

Automation Documentation: Multi-Source Analyst

Category:

Data Analytics & Reporting Automation

Image/Thumbnail:

Add a screenshot of the n8n workflow showing the connected nodes.

Detailed Description:

The 'Multi-Source Analyst' automation consolidates marketing and sales data from multiple sources including Google Ads, WooCommerce, and Salesforce into a unified analytics pipeline. It aggregates, normalizes, and analyzes key performance metrics such as revenue, ad spend, clicks, and conversions. The system calculates KPIs like ROAS and conversion rates, generates visual charts, uploads them to Google Drive, and sends automated performance summaries via email and Slack. Additionally, it uses AI agents (Gemini, Mistral, and Cohere) to create month-end summaries, detect anomalies, and forecast next month's results.

How It Works (Functionality):

1. **Trigger:** A Schedule Trigger runs every 31 days.
2. **Data Extraction:** Fetches data from Google Sheets linked to Google Ads, WooCommerce, and Salesforce datasets.
3. **Data Normalization:** Each source's data is cleaned and standardized using custom JavaScript Code nodes.
4. **Aggregation:** Merges all normalized data and calculates KPIs (Revenue, Ad Spend, ROAS, Conversion Rate) per day.
5. **Storage:** The aggregated results are appended or updated in the 'KPI Results' sheet in Google Sheets.
6. **Visualization:** A QuickChart API node generates visual charts for revenue and ROAS trends.
7. **AI Analysis:** Three AI nodes (Gemini, Mistral, and Cohere) perform:
 - Month-end performance summary
 - Anomaly detection
 - Forecasting for next month
8. **Distribution:** The automation sends the report via Gmail to the Marketing & Sales team and posts a summary message in Slack.

Tools Required:

- n8n (Self-hosted or Cloud)
- Google Sheets
- Google Drive

- Gmail API
- Slack API
- QuickChart API
- Google Gemini (PaLM), Mistral, and Cohere API keys

Size of Project:

Large (10+ tasks and integrations).

Setup Requirements:

- Google Sheets credentials with access to data sheets.
- Google Drive and Gmail OAuth2 credentials.
- Slack OAuth2 token for posting messages.
- QuickChart API (no authentication needed for simple use).
- API keys for Gemini, Mistral, and Cohere AI services.
- Configure trigger schedule and Google Sheet IDs within the workflow nodes.

Deployment Time Estimate:

2–4 hours for setup and configuration (without customizations). Up to 3–5 days including API key setup and access approvals.

Value Proposition:

This automation eliminates manual consolidation of sales and marketing reports across multiple systems. By automating data integration and AI-driven analysis, teams save up to 10+ hours monthly in reporting effort, gain faster decision insights, and reduce data inconsistencies. It's ideal for marketing teams managing campaigns across several channels who need unified performance tracking and forecasting.

Demo Video:

Record a 2-minute walkthrough showing data flow, KPI generation, and automated email reporting.

Known Limitations:

- Dependent on consistent data schema in Google Sheets.
- API rate limits from AI providers may restrict frequent executions.
- Requires paid API access for Gemini, Cohere, and Mistral if advanced models are used.

Testimonials/Use Cases:

Used internally by marketing teams to analyze ad spend efficiency and sales performance. Beta testers reported a 70% reduction in report preparation time and improved collaboration through Slack alerts.

Estimated ROI:

Assuming 10 hours saved monthly at \$40/hour → \$400 savings per team per month. Minus API subscription costs (~\$50), net monthly ROI ≈ \$350.

Version & Updates:

v1.0 – Initial release of Multi-Source Analyst automation (October 2025).