

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

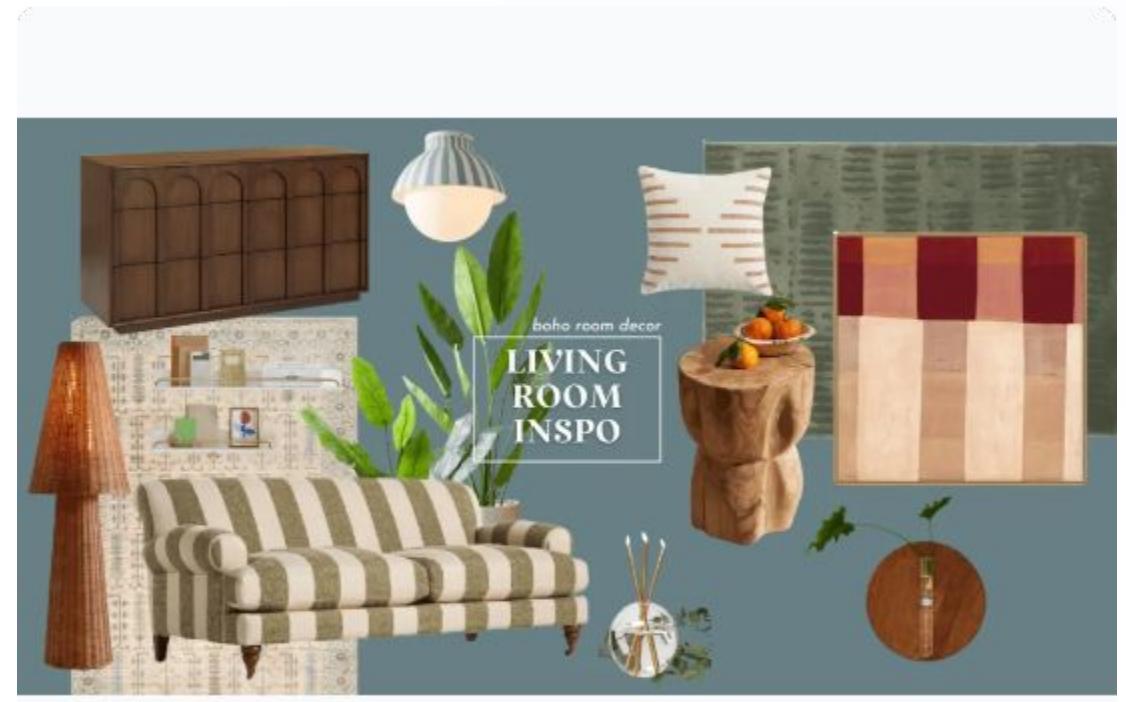
🎯 **Objective** Transform simple text prompts into AI-generated moodboards that reflect emerging rug design styles.

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



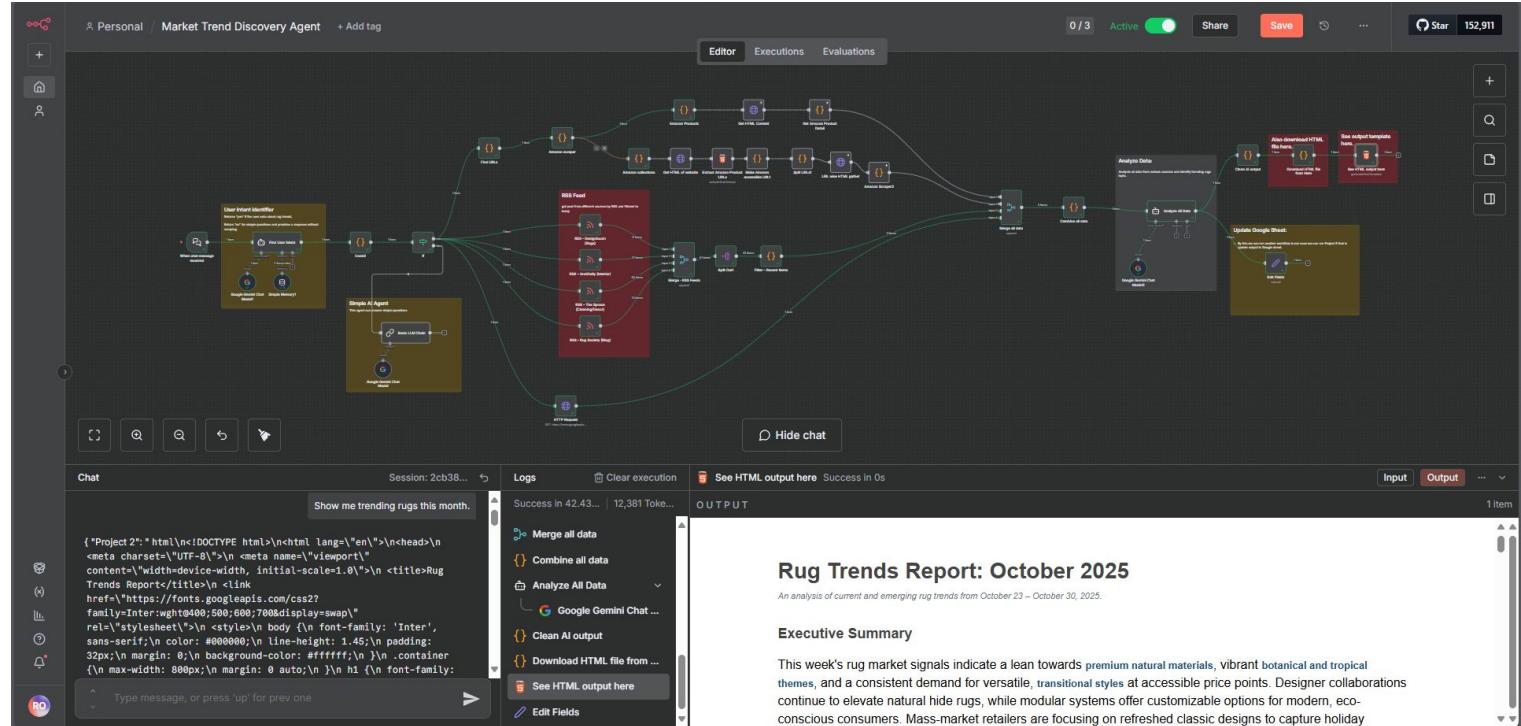
 **Objective** Detect emerging product trends (size, color, material) by analyzing RSS, Search, and Amazon data.

Workflow

Input: Amazon Product/Collection URLs.

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

Output: HTML reports stored in Supabase.



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

Agent 3: Competitor Monitoring

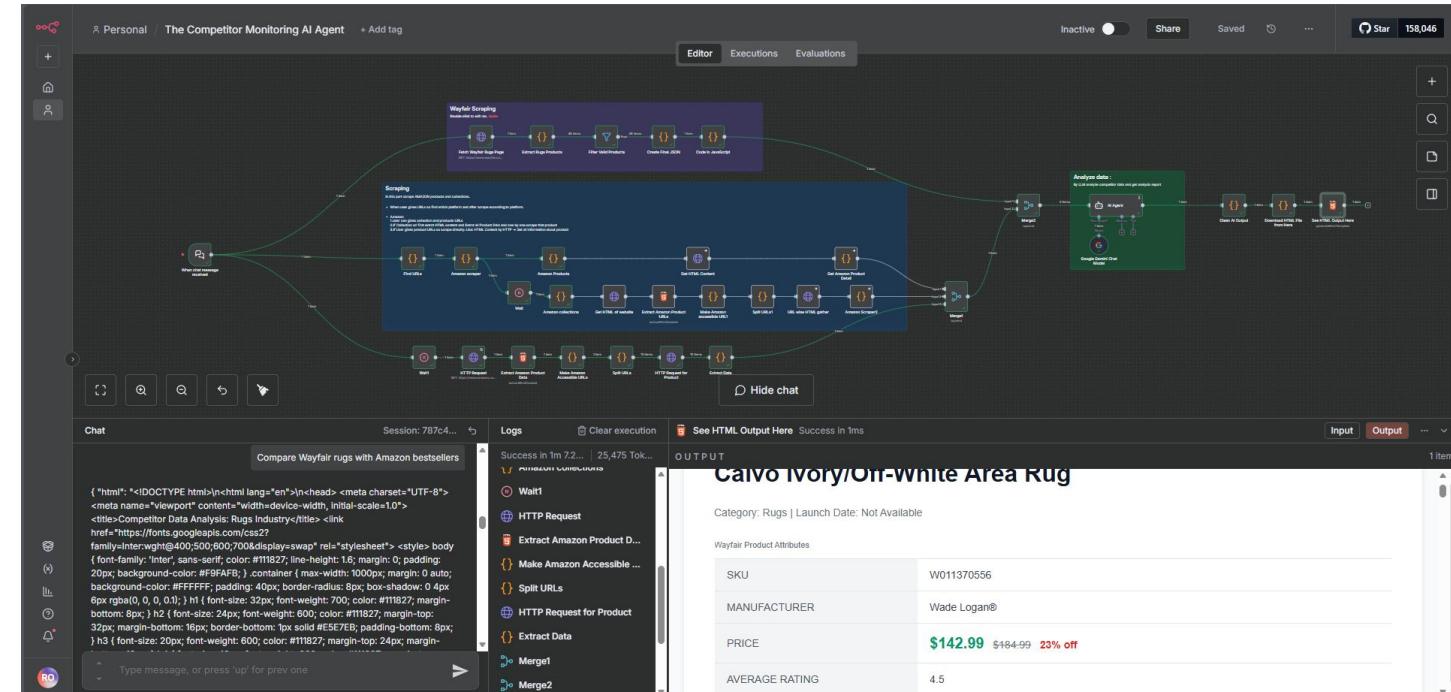
🎯 **Objective** Track competitor launches, pricing, and messaging to identify gaps for Wayfair's Rugs category.

Key Features

- **Task:** Extract price, rating, PDP messaging, whitespace.
- **Scope:** Scraps 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.

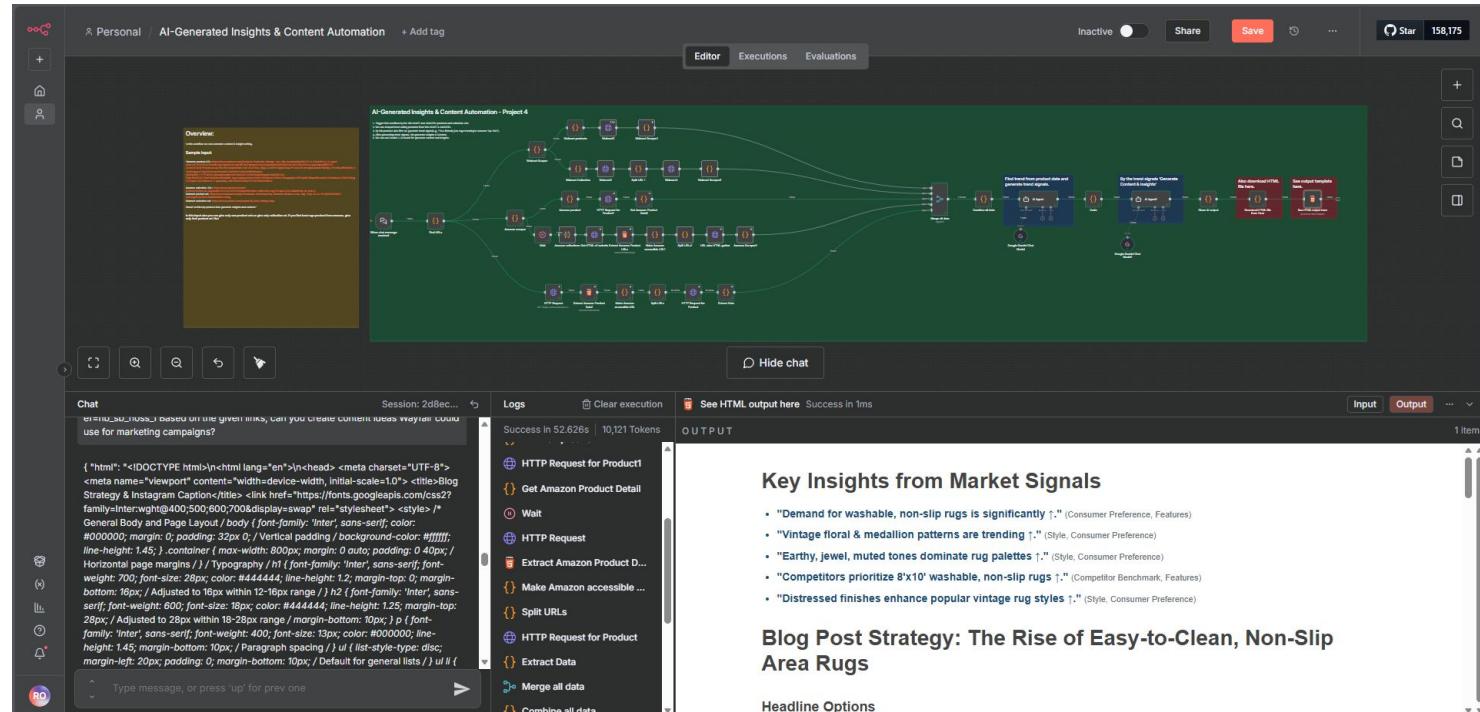


Agent 4: AI Insights & Content

🎯 **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.



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

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Trend	Category	Detected Date	Size	Color	Material	Pattern	Style	Feature	Price Bucket	Mentions Sources	Key insight	
2	Soft, High-Pile Shag, Rugs		2025-10-27	8x10, 5x8	Grey, Warm neutrals	Synthetic (poly: Solid, Textured)	Modem	High-pile, Shag	\$25 to \$75		Walmart Product Page	Strong demand (Walmart Product Page: CozyDesg 8ft x 10ft Area Rugs, Soft Fluffy Area Rugs... — Oct 27, 2025)	
3	Cozy High-Pile Shag Rugs		2025-10-28	7x10, 5x7, 8x10	Grey, Cream, Ecru	Synthetic (poly: Textured, solid)	Modem, 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 Fi...		
4	Washable, Distressed S Rugs		2025-10-28	8x10	Brick Red	Synthetic (Poly: Distressed)	Vintage, Boho	Washable, Low-p	\$75 to \$200		Amazon Product Page	This trend under Amazon Product Page (Freya 8x10 Large Area Rug) — Oct 28, 2025	
5	Distressed, Washable, Rugs		2025-10-30	5x7, 8x10, runner	Grey, Cream, Ecru	Synthetic (poly: Distressed, Faded)	Modem, Washable, Low-p	Washable, Low-p	\$75 to \$200		Amazon Search Result	Strong consume Amazon Search Result — Oct 30, 2025 (Product: MASSIVE HOMES Distressed Washable Fo...	
6	Washable, Distressed S Rugs		2025-10-31	8x10, 5x7, runner	Brick Red	Earth synthetic (poly: distressed, vinta boho, vintage, tr washable, low-p)	Modem, Washable, Low-p	Washable, low-p	\$75 to \$200		Amazon Product Listing	This trend highly Amazon Product Page (Freya 8x10 Large Area Rug) — Oct 31, 2025. Product: 'Freya 8x10 Large Area...	
7	Washable, Distressed, Rugs		2025-10-31	8x10, multiple sizes	Brick Red, variegated	Synthetic (faux c Distressed, vinta Boho, vintage, tr washable, low-p)	Modem, Washable, Low-p	Washable, low-p	\$200 to \$500		Amazon Product Listing	Strong consume Amazon Product Listing: Freya 8x10 Large Area Rugs... — Oct 31, 2025	
8	Washable, Low-Pile Dir Rugs		2025-10-31	8x10, various sizes	Grey, Warm neutrals, Earthy	Synthetic (poly: distressed, vinta boho, vintage, tr washable, low-p)	Modem, Washable, Low-p	Washable, low-p	\$75 to \$200		Amazon Product Listing	Highly visible on Freya 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 (1.21 Black, Grey)	synthetic (memo: solid, textured)	utility, functional	anti-fatigue, non-slip	under \$25		Amazon India	— Nov 1 The demand for Amazon India: Roslen 2 Pcs Kitchen Mats for Floor, Waterproof Anti Fatigue Memory Foam Ru...	
10		Cozy High-Pile Shag Area Rugs		2025-11-01	7x10, area	Grey	Synthetic (poly: Abstract, textured)	Modem, contemp	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 Mat Rugs		2025-11-01	Mat (60x40 cm), Neutrals, Beige	Memory foam, soft, solid, vintage	Functional, Utility, Anti-fatigue, non-slip	under \$25			Amazon.in (Roslen Kite)	There is a robust Amazon.in (Roslen Kitchen Mats) — Nov 1, 2025	
12		High-Pile Shag Area Rugs		2025-11-01	7x10	Grey, Neutral, cream	Synthetic (poly: Textured, Solid)	Modem, Kid-friendly	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...	
13		High-Pile Shag Area Rugs		2025-11-01	7x10	Grey, Neutrals	Synthetic	Textured, Solid	Modem, Kid-friendly	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...
14		Soft, High-Pile Shag Area Rugs		2025-11-01	7x10	Grey	synthetic (poly: textured)	modern	high-pile, shag	\$50 to \$75	Amazon Product	No 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	7x10	Grey	synthetic (poly: textured)	modern	high-pile, shag	\$50 to \$75	Amazon Product	No 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	7x10	Grey	Synthetic (poly: Textured (shag))	Modem	High-pile, shag	\$500+	Amazon Product	MUEZZA CARPETS _Soft Fluffy Shag Area Rectangular Rugs. Oct 3, 2025	

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>