

Project Design Phase

Problem - Solution Fit

Date	31 January 2025
Team ID	PNT2025DMIT01163
Project Name	Predicting Plant Growth stages with Environmental and Management Data Using Power BI
Maximum Marks	4 Marks

PROBLEM-SOLUTION FIT

Define CS, fit into CL	01. CUSTOMER SEGMENTS Farmers: small, medium, and large-scale farmers looking for real-time insights to optimize their agricultural processes	06. CUSTOMER LIMITATIONS (e.g. budget, devices) Despite the need for data-driven decision-making in agricultural, several constraints exist. Limited access to technology: Many farmers lack the infrastructure to use advanced digital tools.	05. AVAILABLE SOLUTIONS (pulses & minuses) Currently, farmers use various tools and methods, they have limitations. Basic weather prediction that do not consider real time soil and crop conditions.	Explore AS, differentiate
	02. PROBLEM/PAINS (+ its frequency) Farmers and agribusinesses need to system that allow them to: Monitor real time environmental conditions such as temperature humidity and soil moisture. Make data-driven decisions on irrigation, fertilization and harvesting.	09. PROBLEM ROOT/CAUSE Farmers do not have a single platform that combines weather soil and crop health data. Available solutions operating silos, requiring farmers to use multiple disconnected platforms.	07. BEHAVIOR (+ its intensity) Rely on experience-based decision-making, leading to inefficiencies. Use multiple, integrated platforms for weather updates, soil testing and farm management. Struggle with real-time response to environmental changes leading to potential crop losses.	Focus on PR, tap into BE, understand RC
Focus on PR, tap into BE, understand RC	03. TRIGGERS TO ACT Unpredictable weather patterns: Climate change has made traditional farming practices less reliable. Increasing demand for precision farming: To improve yields and reduce environmental impact, data-driven farming is becoming essential	10. SOLUTION A power BI based dashboard that integrates real-time data from weather APIs, soil sensors, and farm management systems. Interactive visualizations and predictive analytics to help farmers make inform decisions. Mobile-friendly and offline-accessible features for remote areas with limited connectivity.	08. CHANNELS OF BEHAVIOR (ONLINE) Weather apps for forecasts but without integration with soil data. Manual soil testing, which takes time and effort. Government advisories, which may not be personalized or time.	Focus on PR, tap into BE, understand RC
	04. EMOTIONS (before/after) Frustration due to unpredictable weather and soil conditions. Stress over potential crop losses and inefficient resource use. Confidence in data-driven farming decisions. Peace of mind with accurate and real-time insights.		11. CHANNELS OF BEHAVIOR (OFFLINE) Local storage for critical data in case of limited internet access. Mobile-friendly reports that allow farmers to access insights even in remote areas.	
Identify strong TR, & EM			Extract, online & offline CH & BE	