Project Title: Early Detection of Chronic Kidney Disease Using Machine Learning   **Project Design Phase-I - Solution Fit**   **Team ID:** PNT2022TMID04381

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS
Who is your customer?
i.e. working parents of 0-5 y.o. kids

Doctors, nurses, patients, as well as regular individuals who have some symptoms or want to get tested for CKD, are the project's key users.

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.

-Expensive diagnostic procedures
-Longer detection times for illnesses
-Negligent human mistake
-Lack of skilled doctors

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

Diagnosis made manually by doctors and lab staff using a variety of test findings

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.

-Detect the illness at an early stage
-Create a user-friendly interface
-Make sure the predictions are correct
-Make the application user-friendly for customers.

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.

-Expensive diagnostic procedures
-A lack of facilities in hospitals
-Human mistake in manual diagnosis
-Lack of experience of doctors

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)

-Attend medical appointments for testing and treatment
-Talk to family and friends about the symptoms.
-Check the internet for information on the symptoms

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.

Test findings that are costly and imprecise, which delay down diagnosis

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: Disappointed, depressed, and uncomfortable
After: Positivity, peace, and self-assurance

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.

A machine learning (ML) model that uses test data from other diseases to diagnose CKD in its early stages correctly and prevent manual mistakes in diagnosis.

8. CHANNELS of BEHAVIOUR — CH
8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

Get information about the illness and its symptoms by searching the internet.

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

- Seek diagnosis and treatment at a hospital.
- Discuss the symptoms with friends and family

Identify strong TR & EM