

AI-Powered Market Intelligence & Automation for Wayfair Rugs

► NAME: SOHEE LEE

► EMAIL ID: SOHEE.LEE@FS-STUDENTS.DE

Agent 1: Moodboard Generator

From Design Prompt → AI-Curated Visual Mood

🎯 Objective: Convert short design prompts into AI-generated moodboards to help the team explore emerging rug styles, color palettes, and visual directions.

🧠 Input Example: “Bohemian rugs, neutral tones”

⚠️ Input Guidelines:

- Keep prompts specific and under 10 words (e.g., “eco-friendly jute rugs”).
- Use clear style and material keywords (color, texture, tone).
- Avoid subjective adjectives like “beautiful” or “nice.”

Output:



Agent 1: Moodboard Generator

View JSON Workflow:

When chat message received → AI Agent → Clean Prompt → HTTP Request → Extract Image Data → Convert to File

AI Agent: Chat Model*, Memory, Tool
HTTP Request: POST: https://api.openai.com...
Extract Image Data
Convert to File: Move Base64 String to File

OpenAI Chat Model

Chat Session: 69203... Logs Clear execution Convert to File Success in 73ms Input Output

A cozy, stylish, modern, living room, bohemian rug like those sold on Wayfair, soft textures, warm neutral colors, perfect for a living room. Plush and inviting, realistic textile detail, natural lighting, top-down view. High-quality, lifestyle photography style.

[No response. Make sure the last executed node outputs the content to display here]

Logs:

- Success in 24.92... | ~252 Tokes...
- When chat message received
- AI Agent
- OpenAI Chat Model
- Clean Prompt
- HTTP Request
- Extract Image Data
- Convert to File

Type message, or press 'up' for prev one >

OUTPUT

Back to list

Agent 2 : Competitor Monitoring and Comparison

Wayfair vs. Amazon Rug Pricing Analysis

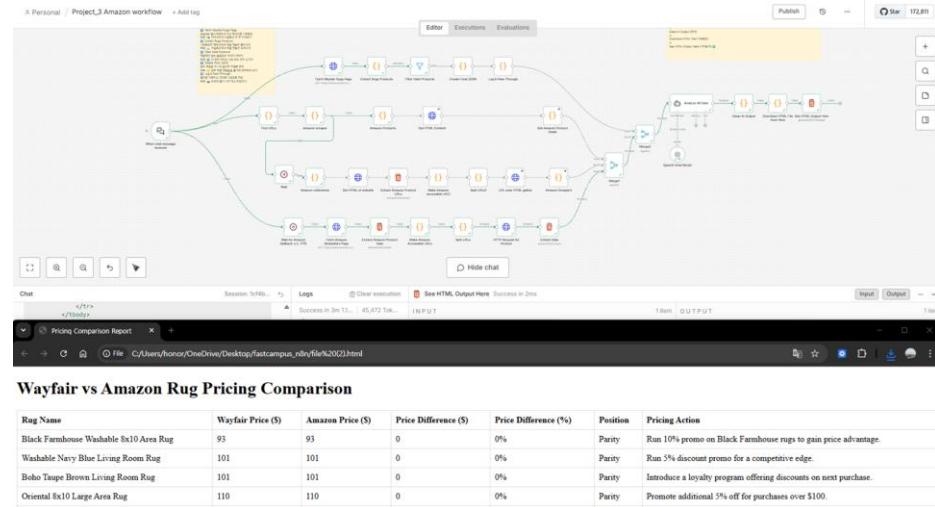
- System Role: Pricing strategist for Wayfair's rug division, focusing on price positioning and competitive strategy.

- Key Tasks:

- Compare Wayfair rug prices against Amazon listings.
- Classify position as Cheaper, Parity, or Premium.
- Provide one clear pricing action for each identified gap.

- Output Requirements:

- Detailed price comparison table (\$ and %).
- Focus exclusively on pricing data, ignoring secondary metrics.
- Generated as a complete HTML report.



- ❖ Input System message:

"You are a pricing strategist for Wayfair's rug division.

Your ONLY focus: price positioning and competitive pricing.

Task:

1. Compare Wayfair rug prices vs Amazon prices
2. Identify: Is Wayfair cheaper, at parity, or premium?
3. For each price gap, provide ONE clear pricing action

Output Requirements:

- Show price comparison table (Wayfair vs Amazon)
 - Calculate price differences (\$ and %)
 - Classify: Cheaper / Parity / Premium
 - Give specific pricing actions (e.g., "Lower SKU X to \$199", "Run 15% promo on category Y")
- Focus ONLY on pricing. Ignore materials, reviews, or marketing.
- Return complete HTML report."

Agent 3: AI-powered marketing content automation

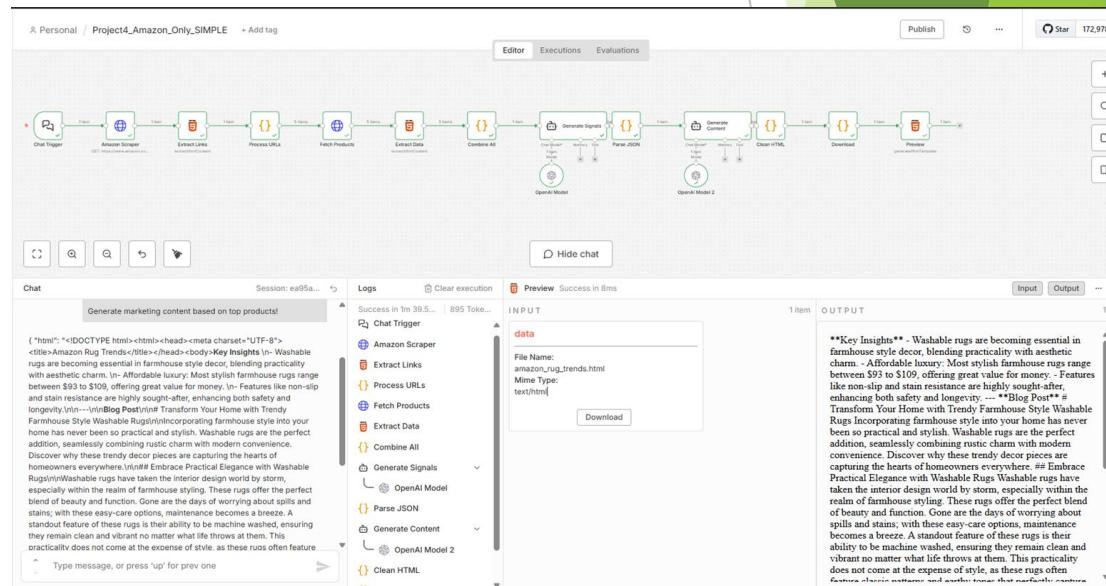
Transforming Data into High-Impact Content

💡 Input: Amazon product data including pricing, features, and style details.

⚙️ Processing: Data scraping → AI analysis (GPT-4o) → Insight extraction → Content generation.

🚀 Output:

- Trend Insights: Identifying top-performing styles like "Washable Farmhouse Rugs."
- Marketing Assets: Automated blog posts, Instagram captions, and HTML reports.



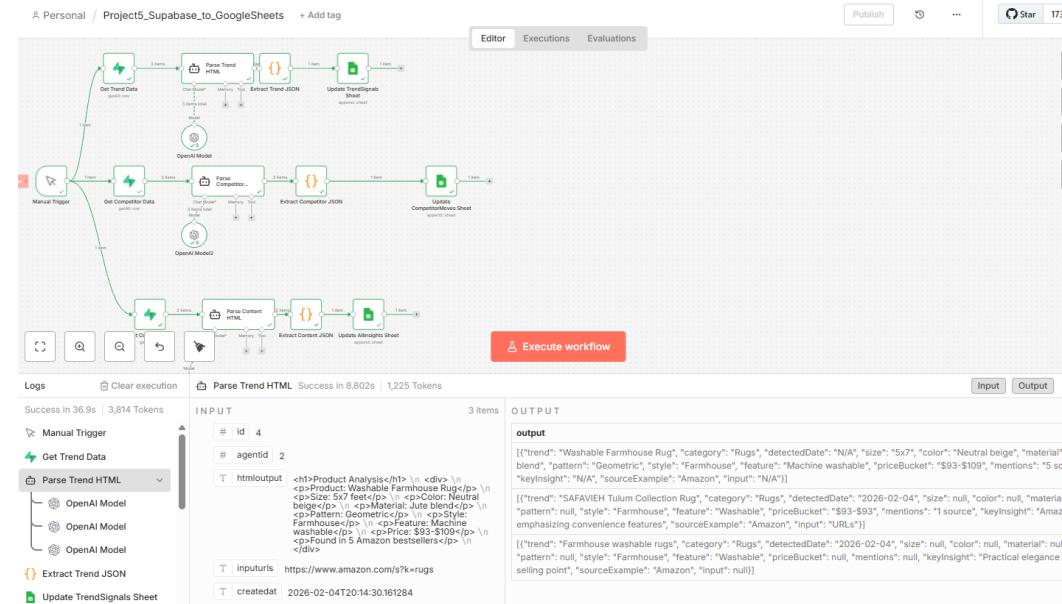
Agent 4: Market Intelligence Orchestrator

Centralized Data Synchronization and Insight Delivery

Input: Product, pricing, and trend data from scrapers, Google Sheets, and Supabase.

Processing:
Synchronize data between Google Sheets (control) and Supabase (database).
Enable AI agents to access structured data for pattern analysis.

Output: AI-produced trend insights, pricing signals, and marketing content delivered to dashboards and system storage.



Market Intelligence Summary

Bringing All Agents Together → Live Insights for Wayfair's Rugs Team

WAYFAIR INTELLIGENCE DASHBOARD			
Executive Summary - Market Intelligence Report Generated: 2026-02-04			
KEY PERFORMANCE INDICATORS			
Total Trends Identified	Competitor Products Analyzed	Content Ideas Generated	
TREND ANALYSIS			
Top Emerging Trend	Washable Farmhouse Rug	Price Range	\$93-\$109
Primary Category	Rugs	Style	Farmhouse
Key Feature	Machine washable	Market Mentions	5 sources
Material	Jute blend		
COMPETITIVE INTELLIGENCE			
Primary Competitor	Amazon	Product Rating	SAFAVIEH Tulum Collection
Competitor Price	\$93.99		4.5
Key Features	Soft and durable, Machine washable		
Wayfair Gap Identified	Need washable options under \$100		
STRATEGIC RECOMMENDATIONS			
Immediate Action	Launch washable collection		
Content Strategy	5 Washable Rug Styles		
Content Type	Blog	Impact Level	High
Assigned Owner	Marketing		
MARKET INSIGHTS			
The rug is a popular choice in multiple Amazon bestseller lists, indicating a strong market presence.			
Trend Summary	Emphasizing convenience		
Competitive Insight	Practical elegance		
Content Insight			
SUMMARY STATISTICS			
High Impact Content Idea	6		
Medium Impact Content I	0		
Blog Post Ideas	6		
Social Media Ideas	0		
Unique Categories	0		
Average Price Point	\$93-\$109		

Reflections & Future Improvements

What I Learned and How I Can Make It Better

💡 Key Learnings

- Systemic Resilience: I learned to design "fault-tolerant" logic that pivots to brand pillars when external data fails.
- Logical Sequencing: I discovered that the strategic order of data capture, interpretation, and translation is more vital than the tools.
- Data Convergence: I learned that true intelligence comes from synthesizing micro-product specs with macro-market signals.



🚀 Future Improvements / Next Steps

- Anti-Blocking Integration: I will integrate dedicated Scraping Proxy APIs to ensure 100% data uptime against security blocks.
- Multi-Modal Analysis: I plan to add visual analysis to match creative copy with the aesthetic "vibe" of trending products.
- Human-in-the-Loop: I would implement a feedback node to iteratively refine the agent's understanding of the brand voice.

Strategic Intelligence for Wayfair Rugs: Ready for the Next Leap!