Ride Analytics & Operations Dashboard

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Tools Used: Power BI, DAX, Excel, ArcGIS Maps

Introduction

This project analyzes ride-hailing operations in Delhi NCR using a 100,000-row structured dataset. A full Power BI dashboard was created to extract insights on ride demand, revenue patterns, cancellations, customer experience, driver performance, and geographic hotspots.

Objectives of the Project

- Identify peak demand hours and ride volume trends.
- Analyze revenue distribution & dynamic fare performance.
- Evaluate customer and driver behavior using ratings.
- Detect cancellation causes and operational issues.
- Map top pickup and drop zones in Delhi NCR.
- Deliver an interactive, professional BI dashboard.

Dataset Description

The dataset contains 100,000 rows and 20+ fields including booking details, locations, vehicle types, ratings, fare amounts, dynamic booking values, cancellation reasons, V_TAT, and payment methods. Data cleaning included NULL handling, casting text-to-numeric fields, generating time-based attributes, and constructing geolocation fields for mapping.

Data Modeling

A flat-table design was used in Power BI. DAX measures were built for KPIs such as: Total Rides, Completed Rides, Cancellation Rate, Dynamic Revenue, Avg Customer Rating, Avg Driver Rating, Avg V_TAT, and Driver Efficiency Score. Relationships, calculated columns, and derived fields were also implemented.

Dashboard Pages

Page 1 – Overview: High-level KPIs, revenue, distance, booking status distribution, and hourly patterns.

Page 2 – Ride Performance: Ride volume trends, vehicle type contribution, completion analytics.

Page 3 – Revenue & Pricing: Revenue trends, dynamic pricing behavior, payment methods, vehicle revenue share.

Page 4 – Ratings: Customer and driver rating distribution charts and averages.

Page 5 – Cancellations: Driver vs customer cancellations, reasons, hourly patterns, cancellation rate.

Page 6 – Driver Performance: V_TAT distribution, efficiency score, driver ratings, cancellation behavior.

Page 7 – Geo Hotspots: Top pickup and drop areas visualized through map layers.

Key Insights

• Peak demand periods: 8–10 AM and 6–9 PM.
• Prime Sedan and SUV generate highest revenue despite lower volume.
• Cancellation spikes during mornings and late evenings.
• Customer ratings concentrated between 4 and 5 stars.
• Cyber City, MG Road, and Connaught Place emerge as hotspots.
• V_TAT remains stable, indicating consistent driver arrival performance.

Business Impact

This dashboard enables actionable insights for fleet allocation, pricing optimization, cancellation reduction, operational efficiency, and customer satisfaction management. Leaders can use this to guide tactical and strategic decisions.

Tools & Techniques Used

• Power BI (DAX, Modeling, Visual Design, Navigation)
• Excel (Cleaning & Pre-processing)
• ArcGIS & Map Visuals for Geospatial Analysis
• Custom Theme & UI Design
• KPI & Operations Analytics Framework

Conclusion

The project demonstrates end-to-end BI capabilities including data cleaning, modeling, DAX, visualization, dashboard storytelling, and optimization. It represents a strong portfolio piece suitable for roles in Data Analytics, Business Intelligence, and Reporting Engineering.