

# Project Design Phase-I - Solution Fit

Project Title: SmartFarmer - IoT Enabled Smart Farming Application

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Define CS, fit into CC	<p>1. CUSTOMER SEGMENT(S) <b>CS</b></p> <p>Farmers</p>	<p>6. CUSTOMER CONSTRAINTS <b>CC</b></p> <p>Manual monitoring is time consuming.</p> <p>Lot of manpower is required.</p> <p>Soil nature parameters are not known.</p> <p>Expensive.</p> <p>Crop yield is poor.</p>	<p>5. AVAILABLE SOLUTIONS <b>AS</b></p> <p>Automatic irrigation.</p> <p>Limited number of sensors are considered.</p> <p>High cost.</p> <p>Tough installation.</p>	Explore AS, differentiate
Focus on J&P, tap into BE, understand RC	<p>2. JOBS-TO-BE-DONE / PROBLEMS <b>J&amp;P</b></p> <p>Measure values of humidity, moisture, pH and temperature automatically instead of manual measurements.</p> <p>Automatic irrigation system based on the soil nature values.</p> <p>Get to know the values from anywhere around the world using an app.</p> <p>Get a better crop yield.</p>	<p>9. PROBLEM ROOT CAUSE <b>RC</b></p> <p>Unpredictable environmental factors.</p> <p>Unknown data about soil pH, moisture, humidity and temperature.</p> <p>Manual operations like irrigation, pest control requiring lot of manpower</p> <p>Inadequate knowledge about soil conditions so factors like over irrigation occurs.</p>	<p>7. BEHAVIOUR <b>BE</b></p> <p>Farmers cannot predict the weather by themselves.</p> <p>Focus their major concentration on crop yield.</p> <p>Avoid unwanted loss of water, pesticides and time.</p>	Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	<p>3. TRIGGERS <b>TR</b></p> <p>Gives frequent updates on the parameters to the farmers, based on which automatic irrigation takes place.</p> <p>Crops get a better yield.</p> <p>4. EMOTIONS: BEFORE / AFTER <b>EM</b></p> <p>Before: Physical monitoring Improper irrigation</p> <p>After: Automatic system monitoring Irrigation based on sensor values</p>	<p>10. YOUR SOLUTION <b>SL</b></p> <p>Sensors to measure temperature, pH, moisture and humidity are deployed which send the values to an app where the user can view them. Based on these values, automatic irrigation systems are developed. Weather APIs are used to predict the weather and corresponding actions can be taken by the farmer using the app itself. All operations are automated and can also be operated using the app from anywhere and anytime.</p>	<p>8. CHANNELS of BEHAVIOUR <b>CH</b></p> <p>8.1 ONLINE</p> <p>Analyses the parameter values and starts automatic triggers and alerts the user via the app.</p> <p>8.2 OFFLINE</p> <p>Sensors present in the farm monitor the soil values such as moisture, humidity, pH and temperature.</p>	Extract online & offline CH of BE