

## Project Design Phase

### Problem – Solution Fit Template

Date	26 <sup>th</sup> June 2025
Team ID	LTVIP2025TMID49433
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:

Define CS, fit into CC	<p><b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span></p> <p>Who is your customer?          I.e. working parents of 0-5 y.o. kids</p>	<p><b>6. CUSTOMER CONSTRAINTS</b> <span>CC</span></p> <p>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.</p>	<p><b>5. AVAILABLE SOLUTIONS</b> <span>AS</span></p> <p>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 &amp; cons do these solutions have? I.e. pen and paper is an alternative to digital notetaking</p>	Explore AS, differentiate
	<p><b>2. JOBS-TO-BE-DONE / PROBLEMS</b> <span>J&amp;P</span></p> <p>Which jobs-to-be-done (or problems) do you address for your customers?          There could be more than one; explore different sides.</p>	<p><b>9. PROBLEM ROOT CAUSE</b> <span>RC</span></p> <p>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.</p>	<p><b>7. BEHAVIOUR</b> <span>BE</span></p> <p>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)</p>	
Focus on J&P, tap into BE, understand RC	<p><b>3. TRIGGERS</b> <span>TR</span></p> <p>What triggers customers to act? I.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.</p>	<p><b>10. YOUR SOLUTION</b> <span>SL</span></p> <p>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 in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.</p>	<p><b>8. CHANNELS of BEHAVIOUR</b> <span>CH</span></p> <p><b>8.1 ONLINE</b>          What kind of actions do customers take online? Extract online channels from #7</p>	Extract online & offline CH of BE
	<p><b>4. EMOTIONS: BEFORE / AFTER</b> <span>EM</span></p> <p>How do customers feel when they face a problem or a job and afterwards?          I.e. lost, insecure &gt; confident, in control - use it in your communication strategy &amp; design.</p>		<p><b>8.2 OFFLINE</b>          What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.</p>	
Identify strong TR & EM				

## 1. CUSTOMER SEGMENT(S)

Who is your customer?

- EV buyers and enthusiasts
  - Policy makers in transportation and sustainability
  - Researchers and data analysts
  - Urban mobility planners
  - Automotive industry observers
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## 2. JOBS-TO-BE-DONE / PROBLEMS

Which jobs-to-be-done (or problems) do you address?

- Difficulty comparing EV models based on performance, price, and range
  - Lack of visibility on charging station locations and density
  - Inability to visualize EV market trends using clean data
  - Manual effort required to gather and interpret fragmented EV data
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## 3. TRIGGERS

What triggers customers to act?

- Rising fuel prices and push toward sustainable mobility
  - Demand for convenient long-distance travel options
  - Government incentives and EV adoption schemes
  - Interest in EV performance vs. cost before making a purchase
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## 4. EMOTIONS: BEFORE / AFTER

How do customers feel when facing the problem or after solving it?

- **Before:** Confused, overwhelmed, hesitant to decide
  - **After:** Informed, empowered, confident in EV adoption and planning
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## 5. AVAILABLE SOLUTIONS

What solutions exist today?

- Static comparison websites and blog articles

- EV company portals showing limited data
  - Government or third-party charging locator apps
  - Generic product review platforms
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## **6. CUSTOMER CONSTRAINTS**

### **What prevents customers from acting?**

- Lack of technical knowledge to interpret datasets
  - Inaccessible or non-visual data formats
  - Fragmentation of EV data across various platforms
  - Internet dependency for map-based tools
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## **7. BEHAVIOUR**

### **What actions do customers take to solve the problem today?**

- Refer to multiple review sites and brand pages
  - Manually compare EV specs using Excel or notes
  - Use maps or mobile apps to check charging station availability
  - Ask peers or online forums for personal experiences
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## **8. CHANNELS OF BEHAVIOUR**

**8.1 ONLINE:** EV review portals, OEM websites, YouTube reviews, blog articles, comparison tools

**8.2 OFFLINE:** Car dealerships, EV expos, word-of-mouth advice from current EV owners

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## **9. PROBLEM ROOT CAUSE**

### **Why does the problem exist?**

- Lack of a unified, visual tool aggregating multiple EV datasets
  - Disparate sources of technical specs and geographic charger data
  - Absence of easy-to-use public dashboards for exploration and filtering
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## **10. YOUR SOLUTION**

### **What is your solution?**

- A Tableau-based interactive dashboard for EV range and charging analysis
- Merges multiple real-world datasets into a single visualization platform
- Provides filters for range, price, efficiency, brand, and charging stations

- Embeds into a web interface accessible to any user, anywhere