**DGCA Power BI Dashboard Project**

**International Airline Trends – Post COVID  
By Lehar Arora**

**1. Project Overview**

* **Objective: Analyse international airline trends and recovery in the post-COVID era using DGCA and MoCA datasets.**
* **Tool Used: Microsoft Power BI**
* **Data Sources:  
  • Directorate General of Civil Aviation (DGCA) monthly airline reports  
  • Ministry of Civil Aviation (MoCA) reports**
* **Scope:  
  • Passenger and freight trends (2022–2024)  
  • Comparison of domestic and foreign carriers  
  • Airline-specific recovery metrics  
  • Seasonal and quarterly variations**

**2. Key Metrics Visualized**

* **Total Passengers Carried  
  ➤ Displayed as a KPI card (183.29M), representing cumulative post-COVID passenger movement.**
* **Total Freight Handled  
  ➤ KPI card (4.78M) supported by a donut chart showing airline-wise freight share.**
* **Average Passengers per Flight  
  ➤ KPI card (1.95M), representing flight efficiency and seat utilization.**
* **Quarter-wise Passenger Trend  
  ➤ Bar chart depicting total passengers carried by quarter from 2022 Q1 to 2024 Q3. Shows peak recovery in 2023 Q3 (33M).**
* **Passenger Volume by Carrier Type  
  ➤ Line chart contrasting domestic and foreign carriers over time, with spikes during holiday travel seasons.**
* **Total Passengers by Airline  
  ➤ Horizontal bar chart listing major carriers (Vistara, Air India, Emirates, Turkish, etc.) and their total post-COVID volume. Vistara leads at 4.9M.**
* **Freight Distribution by Airline  
  ➤ Donut chart with proportional cargo volume, highlighting leaders like Emirates and Singapore Airlines.**
* **Top Airlines by Recovery Index  
  ➤ Bar chart ranking airlines by post-COVID recovery index. Vistara tops with 162, followed by Malindo, Turkish, and Etihad.**

**3. Insights Derived**

* **Vistara and Air India emerged as major post-COVID passenger carriers.**
* **Freight handling remains concentrated among a few international airlines like Emirates and Singapore Airlines.**
* **A massive drop in Q2 2020 was followed by sharp recovery peaking in mid-2023.**
* **Domestic carriers showed smoother growth; foreign carriers had more fluctuation.**
* **Airlines with robust regional networks (e.g., Vistara, Malindo) showed higher recovery indices.**

**4. Challenges Faced**

* **Data consolidation across Excel-based monthly reports from DGCA**
* **Freight data inconsistencies and missing months for some airlines**
* **Slicing by both airline and quarter caused performance issues in Power BI**
* **Dashboard visual overcrowding, needed layout simplification and colour contrast tuning**

**5. Final Dashboard Snapshot**

**A polished Power BI dashboard with:**

* **Dynamic slicers (Carrier Type, Quarter, Airline Name)**
* **Integrated KPI cards**
* **High-contrast bar, line, and donut charts**
* **Airline-specific analysis and indexed recovery tracking**

A close-up of a computer screen

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