

PROJECT DESIGN PHASE-1

PROPOSED SOLUTION TEMPLATE

Date	14 October 2022
Team Id	PNT2022TMID00675
Project Name	Airline data Analytics for aviation industry
Maximum Marks	2 marks

Proposed solution template:

Project team shall fill the following information in proposed solution template

S.no	Parameter	Description
1.	Problem Statement(problem to be solved)	The airport codes may refer to either the IATA airport code, a three-letter code that is used in passenger reservation, ticketing and baggage-handling systems, or the ICAO airport code which is a four-letter code used by ATC systems and for airports that do not have an IATA airport code.
2.	Idea/Solution Description	<p>Machine learning and <u>analytics</u> have touched almost all the fields around the globe including the aviation industry. With the growth of <u>data</u>, the use of analytics in the airline industry is the next big wave. The purpose of data analytics in aviation is to examine the vast amount of data generated daily and provide useful information to airlines, airports and other aviation stakeholders so that they can improve their operational planning and execution, as well as any related products and services.</p> <p>Airlines use AI systems with built-in machine learning algorithms to collect and analyze flight data regarding each route distance and altitudes, aircraft type and weight, weather, etc. Based on findings from data, systems estimate the optimal amount of fuel needed for a flight.</p>

3.	Novelty/Uniqueness	<p>1. Cost Reduction-Airlines are very concerned about baggage handling metrics like lost-bag tally, SLAs. They rely on real-time baggage tracking data to avoid losing damaging or delaying bags and face compliance issues.</p> <p>2. Fuel Management-Airlines track real-time fuel consumption data on Dashboards from take-off to landing. This monitoring is crucial to be ultra-efficient in reducing fuel costs and airline emissions.</p> <p>3. Revenue Maximization-Airlines segment customers, target with personalized offers, optimize pricing in real-time using predictive analytics techniques such as modelling and forecasting.</p>
4.	Social Impact/Customer Satisfaction	Trajectory Optimization • Predictive Maintenance • Delay Estimation • Targeted Advertising • Crew Performance Assessment • Sentiment Analysis • Prediction of Customer Behaviour.
5.	Business Model (Revenue Model)	<p>The 4 Most Important Business Models for Airlines</p> <ol style="list-style-type: none"> 1. Full-Service Carriers. Full-service carriers are airlines that operate with a business model that includes offering a range of pre-flight and on-board services with the price of the ticket. ... 2. Low-Cost Carriers. ... 3. Charter Airlines. ... 4. Cargo Airlines.
6.	Scalability of the solution	<p>Data Analytics has revolved around every industry, including aviation. Technology has changed how business is conducted and helps to make better decisions. As a result, data analytics plays a vital role in the aviation industry. It assists in collecting data and planning a powerful strategy that helps to grow business overall.</p> <p>According to a report, after adopting Big Data and Data Analytics in the airline industry, the sector has witnessed 57% more growth. From maintaining flights to unplanned</p>

		<p>maintenance, Data Analytics in the airline industry unfolds everything. Big Data tailors the flight experience better and uses data to improve performance. There are plenty of advantages, but most of all, it's how Data Analytics transforms the airline industry. It gains insights and enhances operations to make it successful.</p> <p>According to a report, Data Analytics in the airline industry is expected to reach \$7 million by 2023.</p>
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