**Project Title:** Smart Farmer – IoT Enabled Smart Farming Application

**Project Design Phase- I - Solution Fit**

**Team ID:** PNT2022TMID21802

Define CS, fit into CC

### 1. Customer Segment(S) CS

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

- ✓ The customer for this product is a farmer who grows crops.
- ✓ Our goal is to help them to monitor field using the wireless sensor networks and end user application.

### 6. Customer Constrains 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

- ✓ Using many sensors is difficult.
- ✓ An unlimited internet connection is required for success.
- ✓ so it is the main thing that we need to do to prevent our customers from action.

### 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

- ✓ Intelligent data collection .
- ✓ Sensors installed on IOT devices are able to collect a large volume of useful information for farmers.
- ✓ Waste reduction.
- ✓ Process automation.
- ✓ Animal monitoring.

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.

- ✓ The purpose of this product is to use sensors to acquire various field parameters.
- ✓ The cloud is used to store and transmit data using IoT.
- ✓ Farmers can make decisions through mobile applications.

### 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?

- ✓ Fields are difficult to monitor when the farmer is not at the field, leading to crop damage.
- ✓ Frequent changes and unpredictable weather and climate made it difficult for farmers to engage in agriculture.
- ✓ These factors play an important role in deciding whether to water your plants.

### 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)

- ✓ Use a rain water harvesting system to overcome the effects of excess water into the field .
- ✓ It will help the crops from heavy rain.

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

## 3. TRIGGERS

TR

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

- ✓ Farmers struggle to provide adequate irrigation. Inadequate water supply reduces yields and affects farmers' profit levels.
- ✓ Farmers have a hard time predicting the weather. If certain famers using this device will get more yield and profit then other farmers will start using it.

## 4. EMOTION'S: BEFORE / AFTER

EM

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

- ✓ BEFORE: Lack of knowledge in weather forecasting →Random decisions → low yield.
- ✓ AFTER: Data from reliable source → correct decision → high yield

## 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 behavior.

- ✓ Our product collects data from various types of sensors and sends the values to our main server. It also collects weather data from the Weather API.
- ✓ The final decision to irrigate the crop is made by the farmer using a mobile application.

## 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.

- ✓ ONLINE: when we Providing online channels to the farmer it provide knowledge about moisture level of the soil. Online assistance to be provided to the user in using the product.
- ✓ OFFLINE: Importance of IOT and automation need to be delivered to the farmers it will be more helpful for them to know more things about it.