Blinkit Business Performance Analysis (2023-2024)

Make Your Business Decision in a Blink

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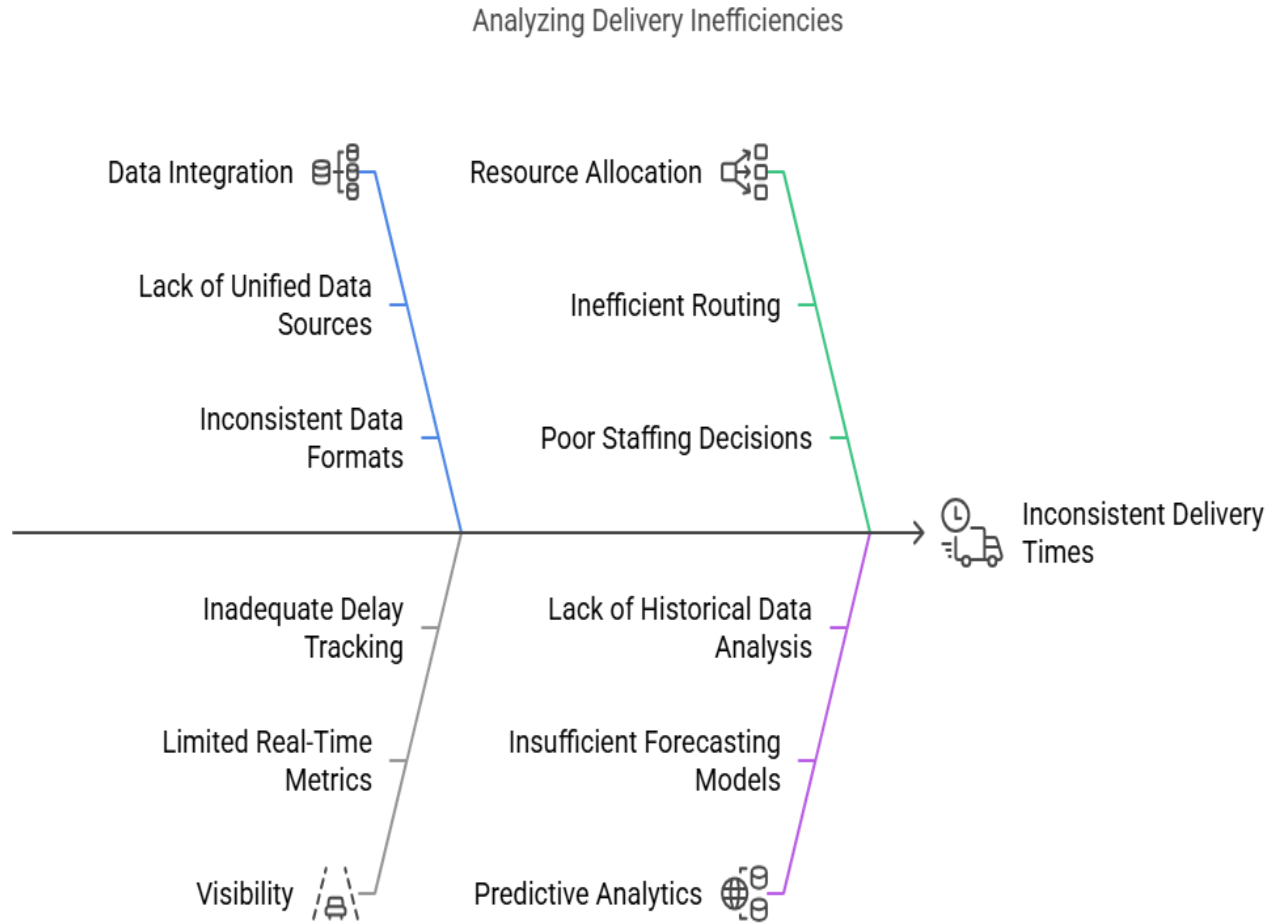
Project Idea

Problem
On-demand delivery platforms lack a single pane of glass for tracking delivery performance actual vs. promised times, delay causes, and regional trends so they can't quickly identify bottlenecks or reassign resources. This leads to late, unpredictable shipments, unhappy customers, and wasted operational effort.

Solution
We've implemented a centralized Tableau dashboard that unifies all delivery data, refreshes automatically, and displays live KPIs (on-time rate, average delivery time, delay reasons). Built-in analytics trend lines, forecasting, clustering anticipate demand spikes and suggest optimal routes. Custom filters and dashboard actions let operations, logistics, and executives each drill into the exact metrics they need.
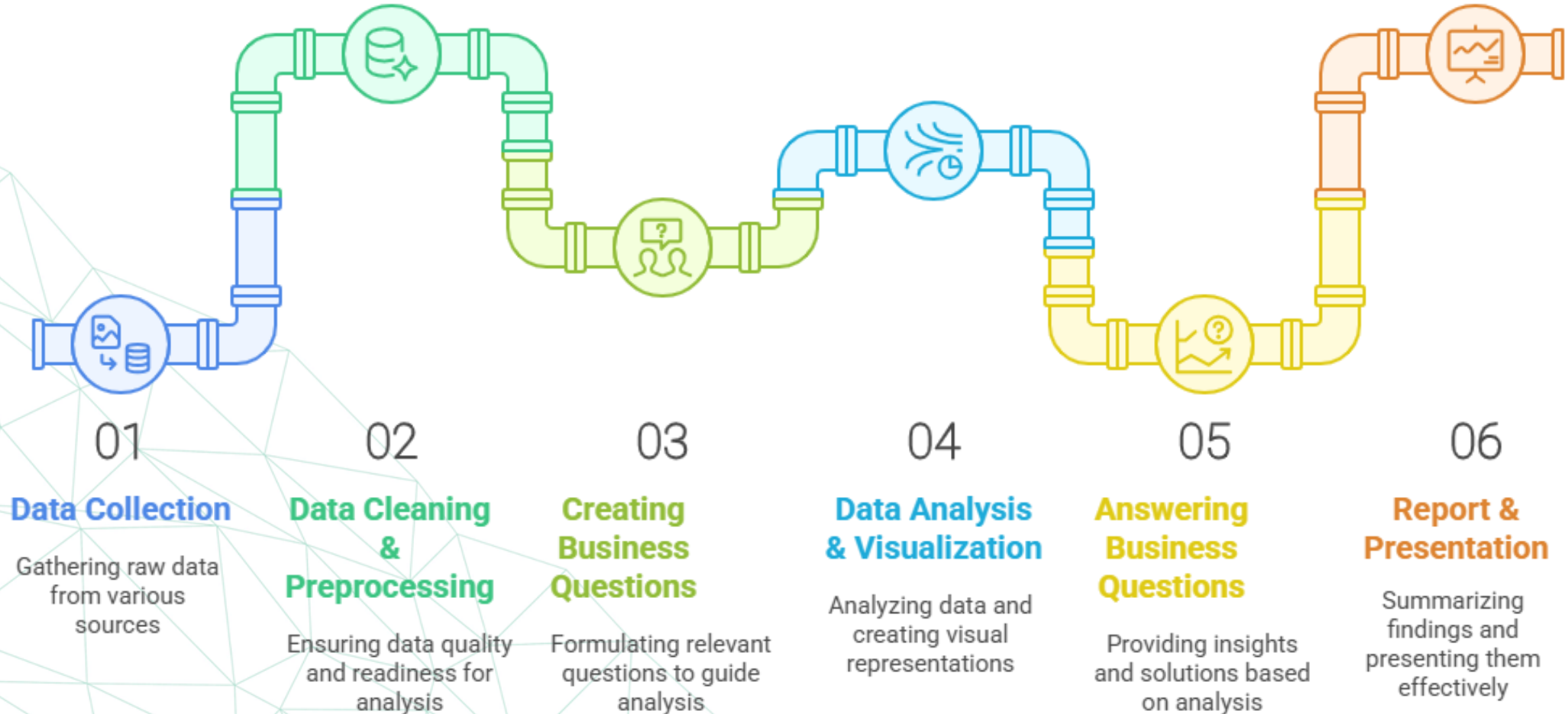
Unique Value
Unlike static reports, our Tableau system delivers interactive, drill-down insights at every delivery stage. Embedded predictive forecasts learn from past patterns to highlight peak windows and delay "hotspots," so teams can proactively adjust staffing and routing and realize measurable ROI in weeks.

Analyzing Delivery Inefficiencies

Data Integration — Lack of Unified Data Sources — Inconsistent Data Formats — Inadequate Delay Tracking — Limited Real-Time Metrics — Visibility

Resource Allocation — Inefficient Routing — Poor Staffing Decisions — Lack of Historical Data Analysis — Insufficient Forecasting Models — Predictive Analytics

Inconsistent Delivery Times

Project Steps Sequence

Data Analysis Process

01

Data Collection

Gathering raw data from various sources

02

Data Cleaning & Preprocessing

Ensuring data quality and readiness for analysis

03

Creating Business Questions

Formulating relevant questions to guide analysis

04

Data Analysis & Visualization

Analyzing data and creating visual representations

05

Answering Business Questions

Providing insights and solutions based on analysis

06

Report & Presentation

Summarizing findings and presenting them effectively

Overview Dashboard

Purpose:

This dashboard serves as the central navigation hub for Blinkit's analytics platform, enabling seamless access to specialized dashboards (e.g., Sales, Inventory, Delivery) and ensuring stakeholders can swiftly switch between critical business functions.

Key Features:

Unified Menu: Direct links to core operational areas:
Overview: High-level overview.
Sales: Revenue trends and customer transactions.
Customers: Acquisition and retention analytics.
Feedback: Sentiment and service quality insights.
Inventory: Stock health and product performance.
Marketing: Campaign ROI and audience engagement.
Delivery: Logistics efficiency and timeliness.

User-Friendly Design: Simplified interface for quick navigation.

Overview Dashboard

Purpose:

This dashboard serves as a centralized overview of Blinkit's business performance, offering a snapshot of critical areas like operational efficiency, sales trends, customer behavior, and marketing impact. It consolidates cross-functional insights to enable quick, data-driven decision-making without requiring deep dives into individual reports.

Key Features:

Operational Metrics:
Delivery performance trends (early, on-time, late statuses).
Inventory health (intact vs. damaged stock ratios).

Sales & Customer Insights:
Quarterly sales trends and customer segmentation filters.
Geographic or regional activity indicators.

Marketing & Feedback:
Campaign performance metrics (clicks, impressions, conversions).
Customer sentiment analysis (positive/negative feedback trends).

Interactive Filters:
Customizable views by product category, customer segment, and delivery sentiment.
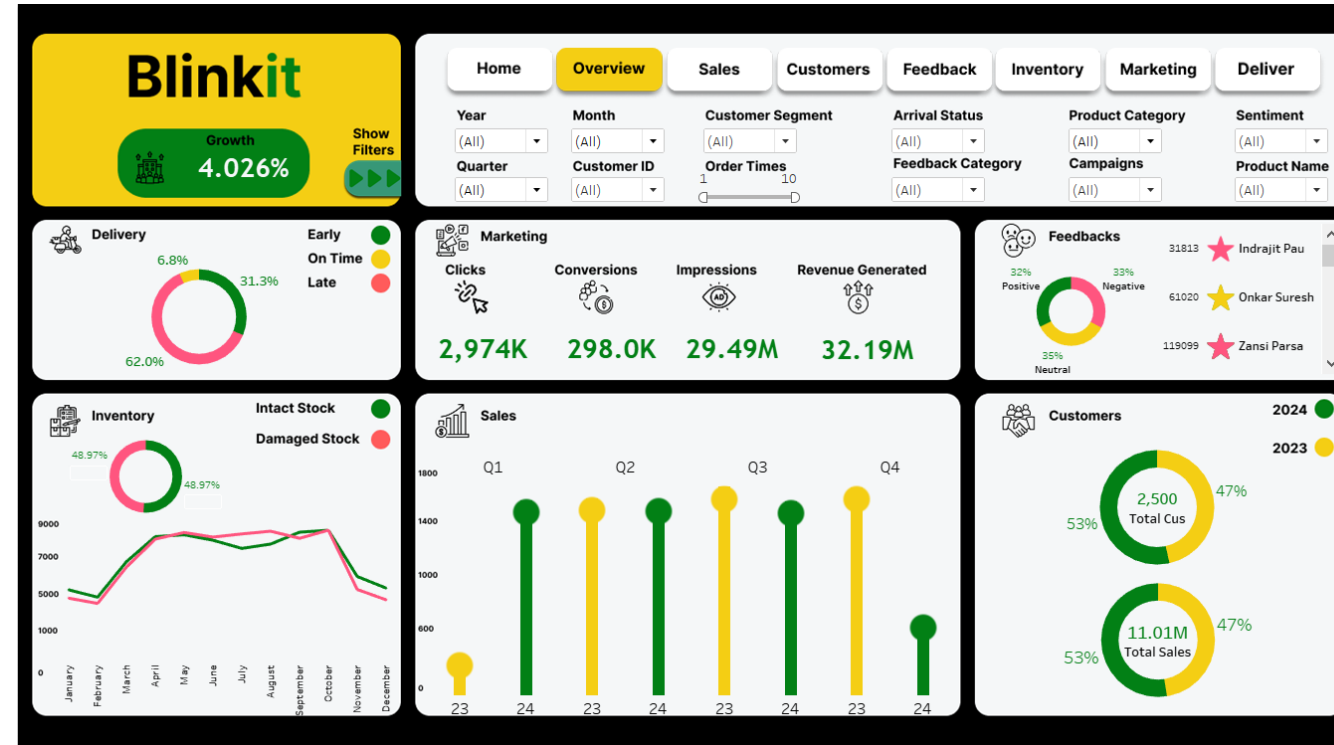
Sales Dashboard

Purpose:

This dashboard provides a holistic view of sales performance, product trends, and customer behavior, enabling stakeholders to quickly assess key drivers of revenue, popular product categories, and regional demand patterns. It consolidates insights across sales, inventory, and marketing to support strategic decision-making.

Key Features:

Sales Performance:
Trends over time (monthly/quarterly sales).
Total orders and average order value benchmarks.

Product & Category Insights:
Top-selling products by quantity (e.g., Pet Treats, Dish Soap).
Leading sales categories (e.g., Household Repeals, Bilateration).

Customer & Payment Analysis:
Customer segment distribution (Regular, Premium, Inactive, New).
Preferred payment methods (Wallet, UPI, Cash).

Geographic Activity:
Top areas by order volume (e.g., OTEL, Gandhinagar).
Interactive Filters:

Customers Dashboard

Purpose:

This dashboard focuses on customer acquisition, retention, and value analysis, offering insights into new customer trends, high-value customer behavior, and segmentation strategies.
It helps stakeholders prioritize customer-centric initiatives and optimize loyalty programs.

Key Features:

Customer Growth & Value:
Tracking of new customers and total customer base.
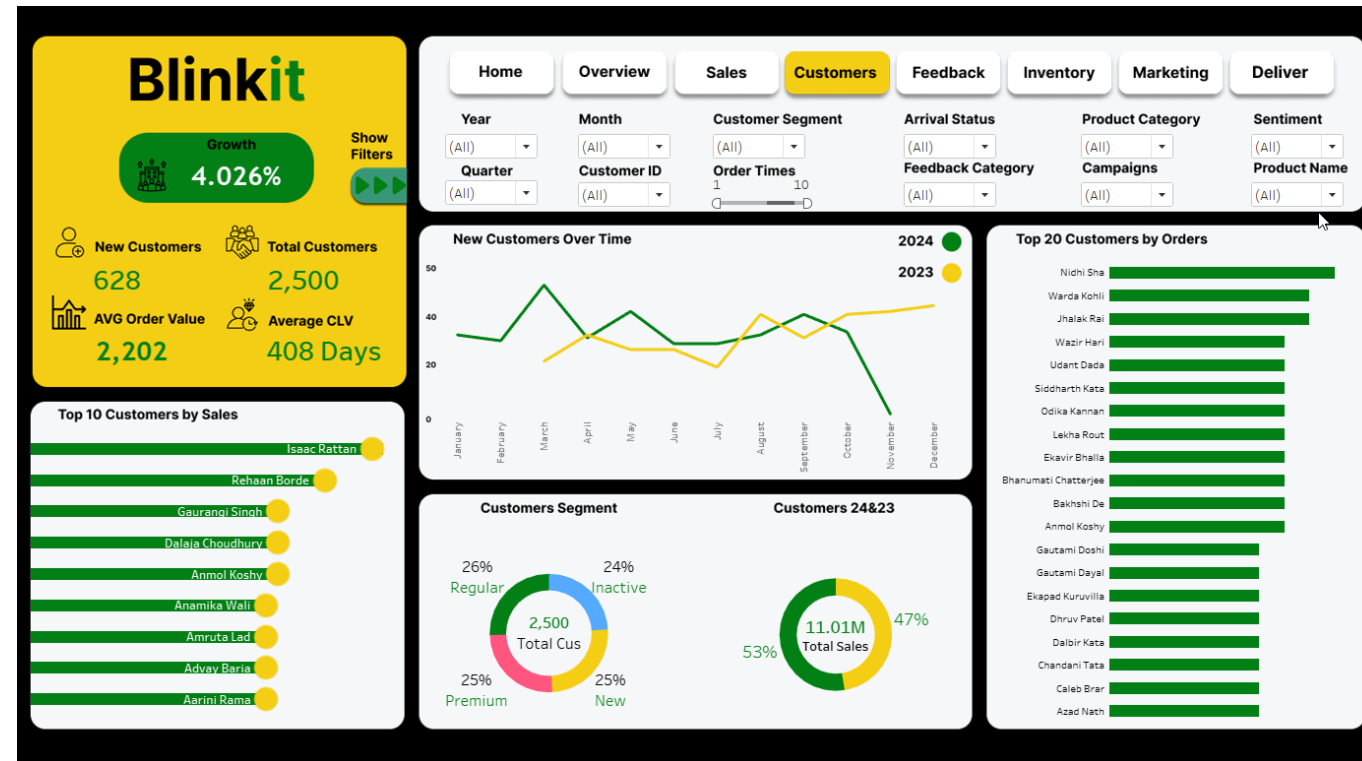Average Customer Lifetime Value (CLV) in days.

Top Customer Identification:
Lists of top customers by sales and order frequency.

Segmentation Framework:
Customer segment categorization (e.g., demographics, geographic range).

Time-Based Analysis:
Trends in new customer acquisition over time (2023–2024).

Feedbacks Dashboard

Purpose:
This dashboard centralizes customer feedback analysis to evaluate satisfaction levels, identify recurring issues, and align service improvements with customer expectations. It connects feedback trends to operational and marketing efforts for holistic quality management.

Key Features:
Feedback Category:
Breaks down feedback into categories (e.g., "Delivery Issues," "Product Quality," "Customer Service").

Sentiment Tracking:
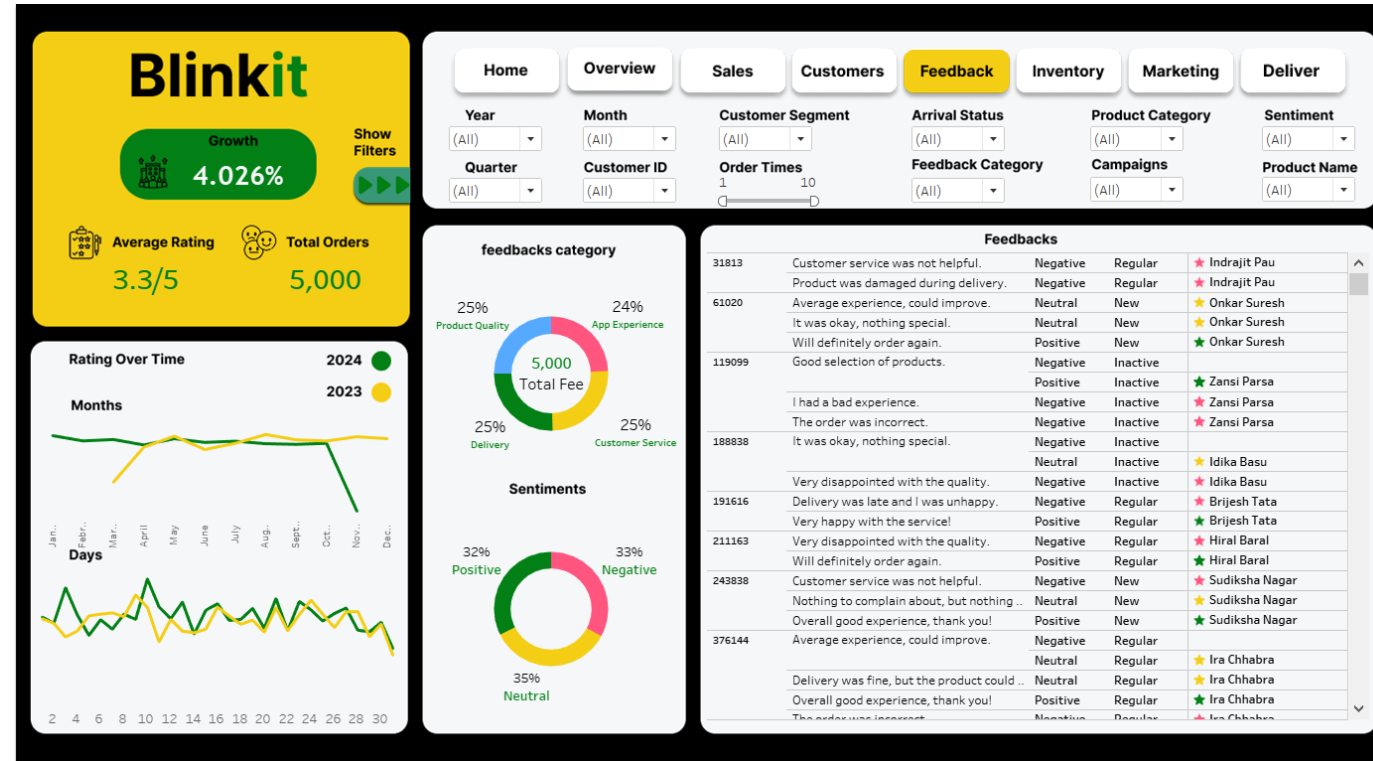Displays proportions of positive, neutral, and negative feedback.

Rating Over Time:
Tracks average customer ratings month-over-month to identify trends or anomalies.

Feedback Table with Customer Data:
Detailed entries with customer ID, feedback date, category, sentiment, rating, and verbatim comments.

Inventory Dashboard

Purpose:

This dashboard links inventory performance with customer feedback, enabling stakeholders to identify how stock management (e.g., availability, quality, restocking) impacts customer satisfaction. It provides actionable insights to optimize inventory strategies while addressing feedback-driven pain points. This dashboard monitors inventory integrity, identifies risks tied to damaged stock, and tracks trends in product condition over time. It empowers teams to prioritize restocking, improve supplier quality, and reduce losses.

Key Features:

Stock Health Snapshot:
Visualizes the proportion of Damaged Stock vs. Intact Stock.

Inventory Vitality Timeline:
Tracks the condition of goods (e.g., % damaged, restock rates) over weeks/months.

Category Risk Radar:
Highlights product categories with the highest count of damaged items (e.g., "Electronics," "Perishables").

Supplier Performance Matrix:
Lists suppliers, delivery accuracy, and damage rates to identify low-quality partners.

Marketing Dashboard
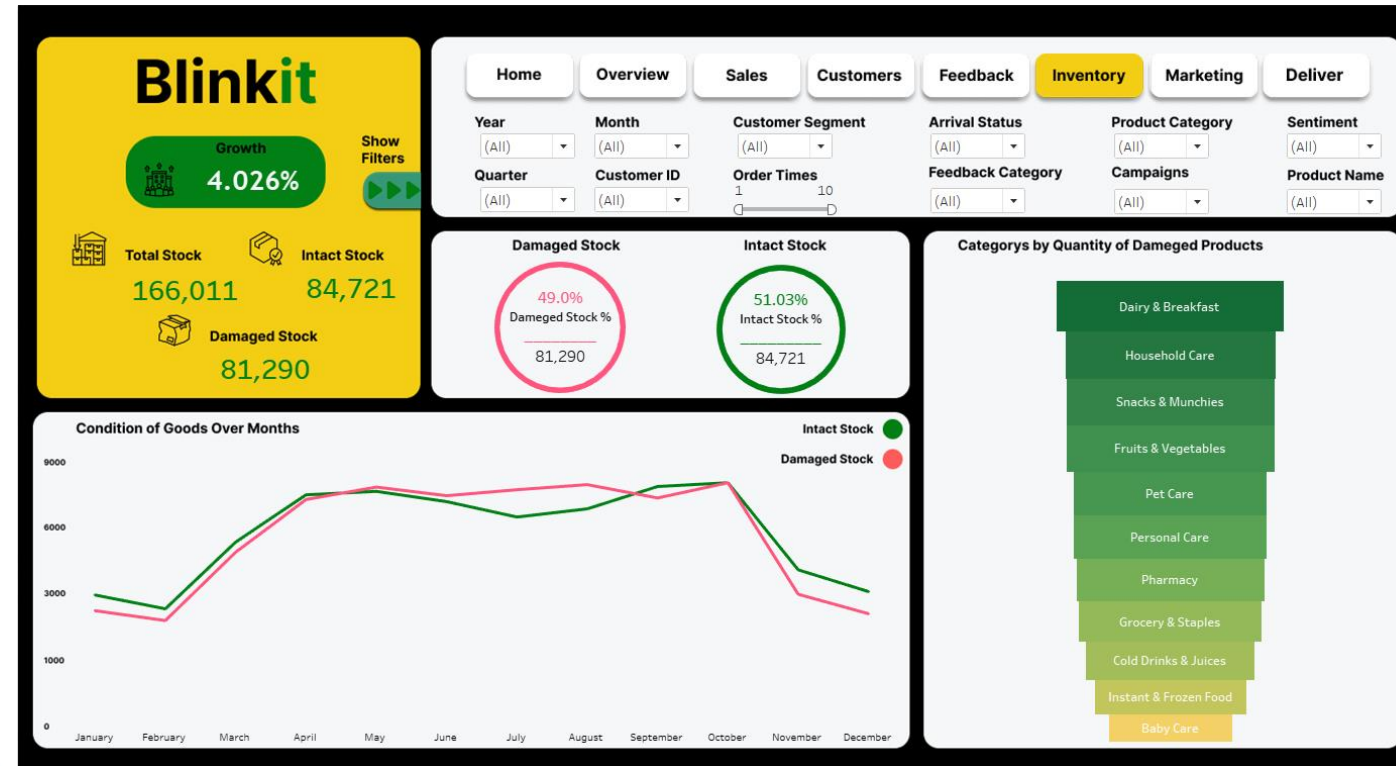
Purpose:
This dashboard tracks campaign ROI, audience engagement, and marketing efficiency to optimize budget allocation, refine targeting, and maximize revenue impact.

Key Features:
Campaign Pulse Metrics:
Engagement Rate: Avg CTR (%)

Budget Efficiency: Total Spend vs. Revenue Generated
Conversion Power: Conversion Rate (%)
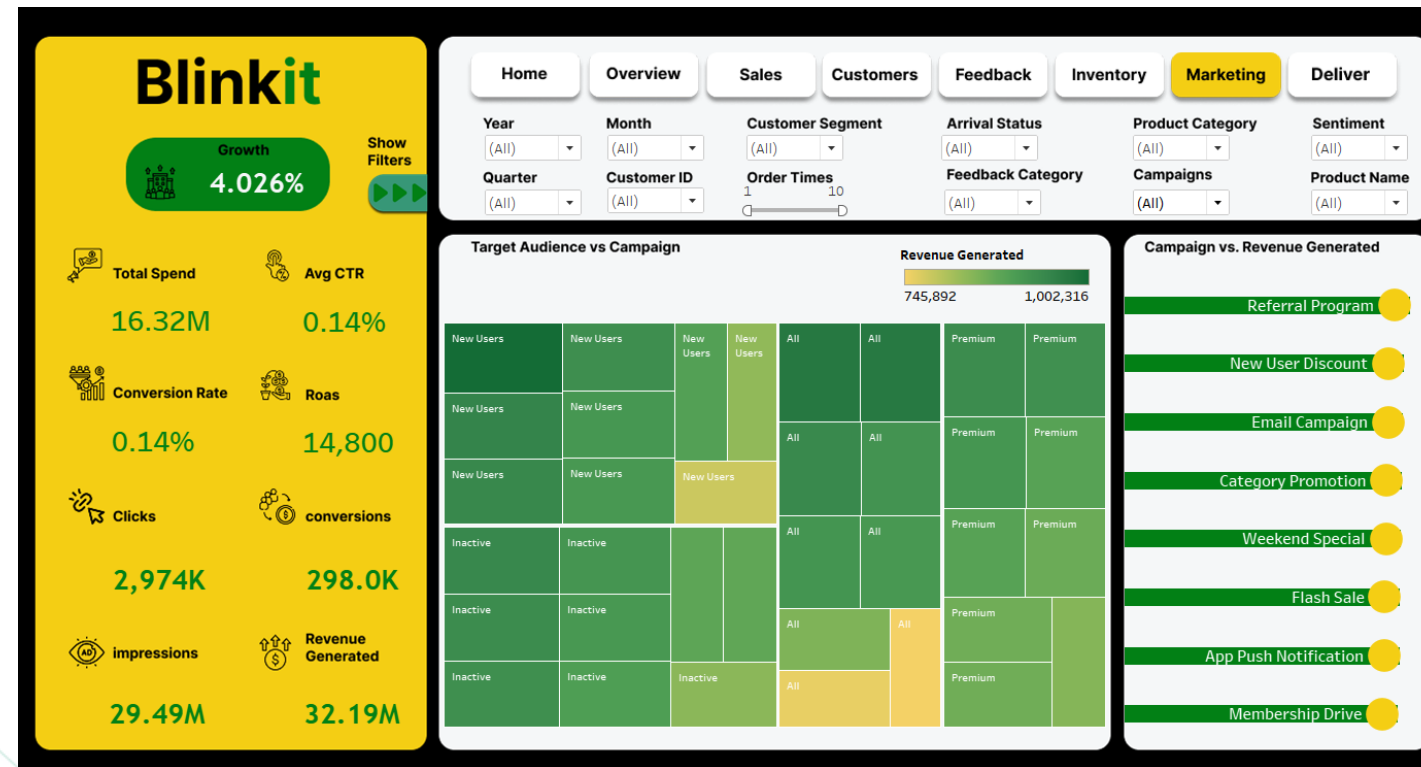ROAS: Return on Ad Spend
Audience Reach: Clicks, Impressions

Audience-Campaign Engagement Heatmap:
Visualizes high-performing audience segments (e.g., age, region) against campaigns.

Campaign Revenue Impact Bar Chart:
Ranks campaigns by revenue contribution (e.g., "Email Campaign Dominance," "Social Media Surge").

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Delivery Dashboard

Purpose:
This dashboard monitors delivery performance, pinpoints bottlenecks, and optimizes logistics to ensure timely fulfillment, reduce delays, and enhance customer satisfaction.

Key Features:

Delivery Health Visuals:
Arrival Status Spectrum (Pie Chart): Proportions of on-time, late, and early deliveries.
Delay Diagnosis Wheel (Pie Chart): Top reasons for delays (e.g., traffic, staffing, weather).

Trend Analysis:
Delivery Velocity Timeline (Line Chart): Trends in on-time rates and delivery speed over weeks/months.

Geospatial Insights:
Geo-Time Efficiency Matrix (Bubble Chart): Combines delivery areas, distances, and delivery times to identify inefficient zones.
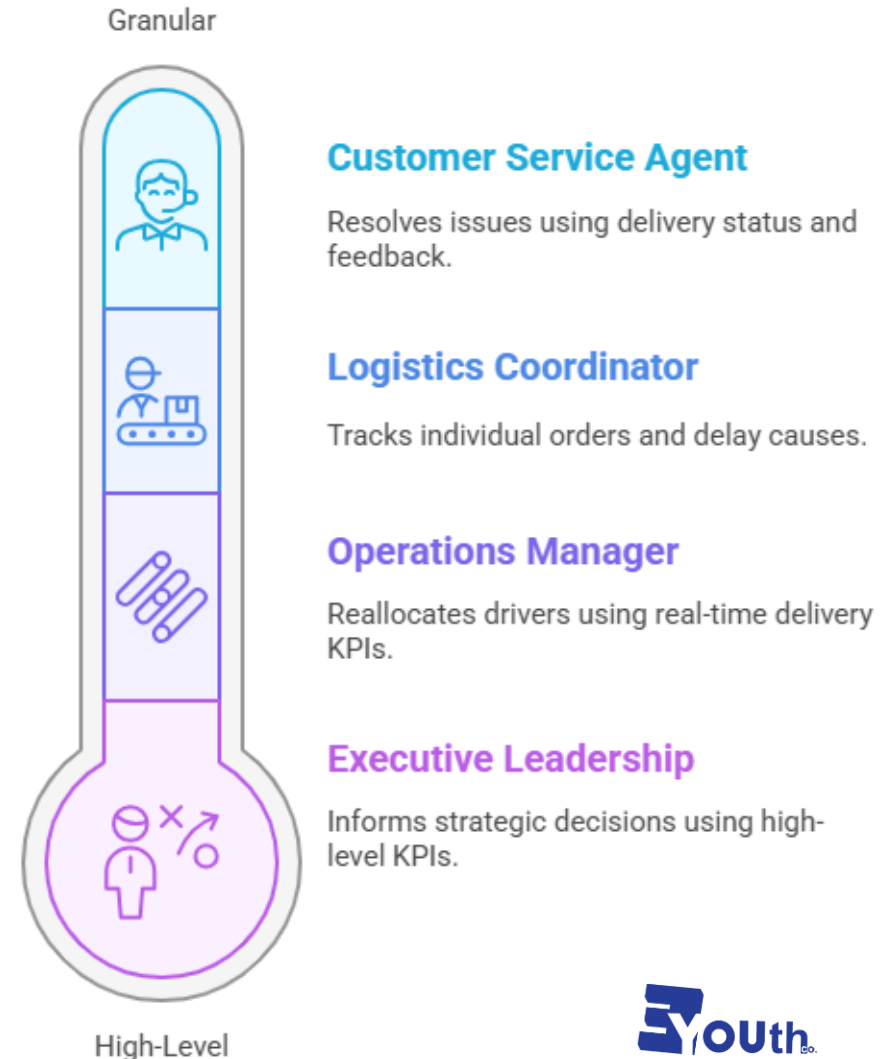
End Users

Operations Manager: needs real-time delivery KPIs to reallocate drivers and minimize late deliveries.

Logistics Coordinator: tracks individual orders, and delay causes to handle exceptions and ensure SLAs.

Executive Leadership: views high-level KPIs to inform strategic investments and resource planning.

Customer Service Agent: monitors delivery status and customer feedback sentiment to resolve issues quickly.

User roles vary in their need for data granularity.

Granular

Customer Service Agent

Resolves issues using delivery status and feedback.

Logistics Coordinator

Tracks individual orders and delay causes.

Operations Manager

Reallocates drivers using real-time delivery KPIs.

Executive Leadership

Informs strategic decisions using high-level KPIs.

High-Level

Top Key Features

Live KPI Cards
Auto-refreshing metrics (total orders, on-time %, avg. delivery time) for instant health checks.

Interactive Map View
Visualizes delivery routes, delay "hotspots," and service coverage by area.

Drill-Down Filters & Role-Based Dashboards
Contextual slicing (date, partner, area) with tailored views for operations, logistics, and executives.

Forecasting & Trend Analysis
Built-in time-series forecasts and trend lines to anticipate demand peaks and proactive planning.

Unified Operational Insights

Live KPI Cards

Interactive Map View

Drill-Down Filters

Forecasting & Trend Analysis

Made with Napkin
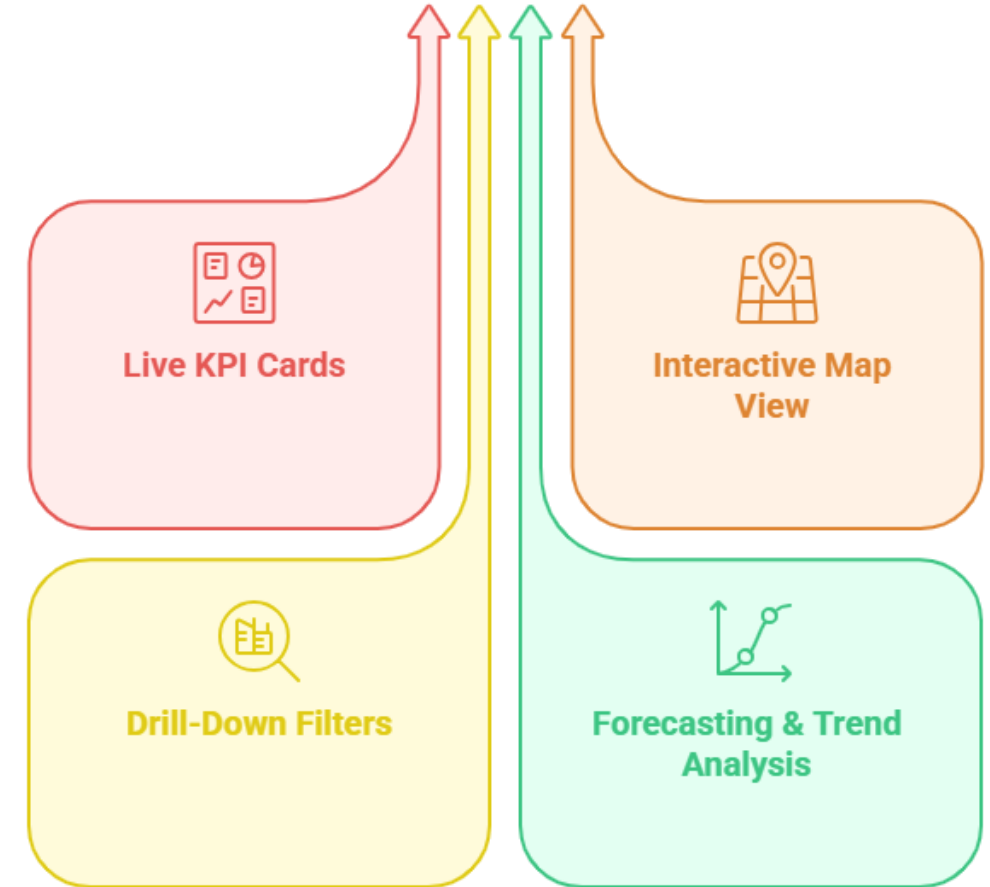
Database Structure

Fact Table

blinkit_orders: central fact capturing every order's key metrics (delivery times, distances, status, revenue, payment method, store).

Dimensions

blinkit_customers: one-to-many link via customer_id holds customer segment, lifetime value, demographics.

blinkit_products: one-to-many link via product_id stores category, brand, pricing, shelf-life, stock thresholds.

blinkit_order_items: many-to-many resolved by order product join details each product line within an order.

blinkit_inventory: tracks incoming vs. damaged stock over time, linked by product_id.

blinkit_customer_feedback: captures post-order ratings and comments, linked by order_id.

blinkit_marketing_performance: campaign-level metrics (impressions, clicks, spend, ROAS), linked to customers via target_audience or date.
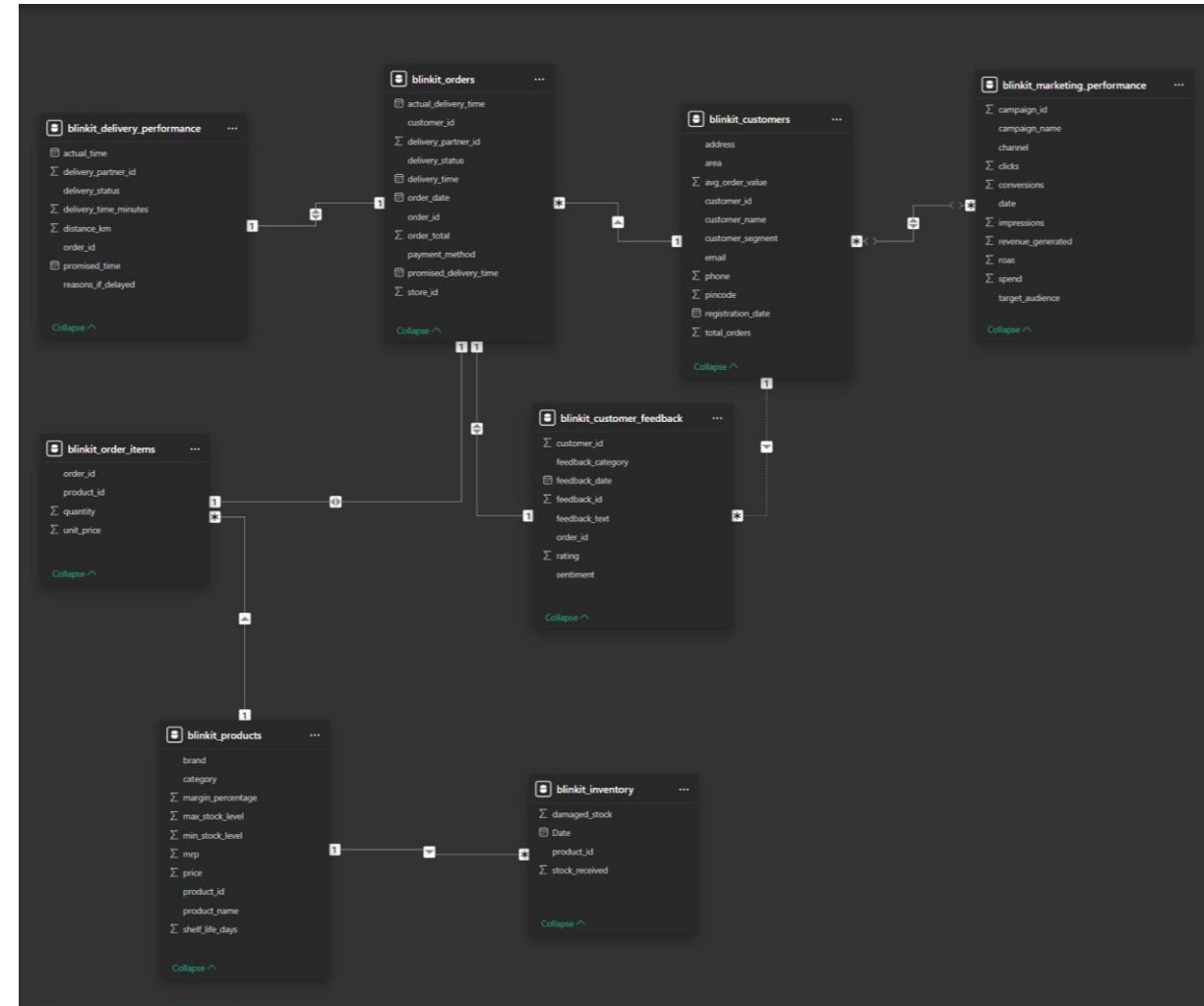
Tools Used

Data Processing

Python and SQL for data tasks

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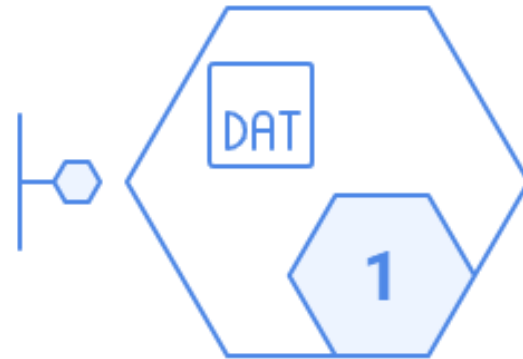
Visualization Tool

Tableau for interactive data representation

2

Design Tool

Figma and for design

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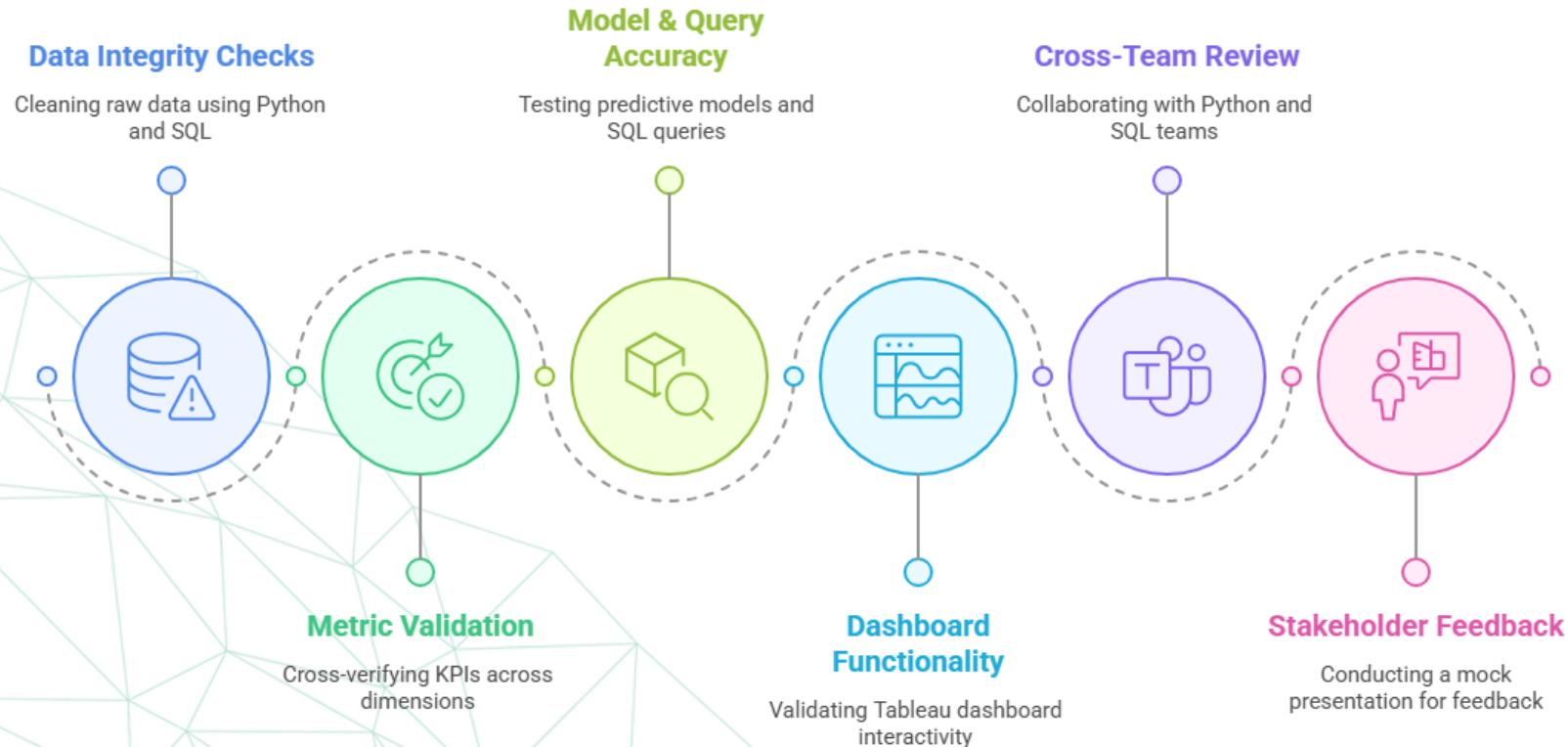
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Communication Tool

Discord for team collaboration and chat

Live Application + Test

Current Status:

The project has been fully completed and presented. All dashboards, reports, and analytical outputs are functional and were validated before submission.

Data Integrity Checks
Cleaning raw data using Python and SQL

Model & Query Accuracy
Testing predictive models and SQL queries

Cross-Team Review
Collaborating with Python and SQL teams

Metric Validation
Cross-verifying KPIs across dimensions

Dashboard Functionality
Validating Tableau dashboard interactivity

Stakeholder Feedback
Conducting a mock presentation for feedback

Made with Napkin

Project Deliverables

Tableau Dashboard

Interactive visualizations of the project data.

SQL Script

Queries used for data transformation.

Business Questions

Document listing the addressed questions.

Presentation File

PowerPoint or PDF summarizing the project.

Jupyter Notebook

Python code for data cleaning.

Figma Designs

UI design mockups as images.

Final Report

Project summary with methodology and insights.

Project Team Roles

Mohammed Hassani

Leads dashboard creation and report compilation

Malak Waleed

Builds and validates predictive models using Python

Ahmed Sabry

Designs and implements the SQL database schema

Aya Abdelfattah

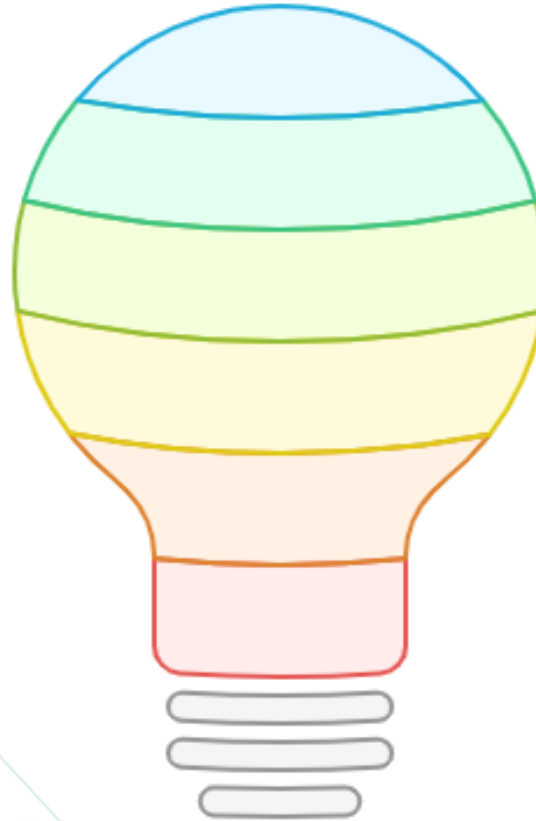Defines business questions and aligns dashboards with KPIs

Noura Elsaman

Cleans and preprocesses raw data for quality

Ziad Makled

Writes SQL queries to extract actionable insights

THANK YOU!

Do you have any questions or feedback?

Ask Questions

Clarifies doubts and enhances understanding.

Provide Feedback

Offers insights for improvement and refinement.