Project Design Phase - I
Problem – Solution Fit

Date	19 September 2022
Team ID	PNT2022TMID43743
Project Name	CAR RESALE VALUE PREDICTION
Maximum Marks	2 Marks

Problem – Solution Fit:

The problem solution Fit simply means that you have identified a customer-related issue and that the resolution you have developed genuinely addresses the issue. It assists business owners, marketers, and corporate innovators in seeing behavioural trends and understanding what would be successful.

Purpose:

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- Understand the existing situation in order to improve it for your target group.

PROJECT TITLE: CAR RESALE VALUE PREDICTION **PROJECT DESIGN PHASE – I** **TEAM ID: PNT2022TMID43743**

PROBLEM SOLUTION FIT

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

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

- A normal person trying to assess the worth of his asset
- A taxi driver trying to buy a used car
- A car reseller looking for a car for his client
- Anyone trying to know the value of a used car

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.

- To estimate a car's value on your own, without assistance of someone.
- To prevent human error in prediction. Its not possible to get the exact worth manually, but Machine Learning Techniques can.
- Reduction in amount spent to dealers

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

- We would have chosen the random forest approach over the linear regression algorithm.
- The goal of the system for predicting automobile resale value is to use data mining techniques on a set of vehicle data to help with that forecast.

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.

- When using ML approaches to test the autos, any damages must be appropriately assessed.
- With the available methods, only rough predictions can be made; an exact outcome cannot be provided.
- Not every factor is taken into account when testing.

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 fear of the car's state, the engine's condition, the gasoline type, the mileage of the vehicle, and physical damage are the main risk factors for estimating values and believing anonymous vendors. The best course of action is to avoid buying from strangers, shop around for the best deal, inspect the vehicle, and use predictive analysis to make predictions.

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)

- They presented paperwork and a record of your car's condition that is questionable. The model was just created to get rid of human-predicted anonymous value.
- Create or enhance the strategy vision. Identify customer segments via vehicle customization.
- Having trouble forecasting second-hand car values and relying on unidentified brokers

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.

- Create or enhance the strategy vision. Segment buyers and users can use vehicle

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 SELLING: Depressed, Frustrated **AFTER SELLING:** Happy
BEFORE BUYING: Confused
AFTER BUYING: Feels Joyous if cheaper

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,

- We employ supervised learning algorithms, which can be resolved by random forset regression. Even with the enormous dataset, it operates effectively and predicts the outcome with a high degree of accuracy. When a significant amount of the data is absent, accuracy can still be maintained.

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE

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

- Utilizing the many parameters provided by the owner, the customer should be able to estimate the value of the vehicle, Customers can compare with multiple sources

8.2 OFFLINE

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

- Offline service providers like Dealers, Resellers, would face some difficulties.

Extract online & offline CH of BE