

DEVELOPING A FLIGHT DELAY PREDICTION MODEL USING MACHINE LEARNING

Define CS, fit into

1. CUSTOMER SEGMENT(S)

CS

Who is your customer?

Passengers who are waiting for there delayed flight

- Normal flight passengers
- Bussiness professionals
- Lay-over Flight passengers
- Logistics

6. CUSTOMER

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.

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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 dothese solutions have? i.e. as a solution is an alternative to flight cancellation

- Taking alternative flights
- Wait for delayed flight
- Cancel flight and look for alternative ways

Explore AS,

Focus on J&P, tap into BE, understand

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 check whether the flight is delayed or not
- Taking alternatives arrangements to reach the airport while the flight is delayed

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.

- Unavailability of means to estimate delays occurring in airplanes
- Large scale economic loss for both airlines and the customers
- Degradation in airlines reputation when many flights are delayed

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)

- if your airline delay your flight overnight make sure they'll reimburse any hotel incurred due to their error.
- Travel insurance can sometime help cover the unexpected delay.
- If your flight is delayed , you want to be the first at the counter the discuss the option

Focus on J&P, tap into BE, understand

3. TRIGGERS

TR

- Cancellation of flights
- Getting Boring
- Guilty of wasting time
- Missing layover flight
- Uncertainty in deciding if the flight is delayed when they start late from the airport

4. EMOTIONS: BEFORE / AFTER

Before:

- Worried about missing important events and missing layover flights
- If the flight is gonna be canceled
- Frustrated
- About the unexpected delay/cancellation
- Not knowing the news of delay beforehand
- About the weather

After:

- Gets to enjoy the airline benefits
- Stay relaxed after getting a proper update from the airline
- Relieved if an alternate solution is found

10. YOUR SOLUTION

SL

The main aim is to develop an application that predicts the flights delay using a machine learning model with the data of flights and delays so far and estimate the time of delay taking spatial dependencies of flights into account.

8. CHANNELS of BEHAVIOUR

CH

8.1 ONLINE

- Check if a particular flight will be delayed and the estimated time of arrival
- Giving ratings and feedbacks for various flights so as to improve the app's performance in predicting further delays

8.2 OFFLINE

- Finding alternate flights in the airport / alternative travel routes
- Hotels near the airport can be visit for overnight stays during delay at night/midnight