

## Project Design Phase

### Problem – Solution Fit Template

Date	27 June 2025
Team ID	LTVIP2025TMID49866
Project Name	Visualization Tool for Electric Vehicle Charge and Range Analysis
Maximum Marks	2 Marks

#### 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:

<b>1. CUSTOMER SEGMENT(S)</b> Who is your customer? (i.e. working parents of 2-5 y.o. kids)	<b>CS</b>	<b>6. CUSTOMER CONSTRAINTS</b> What constraints prevent your customers from taking action to find their solution? (i.e. spending power, budget, no cash, network connection, available devices)	<b>CC</b>	<b>5. AVAILABLE SOLUTIONS</b> 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 price & time do these solutions have? (i.e. pen and paper is an alternative to digital notetaking)	<b>AS</b>
Define CS, fit into CC					Explore AS, differentiate
<b>2. JOBS-TO-BE-DONE / PROBLEMS</b> Which job-to-be-done (or problems) do you address for your customer? There could be more than one, explore different sides.	<b>JBP</b>	<b>9. PROBLEM ROOT CAUSE</b> What is the real reason that this problem exists? What is the back story behind the need to do this JBP? (i.e. customers have to do it because of the change in regulations)	<b>RC</b>	<b>7. BEHAVIOUR</b> What does your customer do to address the problem and get the job done? (i.e. directly related: find the right solar panel installer, calculate usage and benefit; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace))	<b>BE</b>
Focus on JBP, fit into BE, understand RC					Focus on JBP, fit into BE, understand RC
<b>3. TRIGGERS</b> What triggers customers to act? (i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news)	<b>TR</b>	<b>10. YOUR SOLUTION</b> If you are working on an existing business, write down your current solution from fit to the canvas, and check how much it fits really. If you are working on a new business proposition, then keep it blank until you fit in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.	<b>SL</b>	<b>8. CHANNELS of BEHAVIOUR</b> <b>8.1 ONLINE</b> What kind of actions do customers take online? Extract online channels from #7	<b>CH</b>
Identify strong TR & EM				<b>8.2 OFFLINE</b> What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.	Extract online & offline CH of BE
<b>4. EMOTIONS: BEFORE / AFTER</b> How do customers feel when they face a problem or a job and afterwards? (i.e. Safe, insecure + confident, in control + out of it in your communication strategy & design)	<b>EM</b>				

## Example: Visualization Tool for Electric Vehicle Charge and Range Analysis

Define CS, fit into CC	<b>1. Customer Segment(s)</b> <span>CS</span> <ul style="list-style-type: none"><li>Urban EV owners (individuals &amp; fleet operators)</li><li>Commercial establishments hosting charging stations</li><li>Municipal corporations &amp; urban planning authorities</li><li>Real estate developers (residential/commercial)</li><li>Ride-sharing/taxi operators transitioning to EVs</li></ul>	<b>6. Customer Constraints</b> <span>CC</span> <ul style="list-style-type: none"><li>Adoption Barriers:</li><li>High upfront cost of EVs</li><li>Limited parking space for charging</li><li>Lack of standardized payment systems</li><li>Technical knowledge gap about charging</li><li>Grid reliability concerns</li></ul>	<b>5. Available Solutions</b> <span>AS</span> <p>Current Alternatives:</p> <ol style="list-style-type: none"><li>Home charging (limited to homeowners)</li><li>Workplace charging (limited availability)</li><li>Public charging stations (sparse network)</li><li>Battery swapping stations (emerging)</li><li>Petrol/diesel vehicles (status quo)</li></ol>	Explore AS, differentiate
	<b>2. JOBS-TO-BE-DONE/PROBLEMS</b> <span>J&amp;P</span> <p>Key Problems Addressed:</p> <ol style="list-style-type: none"><li>Range anxiety due to insufficient charging infrastructure</li><li>Long wait times at existing charging stations</li><li>Inconsistent charging standards across locations</li><li>Lack of real-time availability information</li><li>High upfront costs for private charging installation</li></ol>	<b>9. Problem Root Cause</b> <span>RC</span> <ul style="list-style-type: none"><li>Underlying Issues:</li><li>Fragmented market with multiple standards</li><li>High capital expenditure for infrastructure</li><li>Lack of coordinated urban planning</li><li>Slow ROI discouraging private investment</li><li>Inadequate power grid capacity in some areas</li></ul>	<b>7. Behavior</b> <span>BE</span> <p>Current Customer Behavior:</p> <ul style="list-style-type: none"><li>Planning routes around known charging points</li><li>Carrying multiple adapter types</li><li>Charging whenever opportunity arises</li><li>Using mobile apps to locate stations</li><li>Forming community knowledge sharing groups</li></ul>	
Focus on J&P, tap into BE, understand RC	<b>3. Triggers</b> <span>TR</span> <ul style="list-style-type: none"><li>Purchase of first EV</li><li>Experiencing range anxiety during trips</li><li>Government incentives for EV adoption</li></ul>	<b>10. Your Solution</b> <span>SL</span> <p>Smart Charging Network:</p> <ul style="list-style-type: none"><li>Interoperable payment system</li><li>Real-time availability monitoring</li><li>Dynamic pricing based on demand</li></ul> <p>Modular Charging Hubs:</p> <ul style="list-style-type: none"><li>Scalable installations</li><li>Mixed charger types (AC/DC)</li><li>Solar-integrated options</li></ul>	<b>8. CHANNELS of BEHAVIOUR</b> <span>CH</span> <p><b>8.1 ONLINE</b></p> <ul style="list-style-type: none"><li>EV owner forums and groups</li><li>Charging station finder apps</li><li>Government information portals</li><li>Social media communities</li></ul> <p><b>8.2 OFFLINE</b></p> <ul style="list-style-type: none"><li>Word-of-mouth recommendations</li><li>Dealership education programs</li><li>Public awareness campaigns</li><li>Workplace EV initiatives</li></ul>	Extract online & offline CH of BE
	<b>4. Emotions: Before/After</b> <span>EM</span> <p>Before Solution:</p> <ul style="list-style-type: none"><li>Anxiety about finding charging points</li><li>Frustration with incompatible chargers</li></ul> <p>After Solution:</p> <ul style="list-style-type: none"><li>Confidence in completing journeys</li><li>Satisfaction with seamless charging</li></ul>			
Identify strong TR & EM				