Project Design Phase-I - Solution Fit

Project Title: SmartFarmer - IoT Enabled Smart Farming Application

Team ID: PNT2022TMID09732

1. CUSTOMER SEGMENT(S) Farmers who depend on himself for irrigation Farmers who are using automated irrigation system	**2. JOBS-TO-BE-DONE / PROBLEMS** Watering the crop is one of the important tasks for the farmers but using automated irrigation system leading to over irrigation causing leaching of nitrogen and other micro nutrients and water loss.	**3. TRIGGERS** Farmers are trying to make a life out of yielding but crops get withered due to the delayed irrigation and using automated irrigation led to water loss and nutrients loos, so they need to take action to avoid losses.
4. EMOTIONS: BEFORE / AFTER Farmers feel frustrated when they find the crops are withered > They feel Satisfied.	**5. AVAILABLE SOLUTIONS** Agriculture monitoring and irrigation system by cropx are the best solution available in the market today. They optimize the input applications, leading to significant water, fertilizer, energy, and labor savings. CropX's technology has been validated in the field with over 30% water savings using IoT tech stack and provide the exact data to the end user with best understandability.	**6. CUSTOMER CONSTRAINTS** The customers are sometimes unaware of the products like these. The fear of cost and effectiveness are some factors. Some might think that this system might affect the crop production
7. BEHAVIOUR The customers find the best product to implement. They will calculate the effectiveness and efficiency of the product in both detection and Data delivery. They will try to implement the system and put efforts to contain the situation of contamination.	**8. CHANNELS of BEHAVIOUR** **8.1 ONLINE** The customers try to search online about any products or methods to solve the problem **8.2 OFFLINE** The customers try to implement the systems available by comparing the products available and tries to find the best method to solve the problem	**9. PROBLEM ROOT CAUSE** The main problem in this case is the over irrigation in smart farming and delayed irrigation due to absence farmer near the field.
10. YOUR SOLUTION To avoid the automated irrigation system result in over irrigation, we as a team proposing a solution that when moisture in field falls and temperature rises, the automated irrigation will be activated but before the activation of automated irrigation system, the alert will be sent to the farmer using mobile application and let the farmer to decide whether to irrigate or not. In a situation when the farmer is not in field, if he needs to irrigate, the farmer can use mobile or web application to activate the water pump to irrigate and also by using some sensors, the fertilizer deficiency can be monitored.		