**Project Design Phase I** : **Solution Fit Template**

**Title : SmartFarmer** : **IoT Enabled Smart Farmer Smart Farming Application**

**Team ID** : **PNT2022TMID40009**

Define CS, Fit in CC

**1. CUSTOMER SEGMENT(S) Who is your customer?** CS

Farmers are our main customers. We only focus on farmers.

**6. CUSTOMER CONSTRAINT.** CC
**What constraint prevents your customer from taking action or limiting their choice of solution?**

This may include very few constraints like power management from solar during rainy days, periodic change of on ground sensors, lack of internet connectivity for remote monitoring.

**5. AVAILABLE SOLUTION** AS
**Which solutions are available to the customer when they face the problem.**

There are various solutions that are available in the market right now like controllers for automated irrigation systems that work by sensing the soil moisture, solenoid values for automed change of water path.

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** ● Pest control.

- Timely irrigation.
- Constant nutrient monitoring.
- Estimated time for cultivation.
- Additional nutrient supplements.
- Estimated crop yield.
- Environment monitoring.

**9. PROBLEM ROOT CAUSE.** RC
**What is the real reason that the problem exists?**

The only real reason that this problem exists is the lack of awareness and ratio of proven results which could create trust over the system.

**7. BEHAVIOR** BE
**What does your customer do to address the problem and get the job done.**

This includes various calculation parameters before installing the system in the farm:

- Soil testing.
- Source for power.
- Right supplies.
- Land area calculation.
- Right appliances for the right size

Focus on J&P, Tap into BE, Understand RC

**3. TRIGGERS** ER
**What triggers customers to act.**

- Seeing nearby adopting better agriculture practice.
- Better income rates.
- Better yield.

**10. YOUR SOLUTION** RC

Our solution involves autonomous system which does the following:

- Automated irrigation (Only on demand).
- Pest reminders.
- Autonomous weather monitoring.

**8. CHANNELS of BEHAVIOR** CH
**8.1. ONLINE**

The online channels are used for remote monitoring of crops, this includes the transfer of data like humidity, temperature, soil moisture, NTP server for date and time etc,.

**8.2. OFFLINE**

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| Identify string TR & ME | **4. EMOTIONS: BEFORE/AFTER**<br>**How do customers feel when they face a problem or a job and afterwards.**<br>● Feeling motivated.<br>● Stable income.<br>● Happy to work.<br>● Feeling comfortable with the practices | TM | ● Change the irrigation pattern automatically based on the rain cycle.<br>● Estimated crop income.<br>● Estimated yield.<br>● Remote monitoring.<br>● Continuous soil nutrients monitoring. | The offline channels include various parameters like the type of crop grown., date of sowing, approximate expenditure at each phase, irrigation control, these could be operated offline. |
| | | | | Identify string TR & ME |