



ANALYTIC  
VIZION

## From Hidden Pipeline Failures to Proactive Data Observability

A global manufacturer implemented proactive data observability for its trade-promotion reporting platform, turning hidden pipeline conditions into auditable signals that business users could investigate in real time.

“Before, the client's team had no way to see or troubleshoot data issues themselves – every question meant a ticket to IT. We built them a window into the pipeline, so they could catch problems before they became escalations. Business users gained the ability to audit and troubleshoot data issues without waiting for engineering intervention.”

**HUSSEIN DIAB**

Lead Data Engineer, Analytic Vizion

### THE CHALLENGE

As a business-critical reporting platform approached go-live, the data pipeline – built across Databricks, Azure Data Factory (ADF), dbt, and Snowflake – had no visibility layer.

Users could not see the health of the data pipelines behind it. When data looked incomplete or unexpected, they had no way to identify the cause and every question became an IT support ticket. Silent production failures in Azure Data Factory added risk, with jobs succeeding in debug mode but failing when triggered in production.

Without a data observability layer, the organization risked launching a reporting product with hidden failure conditions, limited user confidence, and a ticket-driven support model that would not scale.

### TOOLS & TECHNOLOGY



### OUR APPROACH

Our approach combined user-centered design, root-cause diagnostics, and iterative delivery across the client's existing data environment.

- **Define the user experience:** Worked with business users to identify the troubleshooting questions the dashboard needed to answer,
- **Stabilize the foundation:** Investigated and resolved the Azure Data Factory trigger-versus-debug failure, eliminating an underlying source of silent pipeline instability before production rollout.
- **Build and refine observability:** Used Databricks, Azure Data Factory, dbt, and Snowflake to surface pipeline health, validation states, and known data conditions in an auditable dashboard, then refined the experience through ongoing UAT feedback.

### THE RESULTS

The client established a proactive data observability capability ahead of go-live. Business users gained clearer visibility into pipeline health, validation states, and known data conditions, allowing them to investigate issues before escalating to IT.

- **Eliminated silent failures:** Resolved a class of production pipeline failures and restored reliable, deterministic pipeline runs.
- **Enabled self-service troubleshooting:** Gave business users an auditable view of pipeline health so they could diagnose data issues without relying on IT for every question.
- **Built momentum for expansion:** Improved visibility during UAT and created a reusable observability model that the client requested to extend into Power BI through a new, budgeted milestone.

