Project Title: Efficient water quality analysis and prediction using machine learning

Project Design Phase-I - Solution Fit Template

Team ID: PNT2022TMID30589

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

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

- Government agencies that provide water to general public
- General public looking for drinkable water with quality

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.

- Lack of Knowledge about Scientific standards
- No Tools and available devices to measure water quality

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

Installing RO and heating of water before using

PROS: Filters the most contaminants
CONS:
- More water wasted
- Drinking water that's too hot can damage tissue

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 analyze and predict the water quality based on scientific metrics
- To Check the scientific standards obtained from the water samples
- Awareness about water quality

9. PROBLEM ROOT CAUSE

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.

- Water scarcity
- No availablility of quality water
- We couldn't judge or find the water quality without scientifically testing

7. BEHAVIOUR

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)

- Installing RO
- Purchasing Mineral water
- Checking hardness of water

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

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.

- Water quality good in other countries
- Non drinkable water quality due to water scarcity in our country

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.

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.

Identify strong TR & EM

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:
- Feeling frustrated
- fear of water borne diseases

AFTER:
- feeling safe
- Happy living

By collecting water samples from proven water and new water resources and using some parameters like Ph value, Hardness, Conductivity by using machine learning techniques to predict the water quality

ONLINE: Browsing various ways for getting quality water

OFFLINE: Boiling drinking water and Installing RO Process

Identify strong TR & EM