Project Title: Flight delay prediction using ML

Project Design Phase-I - Solution Fit Template

Team ID: PNT2022TMID02840

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

All passengers using our flight and the hospitality centers and other businesses in the airport are our potential customers

6. CUSTOMER CONSTRAINTS — CC

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

Maintaining a separate application for receiving information about flight delays

5. AVAILABLE SOLUTIONS — AS

Which solutions are available to the customers when they face the problem
or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

Existing solutions does not include a machine learning algorithm to predict delays and customers are not alerted in an automated manner.

Explore AS, differentiate

Focus on J&P, tap into BE, understand RC

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

To predict flight delays accurately so that passengers could adjust their time and schedule their events accordingly.

9. PROBLEM ROOT CAUSE — RC

What is the real reason that this problem exists?
What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

The problem exists because of the unexpected delays of flights such as due to unforeseen weather conditions, cascading delays, etc..

7. BEHAVIOUR — BE

What does your customer do to address the problem and get the job done?
i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

To develop a moel that is good at predicting flight delays and cancelation of flights considering various factors that could potentially affect the deviation of flights from thier scheduled time

Focus on J&P, tap into BE, understand RC

Identify strong TR & EM

3. TRIGGERS — TR

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

Waiting for a flight for too long time makes them get frustrated and distressed
Prioir information of flight delays would help.

4. EMOTIONS: BEFORE / AFTER — EM

How do customers feel when they face a problem or a job and afterwards?
i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

Before : Customers are disappointed and annoyed by the delay of flights.
After : Customers now know the delay information in prioir and thereofre they use it to adjust their plan(passengers) and provide appropriate services to passengers(businesses)

10. YOUR SOLUTION — SL

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

Our solution uses machine learning models such as Isolation forest algorithm so as to capture anomalies in the dataset thereby predicting the delays and cancellation details.Users will be able to check the available and delayed flight details in the app/webpage in realtime.

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Users will check for flight delay and cancellation information

Identify strong TR & EM