

Project Design Phase-I

Problem – Solution Fit

Template

Date	19 September 2022
Team ID	PNT2022TMID01830
Project Name	Project: Smart farmer -IOT enabled smart farming application

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why

Purpose:

- ❑ Solve complex problems in a way that fits the state of your customers.
- ❑ Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- ❑ Sharpen your communication and marketing strategy with the right triggers and messaging.
- ❑ Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- ❑ Understand the existing situation in order to improve it for your target group.

Template:

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 yrs. kids. Smart farmer app is used by farmers.	6. CUSTOMER CONSTRAINTS CC What constraints prevent you or customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, no smart connect on available devices. The farmers are skeptical about the automated systems and thought that the traditional way of irrigation is best suited for them. The farmers are having the mentality that if they irrigate with more water, then they get high yield. Breaking the attitude of farmer is a big challenge.	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 is an alternative to digital note-taking. Drip irrigation involves placing tubing with emitters on the ground alongside the plants. The emitters slowly drip water into the soil at the root zone. Pros: <ul style="list-style-type: none"> Saves water by minimizing evaporation. Can be used in irregular shaped fields. Cons: <ul style="list-style-type: none"> Maintenance is required to keep system going. Chewing on tubing from insects and rodents can cause water leaks. 	Explore AS, differentiate
	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 ones. <ul style="list-style-type: none"> Better control over the internal processes and, as a result, lower production risks. Cost management. Waste reduction. 	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? i.e. customers have to do it because of the change in regular crop. It is difficult for farmers to monitor everything manually. Poor Irrigation facilities is the major issue. In traditional irrigation system, water saving is not considered. Since the water is irrigated directly in the land, plants under go high stress from variation in soil moisture. There are increasing pressures from climate change, soil erosion and biodiversity loss and from consumers' changing tastes in food and concerns about how it is produced.	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? i.e. directly related: find the right soil or paper; install, calculate usage and benefits; indirectly associated: customers spend less time on tedious work (i.e. Greenpeace). Fields are graded to slope gradually (or may even be terraced) away from the water source, so the water moves through the entire area. Crops are typically mounded in parallel beds, so the water flows easily down furrows between plant roots.	
Focus on J&P, tap into BE, understand RC	3. TRIGGERS TR What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. Smart farming triggers the farmers because it provides better understand about important factor such as irrigation. This allows farmers to determine the best uses of scarce resources within their production environment and manage these in an environmentally and economically sustainable manner. Smart farming reduces the ecological footprint of farming. This approach gives farmers tools and strategies to improve yields and sustainability.	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 with: canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. In smart farmer application, automated systems or intelligent pumps are used. Soil moistures sensors are used in different areas to get the moisture of the soil in agricultural land. Based on the results from the soil moisture sensors, the intelligent pumps are turned on/off.	8. CHANNELS OF BEHAVIOUR CH K1. ONLINE What kind of actions do customers take online? Extract online channels from #7. The sensors interact with each other through Internet connection. The data collected from the sensors are sent to the Web server which is accessed using internet connection. K2. OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. The system can automatically start the irrigation, which stops after achieving the specified threshold value of soil moisture.	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design. Farmers are affected by various factor like water which is beyond the control. So, this technology helps farmer to cope with climate change, soil erosion and crop loss effectively.			