Project Design Phase

Problem – Solution Fit Template

Date	24 june 2025
Team ID	**LTVIP2025TMID49786**
Project Name	Visualizing Housing Market Trends An Analysis of Sale Prices and Features using Tableau
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 behavioural 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:

1. CUSTOMER SEGMENT(S) — CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

- Real estate analysts
- Home buyers & investors
- Real estate agencies
- Urban planners
- Policy makers

Define CS, fit into CC

6. CUSTOMER CONSTRAINTS — CC

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.

Lack of technical/data analysis skills
No access to real-time data
Time-consuming traditional methods
High cost of professional tools or consultancy

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 notetaking

Static reports from brokers
Property listing websites
Excel spreadsheets used by analysts
Pen and paper comparisons

But these lack dynamic visuals and real-time insights.

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 sides.

- Difficulty in understanding property pricing trends
- Lack of visual, easy-to-digest data on real estate markets
- Inability to compare housing features and their effect on price
- Hard to predict market fluctuations

Focus on J&P, tap into BE, understand RC

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 regulations.

Raw housing data is available but not understandable
Lack of data visualization skills in common users
Gap between data availability and actionable insights

7. BEHAVIOUR — BE

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 benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

Manually compare listings
Consult agents
Rely on outdated reports
Use basic filters on property websites
Ask peers for opinions

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.

Seeing peers using real estate dashboards
Urban planning initiatives

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.

Before: Confused, unsure, overwhelmed with raw data
After: Informed, confident, in control of buying/investment decisions

Identify strong TR & EM

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 in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

A Tableau dashboard that visually analyzes housing sale prices and features
Dynamic filters to compare prices by area, size, year, number of rooms, etc.

8. CHANNELS of BEHAVIOUR — CH

8.1 ONLINE
What kind of actions do customers take online? Extract online channels from #7

Tableau dashboards shared on blogs or LinkedIn

8.2 OFFLINE
What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.

Broker consultations
Real estate expos

Extract online & offline CH of BE

Proposed Solution Template

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Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Inefficient waste collection in urban areas leads to overflowing bins,health hazards,and increased operational costs for municipal bodies.
2.	Idea / Solution description	Develop a Smart Waste Management System using IoT-enabled bins that send real-time data to a central dashboard.This helps optimize collection routes,monitor fill levels,and reduce costs.
3.	Novelty / Uniqueness	The system uses real-time data from sensors and applies machine learning to predict bin fill times,enabling predictive route planning .It also includes a citizen feedback app for better civic participation.
4.	Social Impact / Customer Satisfaction	Reduces urban pollution,promotes hygiene,and increases civic satisfaction. The solution empowers citizens and boosts municipality performance.
5.	Business Model (Revenue Model)	B2B model: Sell the system to municipal corporations or private waste contractors on a subscription basis. Additional revenue from analytics insights and app-based advertisements.
6.	Scalability of the Solution	Easily scalable to new cities by replicating the model with minimal adjustments. Cloud-based infrastructure supports large-scale deployment and multi-city monitoring.

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● **Example - Solution Architecture Diagram:**

V/isuilizing Housing market Trends

Anlasec ancd **visual**ize housing ing sale prices and features

Goals

- Identify housing price trends and influencing features
- Present data-driven insights to stakeholders
- Enable easy data refresh, scalable analysis and secure access

Solution Components

Data Sources
- Real estate datasets (CSV/API)
- External APIs (for location, interest rate, damographics

ETL Process
- AWS Glue / Apache Airflow / Python scripts

Data Storage
- Raw Data: AMS AR/S RDS or Snowtlake

Data Visualization
- **Tablau: Tau**alue Amazoun RDS (Auzore Blob)

Monitoring & Logging
- CloudWatch / StackDriver / Azure Monitor

CSV/API (hous/Ing) → ETL Proces Python/Glue → CTalauɑɪ Dashoocess → End Users (Web)