Consulting & Analytics Club
IIT Guwahati

Case 1 : Regional Airline × Fuel Price Shock: Navigating Profitability, Stability, and Growth

Initial Assessment: Vector Analysis

Financial Impact

The cost increase cannot be passed on in our price-sensitive regional markets, leading to catastrophic margin compression.

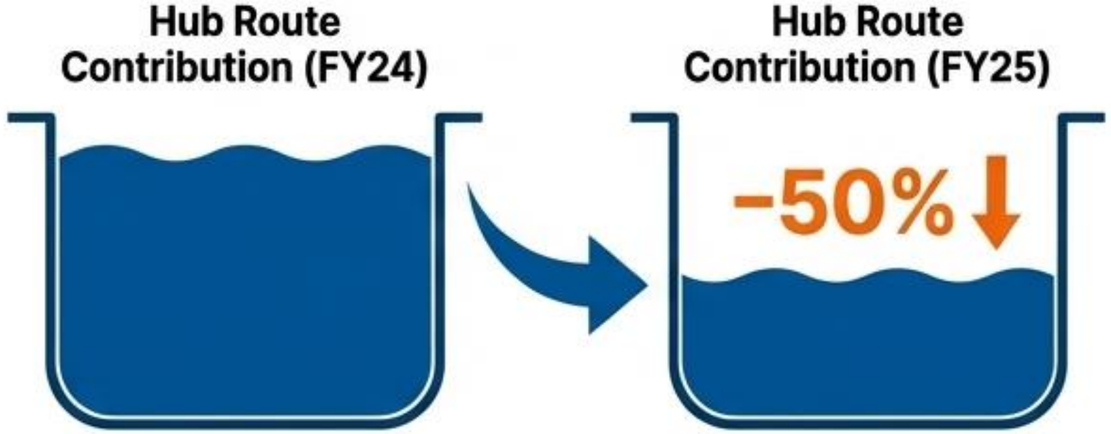
Blended Margin Collapse (-1,010 bps)

Metric	FY24 (Baseline)	FY25 (Post-Shock)	Change
Hub Route CASK	₹2.80	₹3.05	+8.9%
Regional Route RASK	₹2.85	₹2.75	-3.5%
Regional Route CASK	₹2.65	₹2.85	+7.5%
Blended EBITDA Margin	**26.5%**	**16.4%**	**-1,010 bps**

Per-seat fuel cost has increased by **₹1,160–₹1,280** on a typical 2-hour flight.

Operational Impact

The historical cross-subsidization from hub routes to regional routes has broken down, rendering a large portion of our network unviable.

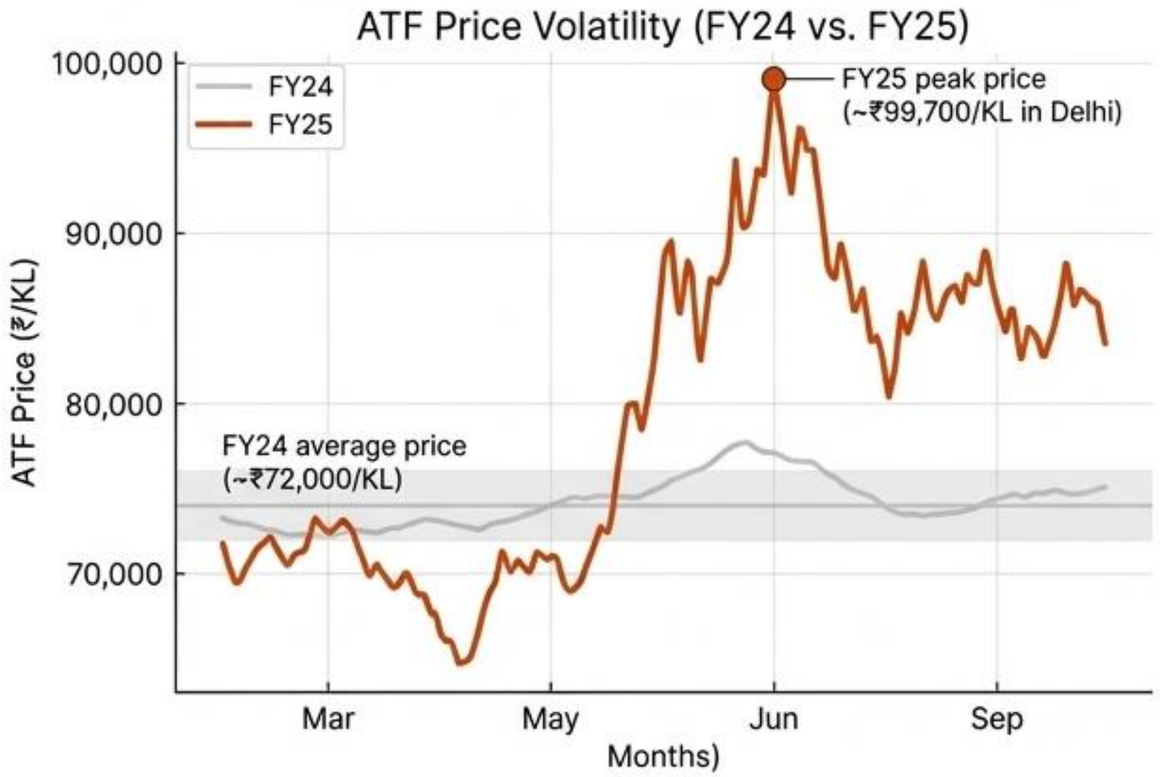


~50% reduction in the hub route contribution pool which subsidizes the network.

30–40% of routes now operate above realistic breakeven load factors of 75–85%.

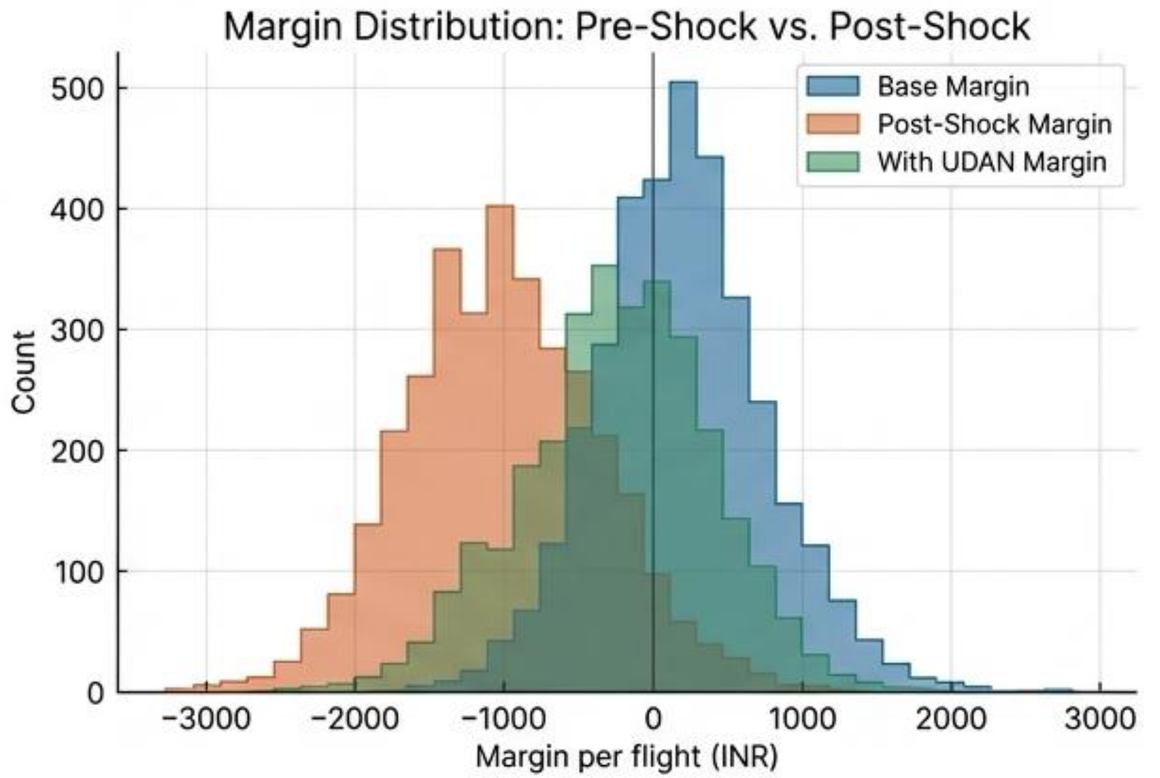
The FY25 fuel shock: Structural shift not a spike

The External Shock



A 38% spike from baseline fundamentally reset the cost structure, adding ₹1,200+ per seat on a typical 2-hour flight.

The Internal Impact



The shock eliminated the cross-subsidy from profitable hub routes, causing a network-wide profitability cascade.

Option A: Tactical optimizations provide immediate relief but hit a structural ceiling.

Analysis of Option A

Core Mechanics

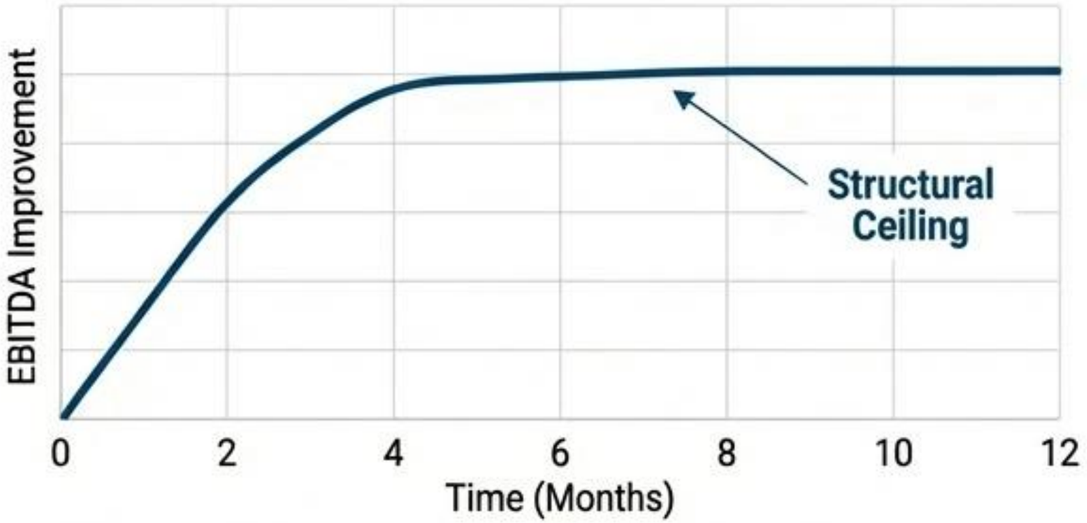
- Implement AI-driven dynamic pricing.
- Exit 5–8 structurally unviable routes.
- Expand ancillary revenue from ~₹250 to ~₹450 per passenger.

140–200 Cr
EBITDA Improvement

Financial upside

- 5–8% RASK improvement on core routes.
- 1.5–2.5% CASK reduction from route exits.

Critical Limitations



- **Demand Elasticity Constraint:** In our leisure segment (elasticity of -1.0 to -1.3), fare hikes needed to offset fuel costs would cause significant volume loss, partially negating revenue gains.
- **Competitive Ceiling:** Low-cost carriers with more efficient cost structures limit our pricing power.
- **The Verdict:** Insufficient as a standalone strategy. It does not address core inefficiencies like legacy aircraft and an oversized network. It is a necessary first step, not the final answer.

Option B: UDAN expansion secures cash flow but trades long-term competitiveness for short-term stability

Analysis of Option B

Core Mechanics

- Accelerate participation in the UDAN scheme to secure revenue certainty.
- Leverage Viability Gap Funding (VGF), airport charge concessions, and tax benefits.

Financial Upside

80–120 Cr Net Contribution
(from 15-20 new routes)

- Provides immediate downside protection against commercial demand risk.
- Improves fixed cost recovery across a larger network.

Critical Limitations

Operational Inflexibility →
- UDAN agreements lock in capacity, frequency, and fares, preventing dynamic fleet redeployment.

Long-Term Margin Dilution →
- Over-reliance on subsidized routes with capped margins (5–8% EBITDA) lowers the airline's overall profitability potential.

Government Policy Risk →
- Subsidies are dependent on annual government budgets and can be changed or reduced.

The Verdict: An essential tool for immediate cash stabilization, but a strategic dead-end if it becomes our primary business model.

Option C: A full structural redesign is the right long-term goal, but is too slow and capital-intensive to pursue alone now.

Analysis of Option C

Core Mechanics

Modernize the fleet, transitioning to next-generation aircraft (e.g., Airbus A220).

Consolidate the network from 50-70 routes to 35-40 core routes.

Optimize labor and maintenance through fleet standardization.

Financial Upside

400–500 Cr Annual EBITDA Run-Rate

Structural CASK reduction of 8-10% ex-fuel.

Breakeven Load Factor improves from 75% to 68-70%.

Critical Limitations

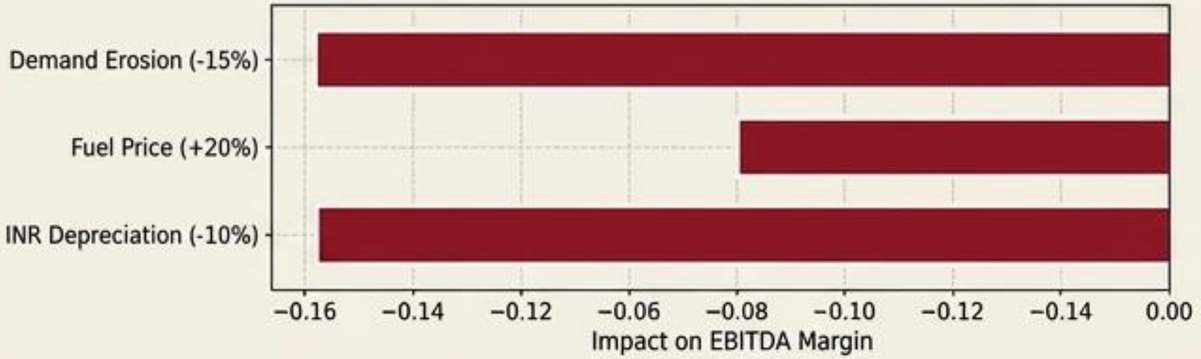
- **High Execution Risk:** This is a complex, multi-year transformation with significant operational and organizational challenges.
- **Immediate Cash Burn:** The 12–24 month timeline means cash burn remains dangerously high for the first 6–12 months before benefits materialize.
- **High Capital Intensity:** Requires significant upfront capital for aircraft leases, potentially forcing equity dilution from a position of weakness.

The Verdict: The optimal destination, but we cannot afford the journey from a standing start. We must first stabilize the business.

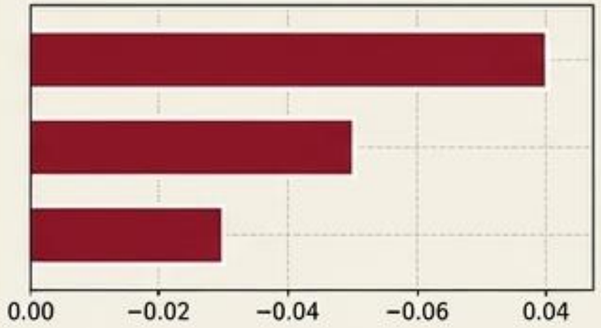
No Single Path Is Sufficient on Its Own!!

A. Pricing Alone Is Capped by Demand Risk

Insight: The risk of demand erosion from fare hikes outweighs the potential gains.



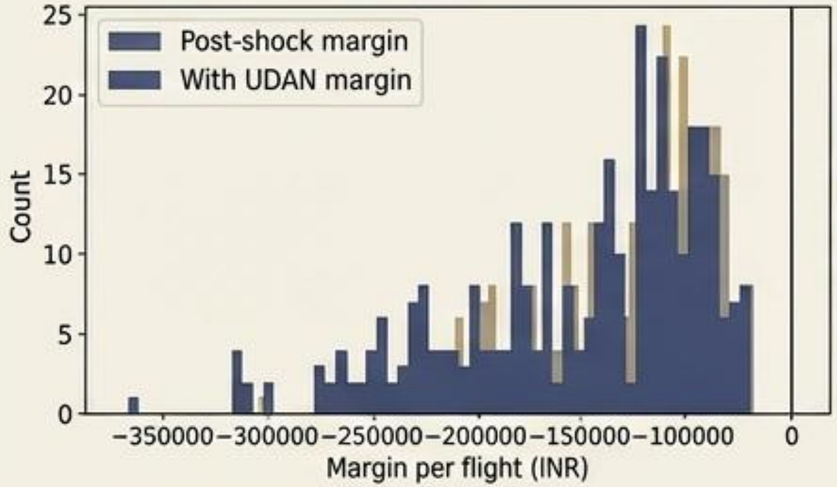
B. UDAN Is an anticipative Metric



Key Stat:
A **-15% demand erosion** has a more severe impact on EBITDA **Margin** than a **+20% fuel price** increase.

B. UDAN Is a Subsidy, Not a Solution

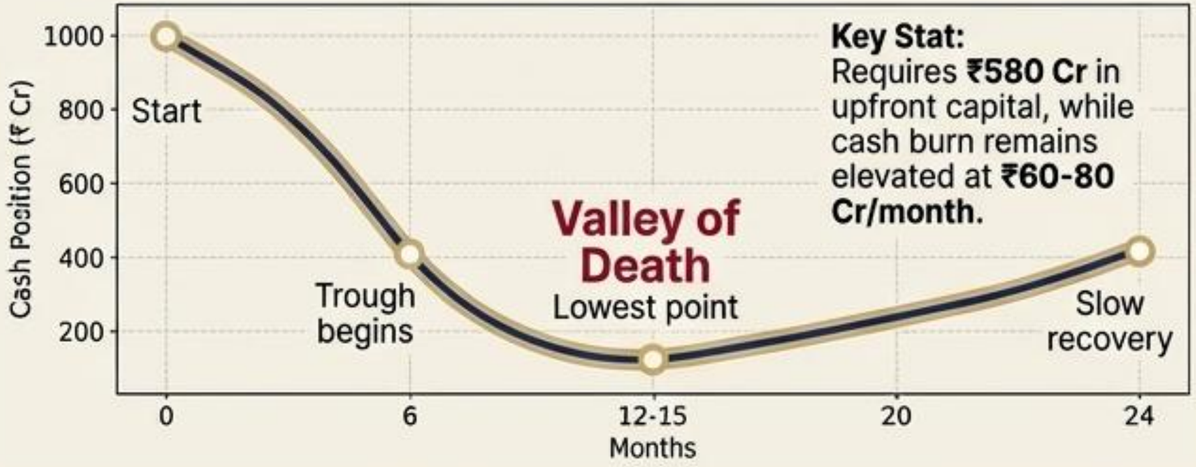
Insight: Government support provides a small buffer but does not make unprofitable routes viable or save them from closure.



Key Stat:
The average margin per flight with UDAN support is **-₹148,587**, a negligible improvement from the post-shock margin of **-₹149,420**. UDAN saves **zero** routes.

C. Full Redesign Is Too Slow to Survive

Insight: The 12-24 month timeline and massive capital requirement would trigger a liquidity crisis before benefits are realized.



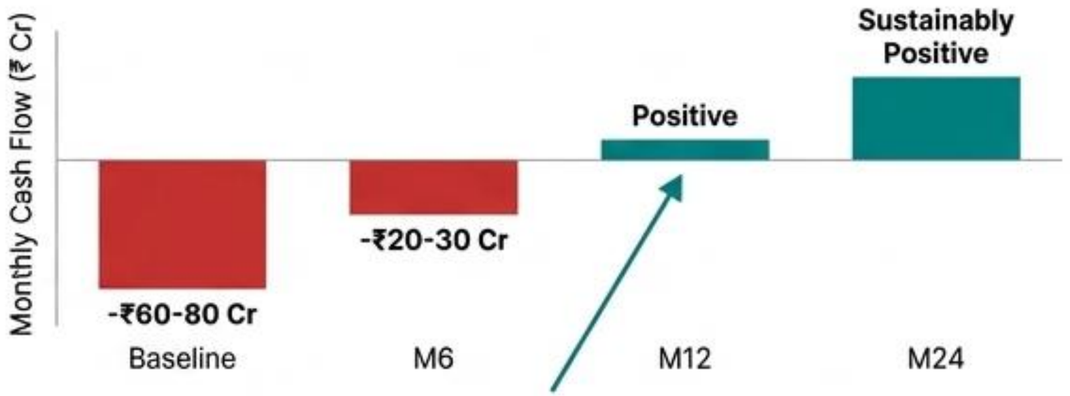
Key Stat:
Requires **₹580 Cr** in upfront capital, while cash burn remains elevated at **₹60-80 Cr/month.**

A Blended Strategy Delivers Optimum Metrics

CASK Reduction (Cost per Available Seat Kilometer)

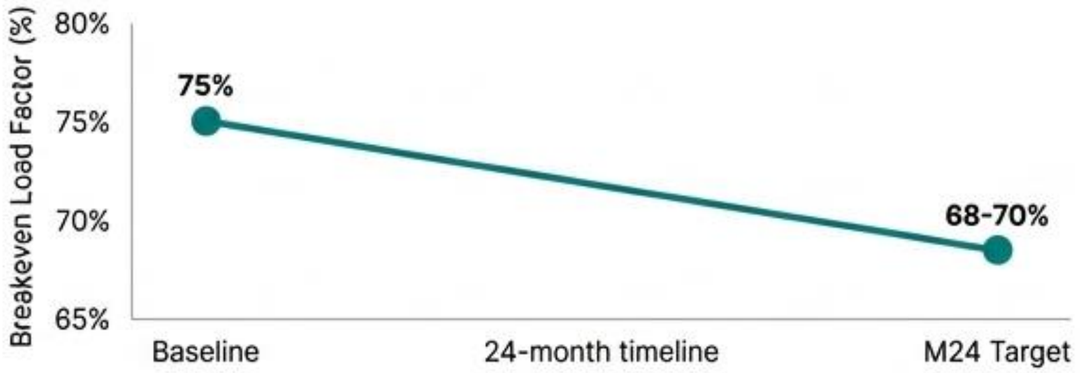
Key insight: Structural CASK reduction of over 12%.

Cash Burn Reversal



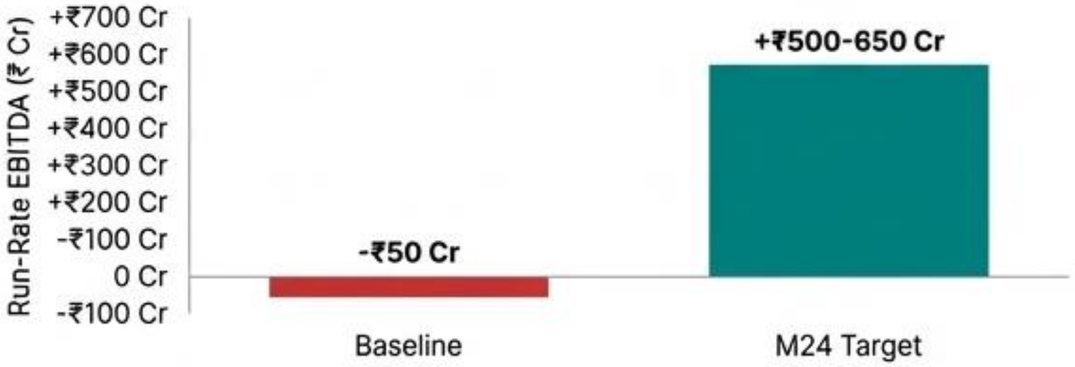
Key insight: Cash positive within 12 months.

Breakeven Load Factor Improvement



Key insight: Reduces breakeven point by 5-7 percentage points, making more routes viable.

System EBITDA Growth



Key insight: Creates a path to sustainable profitability.

A Phased, Blended Strategy for Sustainable Transformation: Detailed Actions & Financial Impact

Phase 1: Stabilize & Fund (Months 0-6)

Immediate Cash Stabilization

Dynamic Pricing System Deployment
- Implement AI-powered revenue management to optimize fares.
- **Expected Impact:** +5-8% RASK improvement on core routes, generating ₹80-120 Cr annually.

Route Rationalization & Exit Program
- Systematically exit 5-8 structurally unviable routes.
- **Expected Impact:** ₹40-60 Cr in annual fixed cost savings.

UDAN Route Acceleration
- Bid for and deploy aircraft to 15-20 new UDAN routes.
- **Expected Impact:** ₹80-120 Cr in net contribution.

Fuel Hedging Strategy
- Secure 50-60% of projected FY26 fuel requirement.
- **Expected Impact:** Reduce CASK volatility by +/- 2%.

Financial Summary
EBITDA Improvement: ₹140-200 Cr
Cash Burn Reduced: From ₹60-80 Cr/month to ₹20-30 Cr/month
Go/No-Go Gate @ Month 6: Cash Burn Stabilized & EBITDA swing >₹100 Cr

Phase 2: Optimize & Pilot (Months 6-12)

Build Momentum & Optimize

Next-Gen Aircraft Pilot Program
- Lease 2-4 Airbus A220 or Embraer E195-E2 aircraft.
- **Objective:** Validate CASK reduction (-3-4% vs. legacy).

Ancillary Revenue Expansion
- Roll out comprehensive ancillary program.
- **Objective:** Increase ancillary revenue from ₹200-300 to ₹400-600 per passenger, adding ₹30-50 Cr annually.

Network Schedule Optimization
- Reduce turnaround times from ~75 min to 45-50 min.
- **Objective:** Increase daily aircraft utilization from ~6.5 to ~8.0 hours.

Financial Summary
Incremental EBITDA: ₹70-110 Cr
Cumulative Cash Generation: ₹100-150 Cr
Go/No-Go Gate @ Month 12: Pilot Economics Validated & Cash Position >₹50 Cr

Phase 3: Transform & Scale (Months 12-24)

Full Structural Redesign & Scale

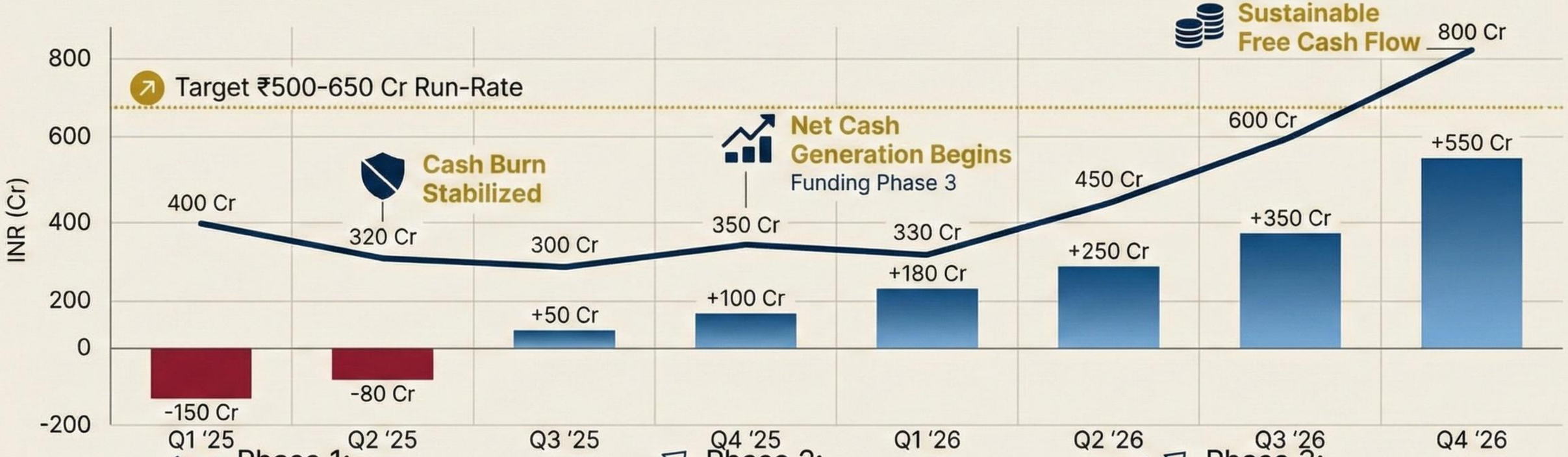
Full Fleet Modernization
- Lease additional 6-8 A220/E195 aircraft, retire 15-20 legacy jets.
- **Objective:** Achieve 70% next-generation aircraft composition by Month 24.

Hub Network Consolidation
- Consolidate network from 50-70 routes to 35-40 core routes focused on 4 primary hubs.

Labor & Maintenance Optimization
- Standardize crew training and consolidate MRO contracts.
- **Objective:** Increase pilot block hours by ~15% and reduce maintenance costs by 8-12%.

Financial Summary
Structural CASK Reduction: 8-10% (ex-fuel)
Breakeven Load Factor: Reduced to 68-70%
Sustainable EBITDA Run-Rate: ₹500-650 Cr annually

Our Recommendation: A Phased, Blended Strategy for a 24-Month Journey to Sustainable Profitability



Phase 1: **Stabilize & Fund** (Months 0-6)

Objective: Stop the bleeding. Stabilize cash burn and self-fund the initial transformation through quick wins.

Key Levers

- Dynamic Pricing
- Route Rationalization
- UDAN Acceleration

Phase 2: **Optimize & Pilot** (Months 6-12)

Objective: Build momentum. Generate net cash to fund Phase 3 while de-risking the full fleet modernization.

Key Levers

- Ancillary Revenue
- Fleet Optimization
- Next-Gen Aircraft Pilot

Phase 3: **Transform & Scale** (Months 12-24)

Objective: Win the future. Execute the full structural redesign to build a sustainable, industry-leading cost base.

Key Levers

- Full Fleet Modernization
- Hub Consolidation
- Labor & MRO Optimization

BIBLIOGRAPHY

1. Real-Time Market & Financial Data

The Python implementation used for the "Strategic Decision Engine" and Monte Carlo simulations retrieved its core volatility data from the following:

• yfinance (Yahoo Finance API): This was the primary source used to fetch real-time market volatility for Brent Crude (serving as a proxy for ATF) and the USD/INR exchange rate.

• FRED (Federal Reserve Economic Data): Used as a fallback source for macroeconomic time-series data.

• ICE (Intercontinental Exchange) & Singapore Exchange: Referenced for pricing data related to fuel futures, swaps, and hedging instruments.

2. Official Indian Aviation & Fuel Sources

To ground the analysis in the Indian context, the sources drew data from:

• Ministry of Civil Aviation (MoCA) & UDAN Scheme: Documentation from MoCA provided the basis for Viability Gap Funding (VGF) calculations, fare caps (₹2,500/hour), and tax concession details (1% GST).

• IOCL (Indian Oil Corporation Limited): Cited as the primary source for real-time and historical Aviation Turbine Fuel (ATF) prices in India.

• data.gov.in: The Open Government Data (OGD) Platform of India was used to build the ATF price time-series charts.

• PIB (Press Information Bureau): Used to track government announcements regarding the expansion of regional connectivity.

3. Aviation Industry Benchmarks & Research

Quantitative findings and sensitivity metrics were credited to major industry analysts:

• JP Morgan Equity Research: Specifically cited for the Fuel Cost Sensitivity Analysis, which established that a 1% fuel price increase erodes Profit Before Tax (PBT) by 3%.

• ICRA & CRISIL: These credit rating agencies provided the operating metrics for Indian regional airlines and the broader aviation sector reports.

• IATA (International Air Transport Association): Cited for global industry benchmarks, RASK/CASK metrics, and the logic behind airline cross-subsidization.

• OpenFlights: This database was utilized by the Python code to calculate route distances necessary for building route-level P&Ls.

4. Management Consulting Frameworks

The structural logic and strategic hypotheses were modeled after the proprietary methodologies of the "MBB" firms:

• McKinsey & Company: Their Profitability Tree and Issue Tree frameworks were used to decompose RASK/CASK and diagnose root causes.

• Bain & Company: The analysis utilized Bain’s decision-tree methodology for hypothesis testing and strategic choice formulation.

• BCG (Boston Consulting Group): Cited for best practices in Network Optimization and the "weighted margin preserved" approach to subsidy allocation.

5. Corporate Precedents (Comparative Data)

The performance of existing airlines was used to stress-test the recommendations:

• IndiGo & Air India: Used as primary benchmarks for comparing profitability cliffs and ancillary revenue potential.

• Ryanair, Southwest, and Air France-KLM: Credited as industry leaders whose fuel-hedging strategies provided the quantitative basis for the airline's proposed risk mitigation plan.