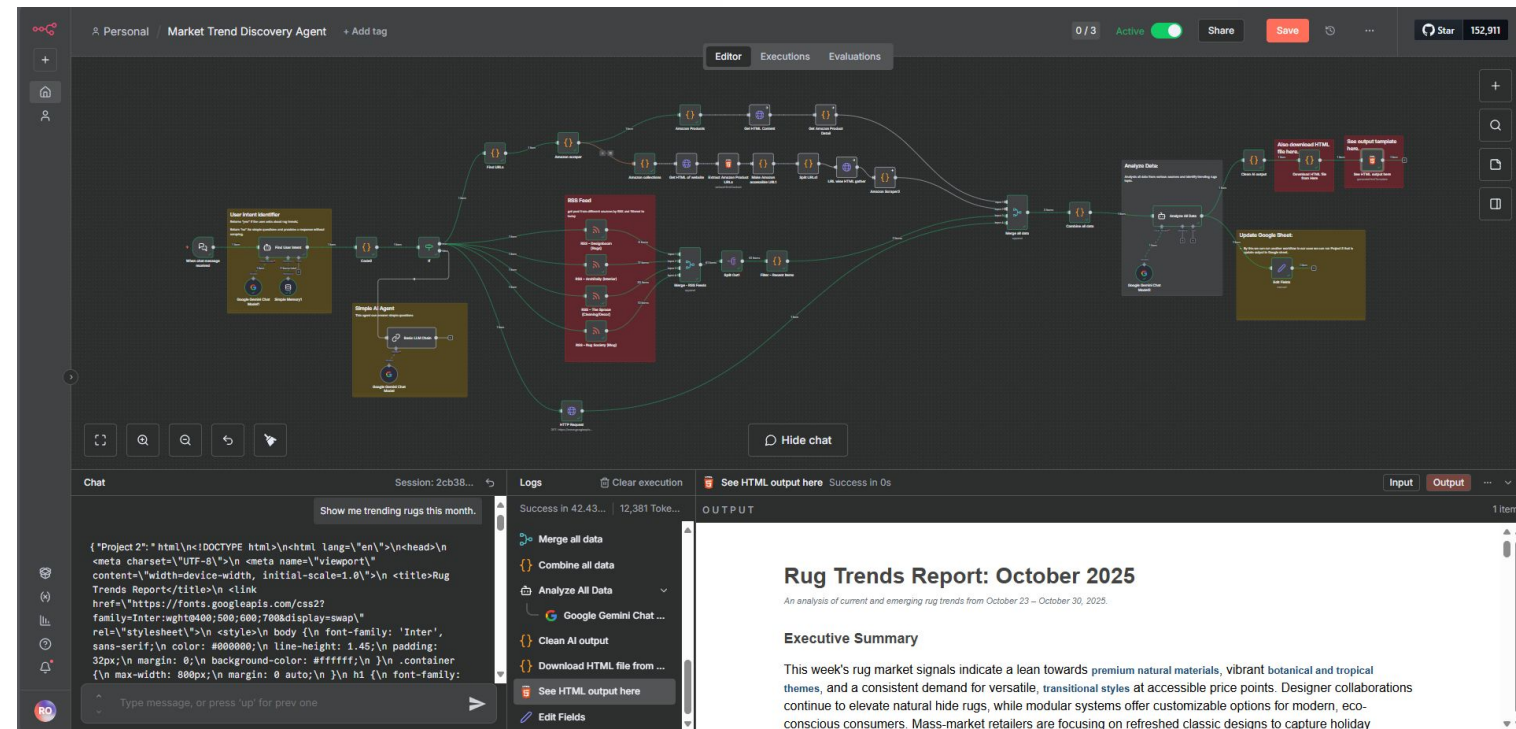
**Input:** Amazon Product/Collection URLs.

**Process:** Scrapes live data (2-3 mins) to analyze attributes.

**Output:** HTML reports stored in Supabase.


## Expansion Opportunities

- Expand to Walmart or IKEA.
- Add sentiment analysis for reviews.
- Integrate with internal Wayfair catalog.





# Agent 3: Competitor Monitoring

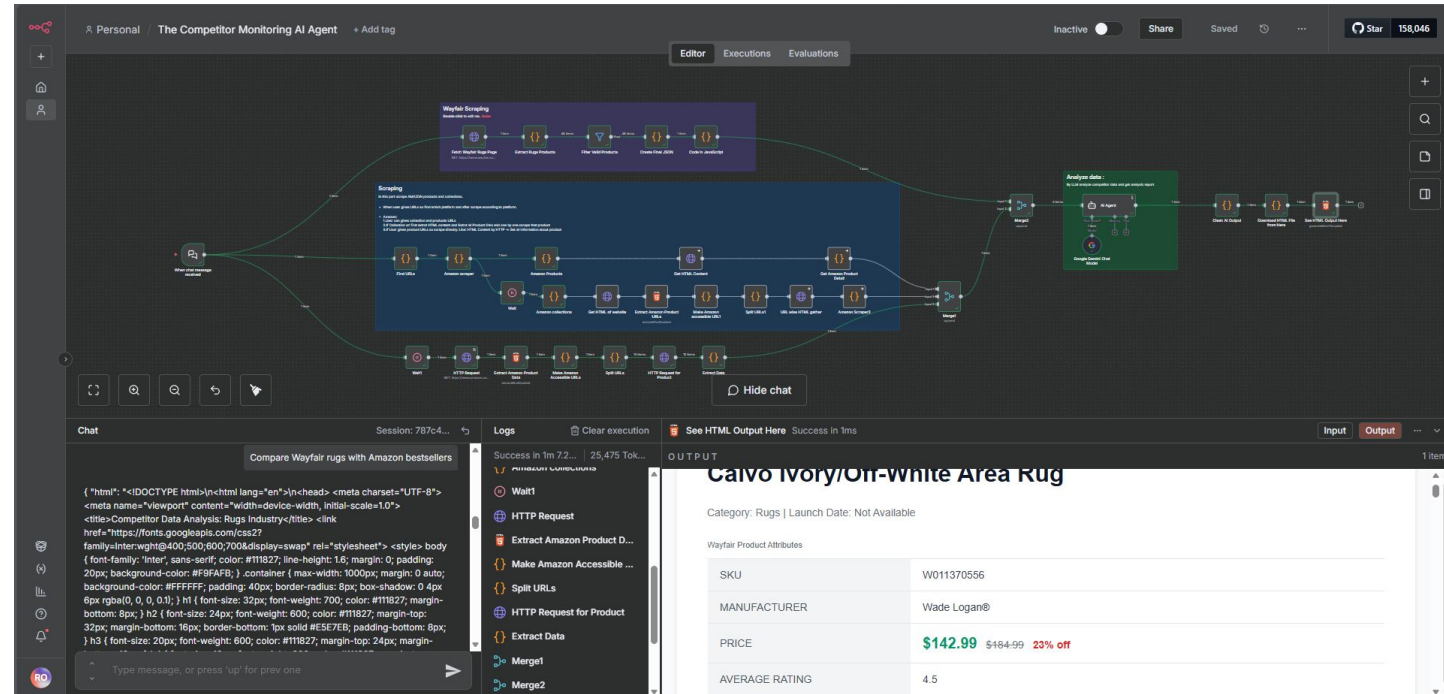
 **Objective** Track competitor launches, pricing, and messaging to identify gaps for Wayfair's Rugs category.

## Key Features

- **Task:** Extract price, rating, PDP messaging, whitespace.
- **Scope:** Scrapes Wayfair & Amazon (First 10 pages).
- **Tech:** Uses fallback scraper for bot protection.

## Future Improvements

- Add pagination for deeper data.
- Integrate price tracking APIs.
- Automated alerts for price drops.



The screenshot displays the Calvo AI Agent interface, titled "The Competitor Monitoring AI Agent". The interface includes a workflow editor with nodes for "Wayfair Scraper", "Scraping", and "Analyze data". Below the editor, there is a chat window showing a conversation about comparing Wayfair rugs with Amazon bestsellers. The chat output includes HTML code and a table of product attributes for a "Calvo Ivory/Off-White Area Rug".

**Wayfair Scraper**

**Scraping**

**Analyze data**

**Chat**

Session: 787c4...

Success in 1m 72... 25,475 Tok...

**OUTPUT**


**Calvo Ivory/Off-White Area Rug**

Category: Rugs | Launch Date: Not Available

Wayfair Product Attributes

SKU	W011370556
MANUFACTURER	Wade Logan®
PRICE	\$142.99 \$184.99 23% off
AVERAGE RATING	4.5

# Agent 4: AI Insights & Content

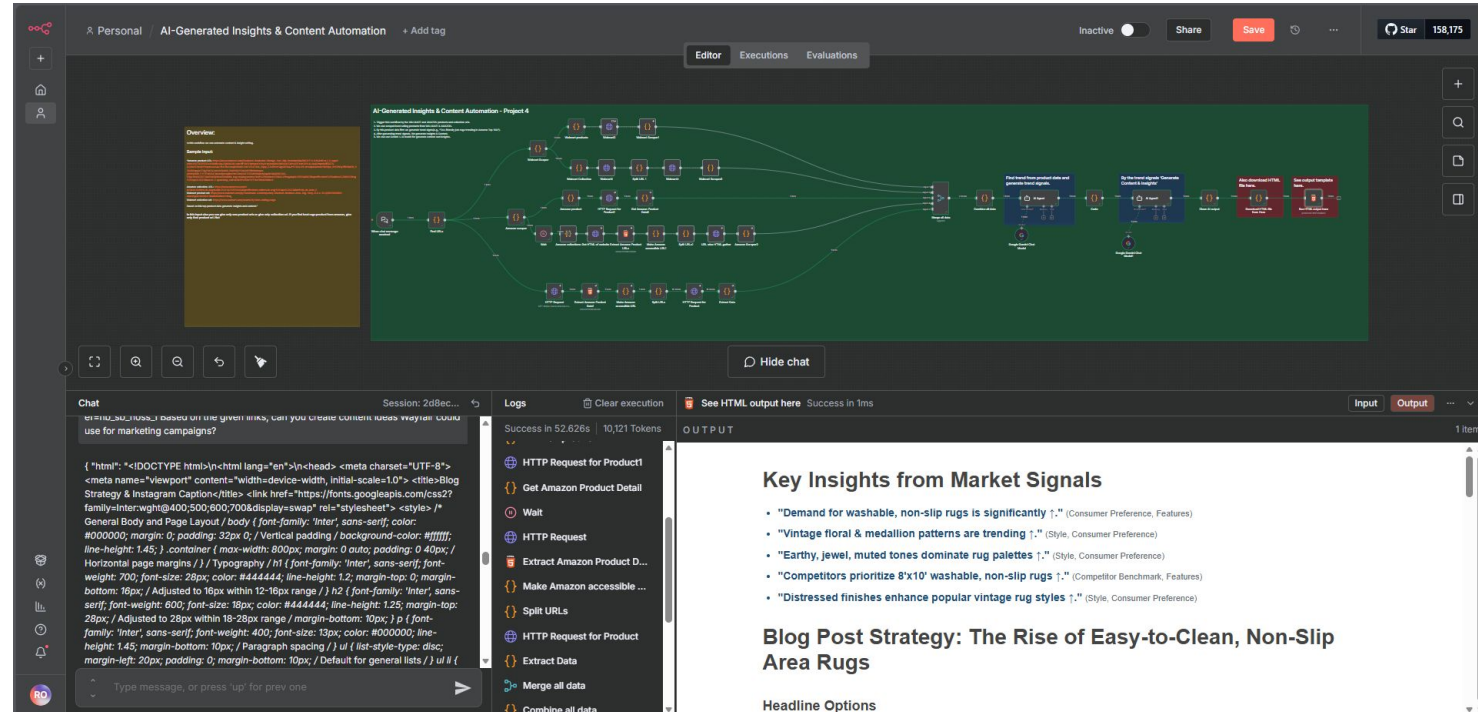
 **Objective** Convert trend signals and competitor data into brand-aligned marketing content (blogs, captions).

## Workflow Highlights

- **Task:** Generate creative ideas based on identified trends.
- **Brand Voice:** Refined system messages match Wayfair's tone.
- **Format:** HTML output for easy CMS publishing.

## Roadmap

- Connect to Wayfair internal SKU data.
- A/B testing framework for content.
- Direct CMS integration.



The screenshot displays the 'AI-Generated Insights & Content Automation' interface. The top bar shows 'Personal', 'AI-Generated Insights & Content Automation', and '+ Add tag'. The main workspace is divided into three tabs: 'Editor', 'Executions', and 'Evaluations'. The 'Editor' tab is active, showing a workflow diagram with various nodes and connections. Below the diagram, there's a 'Chat' section with a session ID '2d8ec...' and a message: 'DETAILS: I need to see the given data, can you check current data? I want to use for marketing campaigns?'. The 'Logs' section shows a successful execution with 52,626 tokens and 10,121 tokens. The 'Output' section displays the generated content, which includes a list of 'Key Insights from Market Signals' and a 'Blog Post Strategy' section.


**Key Insights from Market Signals**

- "Demand for washable, non-slip rugs is significantly ↑." (Consumer Preference, Features)
- "Vintage floral & medallion patterns are trending ↑." (Style, Consumer Preference)
- "Earthy, jewel, muted tones dominate rug palettes ↑." (Style, Consumer Preference)
- "Competitors prioritize 8'x10' washable, non-slip rugs ↑." (Competitor Benchmark, Features)
- "Distressed finishes enhance popular vintage rug styles ↑." (Style, Consumer Preference)

**Blog Post Strategy: The Rise of Easy-to-Clean, Non-Slip Area Rugs**

Headline Options

# Unified Intelligence Dashboard

 **Objective** A live Google Sheets dashboard that automatically synthesizes insights from all three agents.



## How It Works

1. Agents store outputs in **Supabase**.
2. **n8n** processes reports to structured JSON via Gemini.
3. Extract nodes parse data into spreadsheet fields.
4. Dashboard updates automatically on every run.

## Tech Stack: Supabase → n8n → Google Gemini → Sheets

Wayfair
File Edit View Insert Format Data Tools Extensions Help

G
Menus
Comment only
100%

G10
Abstract, textured

	A	B	C	D	E	F	G	H	I	J	K	L	
	Trend	Category	Detected Date	Size	Color	Material	Pattern	Style	Feature	Price Bucket	Mentions (Sources)	Key Insight	
2	Soft, High-Pile Shag Rugs	Rugs	2025-10-27	8×10, 5×8	Grey, Warm neu	Synthetic (polye	Solid, Textured	Modern	High-pile, Shag	\$25 to \$75	Walmart Product Page	Strong demand i	Walmart Product Page: Cozy/Deg 8ft x 10ft Area Rugs, Soft Fluffy Area Rugs... — Oct 27, 2025
3	Cozy High-Pile Shag Rugs	Rugs	2025-10-28	7×10, 5×7, 8×10	Grey, Cream, Ec	Synthetic (polye	Textured, solid	Modern, cozy, m	High-pile, shag, fluffy, kid-friendly,	Amazon in Best Sellers	Continued strong Amazon in Product Page: Soft Fluffy Shag Area Rectangular Rugs for Living Room, Shaggy Fluffy Area Rugs... — Oct 28, 2025		
4	Washable Distressed S Rugs	Rugs	2025-10-28	8×10	Brick Red	Synthetic (Polye	Distressed	Vintage, Boho	Washable, Low-p	\$75 to \$200	Amazon Product Page	This trend under Amazon Product Page (Freyja 8x10 Large Area Rug) — Oct 28, 2025	
5	Distressed, Washable, Rugs	Rugs	2025-10-30	5×7, 8×10, nunn	Grey, Cream, Ec	Synthetic (polye	Distressed, Fadi	Transitional, Mo	Washable, Low-p	\$75 to \$200	Amazon Search Result	Strong consume Amazon Search Result — Oct 30, 2025 (Product: MASSIVE HOMES Distressed Washable Fluffy Area Rugs)	
6	Washable, Distressed L Rugs	Rugs	2025-10-31	8×10, 5×7	Brick Red, Earth	Synthetic (polye	distressed, vinta	Boho, vintage, v	Washable, low-p	\$75 to \$200	Amazon Product Listing	This trend highly Amazon Product Page (Freyja Area Rug) — Oct 31, 2025: Product: Freyja 8x10 Large Area Rug	
7	Washable, Distressed, Rugs	Rugs	2025-10-31	8×10, multiple si	Brick Red, varie	Synthetic (flax c	Distressed, vinta	Boho, vintage, v	Washable, low-p	\$200 to \$500	Amazon Product Listing	Strong consume Amazon Product Listing: Freyja 8x10 Large Area Rug... — Oct 31, 2025	
8	Washable, Low-Pile Dist Rugs	Rugs	2025-10-31	8×10, various ar	Warm neutrals, l	Synthetic (polye	distressed, vinta	Boho, vintage, v	Washable, low-p	\$75 to \$200	Amazon Product Listing	Highly visible on Freyja 8x10 Large Area Rugs for Living Room, Vintage Distressed Soft Washable Rugs... — Oct 31, 2025	
9	Functional Anti-Fatigue Rugs		2025-11-01	mat, runner (1/2	Black, Grey	synthetic (memo	solid, textured	utility, functional	anti-fatigue, non	under \$25	Amazon India — Nov 1	The demand for Amazon India: Roslen 2 Pcs Kitchen Mats for Floor, Waterproof Anti Fatigue Memory Foam Rugs... — Nov 1, 2025	
10	Cozy High-Pile Shag Area Rugs		2025-11-01	7×10, area	Grey	Synthetic (polye	Abstract, texture	Modern, contem	High-pile, shag	\$50 to \$75	Amazon Product Page	High-pile shag n MUEZZA CARPETS_Soft Fluffy Shag Area Rectangular Rugs... Grey (7x10 ft) — Nov 1, 2025	
11	Anti-Fatigue Kitchen Mats Rugs		2025-11-01	Mat (60x40 cm)	Neutrals, Beige	Memory foam, s	Solid, Vintage, C	Functional, Utilit	Anti-fatigue, non	under \$25	Amazon in (Roslen Kitch	There is a robust Amazon in (Roslen Kitchen Mats) — Nov 1, 2025	
12	High-Pile Shag Area Rugs		2025-11-01	7×10	Grey, Neutral co	Synthetic (imple	Textured, Solid	Modern, Kid-frie	High-pile, shag	\$50 to \$75	Amazon in — Nov 1, 2025	High-pile shag n Amazon in — Nov 1, 2025 (Product: MUEZZA CARPETS_Soft Fluffy Shag Area Rectangular Rugs... Grey (7x10 ft) — Nov 1, 2025	
13	High-Pile Shag Area Rugs		2025-11-01	7×10	Grey, Neutrals	Synthetic	Textured, Solid	Modern, Kid-frie	High-pile, Shag	\$50 to \$75	Amazon in — Nov 1, 2025	High-pile shag n Amazon in — Nov 1, 2025 (Product: MUEZZA CARPETS_Soft Fluffy Shag Area Rectangular Rugs... Grey (7x10 ft) — Nov 1, 2025	
14	Soft, High-Pile Shag Area Rugs		2025-11-02	7×10	Grey	synthetic (polye	textured	modern	high-pile, shag, i	\$50 to \$75	Amazon Product — Nov 1, 2025	Large-format, so Amazon Product: MUEZZA CARPETS_Soft Fluffy Shag Area Rectangular Rugs... — Nov 2, 2025	
15	Soft, High-Pile Shag Area Rugs		2025-11-02	7×10	Grey	synthetic (polye	textured	modern	high-pile, shag, i	\$50 to \$75	Amazon Product — Nov 1, 2025	Large-format, so Amazon Product: MUEZZA CARPETS_Soft Fluffy Shag Area Rectangular Rugs... — Nov 2, 2025	
16	Soft, High-Pile Shag Area Rugs		2025-10-03	7×10	Grey	Synthetic (polye	Textured (shag),	Modern	High-pile, shag	\$500+	Amazon Product: MUE	High-pile shag n Amazon Product: MUEZZA CARPETS_Soft Fluffy Shag Area Rectangular Rugs... Oct 3, 2025	

1 TrendSignals
2 CompetitorMoves
3 Allinsights
4 ExecutiveSummary

# Reflections & Roadmap

## Key Learnings

- Information becomes intelligence through connection and synthesis, not just collection.
- Systems work best when modularity enables both independence and integration.
- Data informs critical design, assortment, and pricing decisions.

## Future Steps

- Integrate SKU performance metrics to connect trends with real sales data.
- Expand data sources to include social media for organic trend discovery.
- Implement error handling and observability for system resilience.



# Thank You

Questions?



<https://github.com/Rayyan-Oumlil/WayfairExternship>