

Airline Performance Dashboard

Comprehensive Data Analysis & Business Intelligence Report

Report Generated: July 2025

Executive Summary

Business Challenge



Our airline faces critical challenges in maintaining consistent on-time performance and minimizing flight delays across major routes, while balancing competitive ticket pricing and delivering strong customer satisfaction. This comprehensive analysis reveals significant operational inefficiencies that demand immediate strategic intervention.

14.02%

On-Time Performance

Critical - Well Below Industry Standard

47.03

Avg Delay Minutes

High Impact on Customer Experience

\$3.78M

Total Revenue

Strong Revenue Base

3.01

Customer Rating

Below Satisfaction Threshold

Key Findings



Critical Performance Gap

On-time performance of only 14.02% represents a severe operational crisis, significantly below industry standards and directly impacting customer satisfaction and revenue.



Revenue Optimization Opportunity

Despite performance challenges, strong revenue base of \$3.78M indicates market demand, with significant opportunity for pricing strategy refinement.



Data-Driven Insights

Analysis of 10,365+ flight records reveals specific patterns in delays, pricing, and performance across airlines, routes, and seasonal variations.

Dataset Analysis

Comprehensive Data Foundation

This analysis is based on extensive flight operations data covering multiple airlines, routes, and performance metrics across Canadian aviation markets.

10,365

Flight Records

16

Data Fields

6

Major Airlines

6

Canadian Cities

Data Quality & Processing



Data Cleaning

Processed missing values, removed duplicates (~20 records), and standardized airline names with leading/trailing spaces for accurate analysis.



Key Metrics

Flight performance, pricing data, customer satisfaction scores, operational delays, route analysis, and aircraft classification.



Analysis Focus

Multi-dimensional analysis across airlines, cities, flight classes, seasonal patterns, and customer experience factors.

Performance Analysis

Airline Performance Comparison



Average Delay Minutes by Airline

Interactive chart showing delay performance across WestJet, Delta, American Airlines, United, and Air Canada with significant variance in operational efficiency.



Airline Variance

Significant differences in delay patterns across airlines, with some carriers consistently underperforming in punctuality metrics.



On-Time vs Delayed

Only 14.02% on-time performance (0.51K flights) vs 85.98% delayed flights (3.14K flights) indicates systemic operational issues.

Route & Geographic Analysis

Delays by City and Airline

Heat map visualization showing delay patterns across Calgary, Montreal, Vancouver, Ottawa, Edmonton, and Toronto with airline-specific performance variations.



City-Specific Challenges

Major Canadian cities show varying delay patterns, indicating infrastructure, weather, or operational differences affecting performance.



Route Optimization

Specific routes consistently underperform, suggesting need for targeted operational improvements and resource allocation.

Revenue & Pricing Analysis

Pricing Strategy Insights

Average Ticket Price by Month and Class

Monthly pricing trends across different service classes showing seasonal variations and pricing optimization opportunities.

\$1.04K

Average Ticket Price

Competitive Pricing Range

\$3.78M

Total Revenue

Strong Market Position

Passenger Volume Trends

Sum of Passenger Count by Month

Monthly passenger volume trends showing seasonal demand patterns for capacity planning and revenue forecasting.



Seasonal Patterns

Monthly passenger count variations reveal seasonal demand cycles that can inform dynamic pricing strategies and capacity planning.



Revenue Optimization

Strong revenue base indicates market demand exists despite performance issues, suggesting pricing power for operational improvements.

Customer Experience Analysis

Customer Satisfaction Metrics

★ Customer Rating by Airline

Comparative customer satisfaction scores across airlines showing correlation between operational performance and customer experience.



Below-Average Satisfaction

Average customer rating of 3.01 indicates dissatisfaction directly correlating with poor on-time performance and operational delays.



Performance-Satisfaction Link

Clear correlation between airline delay performance and customer satisfaction scores, emphasizing need for operational excellence.

Strategic Recommendations

Immediate Action Plan

Based on comprehensive data analysis, we recommend a multi-pronged approach to address critical performance gaps and optimize revenue opportunities.

Operational Excellence Initiative

Implement immediate delay reduction strategies focusing on worst-performing routes and airlines. Target 50% improvement in on-time performance within 6 months.

Dynamic Pricing Strategy

Develop data-driven pricing models based on seasonal trends, route performance, and customer demand patterns to optimize revenue per flight.

Real-Time Monitoring

Establish continuous KPI tracking dashboard with automated alerts for performance degradation and proactive intervention capabilities.

Customer Experience Focus

Implement customer satisfaction improvement program directly tied to operational performance metrics and service quality standards.

Implementation Roadmap



Phase 1: Immediate (0-3 months)

Deploy performance monitoring dashboard, identify critical delay factors, implement quick-win operational improvements.



Phase 2: Strategic (3-6 months)

Roll out dynamic pricing system, optimize route schedules, implement customer experience enhancement programs.



Phase 3: Optimization (6-12 months)

Achieve target performance metrics, expand successful strategies, implement advanced predictive analytics for proactive management.

Expected Business Impact

50%

On-Time Performance

Target Improvement

25%

Revenue Increase

Through Optimization

4.0+

Customer Rating

Satisfaction Target

15%

Cost Reduction

Operational Efficiency

Long-term Value Creation



Competitive Advantage

Improved operational performance will differentiate airline