Supply Chain Automation Project using N8n & Quadratic

Project Overview

This project automates various supply chain processes using N8n and Quadratic, with data stored in Supabase. It simulates real-world workflows and helps generate actionable insights for business decisions.

Tools & Technologies

• N8n – Workflow automation
• Quadratic – AI-powered spreadsheet
• Supabase – PostgreSQL backend
• Excel – External data handling
• Open Exchange Rates API – Historical USD to INR rates

Supabase Setup

• Created a Supabase account, project, and tables (fact_aggregate, dim_customers, dim_products, etc.)
• Imported CSV/Excel data
• Configured connection details

Calendar & Exchange Rate Tables

• Created a calendar table from March 1 to May 31, 2025
• Pulled daily USD to INR rates via Open Exchange Rates API

Data Loading, Cleaning & Merging

• Joined data from multiple sources
• Cleaned and transformed data: removed nulls, fixed dates, trimmed whitespace
• Calculated total INR order value for USD and INR orders

Key Business KPIs

1. Total Order Lines
2. Line Fill Rate
3. Volume Fill Rate
4. Total Orders
5. On-Time Delivery %
6. In-Full Delivery %
7. On-Time In-Full (OTIF) %

Top Customer Analysis

• Identified Top 5 Customers (Global and India-only) based on order value
• Reported OTIF %, IF %, OT %, Name, ID, and City

Key Learnings

• Workflow automation with N8n
• Backend management with Supabase
• KPI calculations for supply chain
• Data merging, cleaning, and transformation
• Understanding OTIF, Line Fill Rate, and Volume Fill Rate