1. Key Insights

Platform Usage & Order Flow

- Around **80% of all delivered orders originate from the platform**, indicating strong customer adoption but still leaving a **20% leakage** occurring outside the platform.
- Total order volume is fairly stable month-to-month with minor seasonal dips, but **December shows a sharp drop**, likely due to incomplete data or reduced holiday operations.

Delivery Performance

- **On-Time delivery rate averages ~85%**, consistently below the **90% SLA target(assumed)**.
- Delays remain the largest issue:
  - **FedEx and DHL show the highest delay rates (~10.2%)**
  - GLS and UPS perform slightly better but still remain above 9%.
- **Damaged deliveries are low (1.9–2.3%)**, but FedEx again shows the highest levels.
- Lost orders are very minimal but not zero.

Missing Orders (Operational Gap)

- Each month, **1.6K–1.7K deliveries appear "Not in Orders List"**—meaning they were fulfilled but never registered as platform orders.
- This suggests a **data integration gap** or **off-platform ordering behavior** that reduces visibility and weakens analytics reliability.

Product Category Trends

- Eye-care categories (Eye Allergy, Eye Drops, Eye Vitamins, Eye Wipes) dominate order volume.
- Highest delay-prone categories cluster around:
  - **Eye Allergy > Antihistamine (10.32%)**
  - **Eye Vitamins > Daily (10.27%)**
  - **Eye Drops > Antibiotic (10.21%)**
- On-time performance by product category shows **minimal variation**, but none reach the 90% SLA target (this is assumed Target).

Complaints

- **FedEx leads complaint volume (559 complaints)** — aligning with their poorer delay/damage metrics.
- Complaints peak dramatically in **October**, driven by both seasonal volume and operational strain.

2. Recommendations

A. Improve On-Time Delivery (Primary KPI Gap)

- **Re-evaluate FedEx and DHL SLAs** or shift volume toward higher-performing carriers.
- Introduce **carrier-level incentives** tied directly to SLA compliance.
- Implement early-warning alerts for:
  - Delays >9%
  - Damages >2%

  - Sudden monthly spikes (like October)

B. Strengthen Platform Adoption

- With 20% of orders still happening outside the platform:
  - Educate B2B clients on benefits of platform ordering.
  - Offer discounts or loyalty points for platform-placed orders.
  - Investigate operational bottlenecks that force users to order offline.

C. Fix the “Not in Orders List” Gap

- The 1.6–1.7K monthly mismatch is too large to ignore.
- Recommended actions:
  - Audit synchronization between **Order System → Delivery System**.
  - Validate unique keys (OrderID) and introduce **mandatory order registration** before fulfillment.
  - Create daily automated checks to detect “orphan deliveries.”

D. Targeted Product-Category Improvements

- For top delay categories:
  - Improve inventory forecasting (especially for Eye Allergy & Vitamins).
  - Validate warehouse-to-carrier handoff times.
  - Standardize packaging to reduce minor damage rates.

E. Address Complaint Root Causes

- Launch a **FedEx-specific complaint reduction initiative**:
  - Joint operational reviews
  - Root cause analysis on delay clusters
  - Standardizing handover protocols

3. Challenges & Assumptions

Data Challenges

- The order dataset aggregates at the **product-line level**, while the delivery dataset aggregates at the **package level**, explaining mismatched ProductIDs.
- December shows incomplete volume and may distort performance KPIs.

Operational Assumptions (Your Assumptions Incorporated)

1. **Multiple product lines per order:**
   Since 88K orders collapse into 80K unique OrderIDs, it is assumed that customers frequently place multi-item orders, which is realistic.
2. **Delivery dataset contains 20K non-platform orders:**
   The difference between 100K delivery OrderIDs and 80K platform OrderIDs suggests:
   - A second ordering source exists, OR
   - Some orders bypass platform capture.
3. **ProductID mismatch between datasets:**
   The assumption is that deliveries assign **a single aggregated ProductID** per package (shipment-level ID),

whereas orders list each individual product.

This explains why OrderIDs match but ProductIDs differ.

4. **90% SLA target:**

   This target is not in the raw data but is assumed based on industry norms.

Analytical Limitations

- Shipment geography is not available, limiting regional performance segmentation.
- The data assumes carriers are responsible for most delays, though warehouse or supplier issues may also contribute.

4. Additional Data that Would Improve the Analysis

- **Carrier-level transit time data** (pickup → delivery) to pinpoint delay stages.
- **Warehouse processing timestamps** to differentiate warehouse delays vs carrier delays.
- **Customer location segments** to identify geographic hotspots.
- **Complaint category breakdowns** (damaged, delay, lost, service) for deeper root-cause analysis.
- **Cost per delivery per carrier** to evaluate performance vs price.
- **Platform usage data per customer** to analyze why 20% of orders bypass the platform.