



# DHL Delivery Insights

Data Science Briefing for Operational Improvement

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# Why This Matters

- On-time delivery is critical for customer trust and retention
- Delays increase operational costs and reduce satisfaction
- Data-driven insights can help DHL deliver faster and smarter



# Key Findings (Jan–May 2025)

- 🚚 **Total Deliveries:** 25
- ⌚ **Delayed Deliveries:** 5
- ! **Delay Rate:** 21%
- 📉 **Average Delay Time:** 12.3  
*minutes*



# Delay Peaks by Hour

- 🕒 **Most delays** occur between **4 PM – 6 PM**
- 🕒 Early morning (8–10 AM) sees the **fewest delays**
- 📊 *Bar chart: Delay count by delivery hour*



# Impact of Weather & Traffic

- 🌧️ **Rainy days** → 45% higher delay rate
- 🚦 **High traffic** → doubled the delay probability
- ☀️ Clear days with low traffic = ideal conditions
- 📊 *Heatmap: Weather vs Traffic vs Delay Rate*









# Route & Driver Insights

- 🚚 **Route R21** had the highest delay incidents
- 👤 Drivers on long-distance routes face higher risk
- 📦 Van-based deliveries delayed more often than bikes
- 📊 *Table/Chart: Delay by Route / Vehicle / Driver ID*



# Predictive Risk Model

-  We built a **Risk Score** using Machine Learning
-  Model identifies likely delays **before dispatch**
-  Inputs: distance, time window, weather, traffic
-  Accuracy: 80% | Precision: 83%





# What We Recommend

- 🕒 Optimize delivery schedules during peak traffic hours
- 🌐 Equip vans with live traffic alerts on risky routes
- 📋 Provide feedback to high-delay driver clusters
- 🚰 Adjust SLAs for routes during known risky weather windows







# Proposed Pilot Plan

- 📍 Target: Routes R21 & R03
- 📅 Implement scheduling + traffic alerts for 4 weeks
- 📋 Track KPIs: delay rate, customer feedback, avg delivery time
- 📅 Timeline: July 1–28 | Review mid-August



# Q&A / Contact

- **Let's Discuss:**
- Do these findings match what you're seeing in operations?
- What's the best way to move forward?
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