

Project Design Phase-I Problem – Solution Fit

Date	19 September 2022
Team ID	PNT2022TMID36156
Project Name	Project – Real Time River Water Quality Monitoring and Control System
Maximum Marks	2 Marks

Problem – Solution Fit :

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) <small>Who is your customer? i.e. working parents of 0-5 y.o. kids</small>	6. CUSTOMER CONSTRAINTS <small>What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.</small>	5. AVAILABLE SOLUTIONS	Explore AS, differentiate
	<ul style="list-style-type: none"> ➤ Aqua ponics ➤ Dam safety organisation (SDSO) ➤ Fish culture (Pisciculture) ➤ Wholesaler of mineral water 	<ul style="list-style-type: none"> ➤ Sensors are used ➤ Compact in size ➤ Clouds for storage purpose ➤ Consumes low power 	<ul style="list-style-type: none"> ➤ The technology develops a means to supervise and track river water in real time so that quality and flow can be maintained to use less electricity and deliver at a lower cost ➤ The device will be small and simple to operate and cons is Device use without sufficient network connection 	
Focus on J&P, tap into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS <small>Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.</small>	9. PROBLEM ROOT CAUSE <small>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 regulations.</small>	7. BEHAVIOUR	Focus on J&P, tap into BE, understand RC
	<ul style="list-style-type: none"> ➤ To control the flow of water using IOT ➤ To identify the ph value and mineral content in the water ➤ To identify the presents of algal bloom in the tank or water bodies ➤ The quality , quantity and temperature of the water can be maintained 	<ul style="list-style-type: none"> ➤ It involves improper upkeep of the water supply and inappropriate upkeep of the people. ➤ Lack of system administration and upkeep is the problem. ➤ It uses a lot of electricity 	<ul style="list-style-type: none"> ➤ To recognise the tank's algae growth. checks the PH level, mineral content, temperature, water flow direction, and water quantity. ➤ These are portable and are easily maintainable. ➤ It uses less data and power. Additionally, it might serve as a reference for the best safety steps to take. 	
Identify strong TR & EM	3. TRIGGERS <small>What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.</small>	10. YOUR SOLUTION	8. CHANNELS of BEHAVIOUR	Extract online & offline CH of BE
	<ul style="list-style-type: none"> ➤ They are able to recognise the issue with the water without anyone's assistance. ➤ It uses little energy and is small in size. Customers will find it easy to use 		8.1 ONLINE <small>What kind of actions do customers take online? Extract online channels from #7</small> <ul style="list-style-type: none"> ➤ The cloud storage can be used to regulate water flow. 	
4. EMOTIONS: BEFORE / AFTER <small>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.</small>			8.2 OFFLINE <ul style="list-style-type: none"> ➤ The proposed system includes a number of sensors to test and guarantee the water's quality based on factors including pH, temperature, conductivity, turbidity, and arduino. 	