**CONCLUSION**

**Overview**

As a data analyst at SkyRoutes Airlines, I analyzed the operational and financial performance of flight routes to identify key profitability drivers. The analysis included SQL-based data extraction and Power BI visualizations focused on revenue, cost, occupancy, and profitability across both domestic and international flights.

**Key Findings**

**1. Top 10 Most Frequent Routes**

Routes like DEL-BOM, BLR-HYD, and DEL-KOL had the highest number of flights. These high-frequency routes are primarily domestic.

**2. Average Revenue, Cost, and Profit per Route**

Some routes, despite generating high revenue, had lower profitability due to high operational costs. Example: A route might earn ₹5,00,000 in revenue but spend ₹4,90,000 in costs — resulting in very thin profit margins.

**3. Underperforming Routes**

Several routes showed negative average profit, indicating consistent losses. These routes need re-evaluation in terms of demand, pricing, or aircraft used.

**4. Occupancy Rate Analysis**

The average occupancy rate across all routes was around X%. Some loss-making routes also had low occupancy (<60%), pointing to poor demand.

**5. Monthly Profit Trend**

Peaks in profitability were observed in Month X and Month Y, likely due to seasonal travel demand. A dip was observed during off-peak months (e.g., monsoon season).

**6. Domestic vs. International Profitability**

Domestic routes had more consistent but smaller profits. International routes had fewer flights but higher profit per flight, indicating better margins.

**7. Revenue per Minute of Flight**

Short-haul routes (under 90 minutes) delivered high revenue per minute. Some long-haul routes had lower revenue-per-minute due to longer durations and higher costs.

**Power BI Dashboard Summary**

**• Bar Chart**: Top 10 profitable routes

**• Map:** Visualized origin-destination pairs clearly with spatial patterns

**• Line Graph:** Displayed monthly trends in profit per route

**• Gauge Chart:** Showed overall average seat occupancy

**• Stacked Column:** Compared cost and revenue for each route, highlighting imbalance in low-profit ones

**Filters Used:**

Aircraft Type

Flight Month

Route Code

**Recommendations**

• Phase out or restructure routes with consistent negative profitability

• Boost marketing for routes with low occupancy but potential demand

• Prioritize short-haul domestic routes with high revenue-per-minute

• Optimize aircraft usage based on route type — smaller jets for short-haul, efficient long-range planes for international