Project Summary: Logistics Cost Optimization & Fleet Efficiency

Overview

Analyzed fleet and delivery data to reduce logistics costs and improve vehicle utilization. Used SQL for data extraction and Power BI to create interactive dashboards that tracked fleet performance, delivery KPIs, and route efficiency.

Objectives

- Reduce delivery costs and fuel usage
- Identify and correct inefficient delivery routes
- Improve fleet utilization and reduce idle hours
- Create centralized, interactive dashboards for ongoing monitoring

Tools & Technologies

- SQL (PostgreSQL/MySQL) for data querying and preprocessing
- Power BI for dashboard creation
- Excel for preliminary analysis
- Geospatial mapping (optional, if used)

Key Insights & Actions Taken

- Identified underperforming vehicles based on idle time, delivery delays, and fuel inefficiency
- Optimized route assignments by matching vehicle capacity with demand and route length
- Reassigned delivery schedules to reduce congestion-related delays
- Implemented a weekly review system using dashboards for decision-making

Dashboards & KPIs

- Average Delivery Time (by region and vehicle)
- Fuel Efficiency (liters/km or cost/km)
- Idle Time per Vehicle
- Fleet Utilization %
- On-Time Delivery Rate

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Results

- 17% reduction in logistics cost
- 22% improvement in fleet utilization
- 11% increase in on-time delivery rate
- Created a scalable dashboard system for continuous monitoring