

Project Design Phase

Problem – Solution Fit Template

Date	27 June 2025
Team ID	LTVIP2025TMID32124
Project Name	Sustainable Smart City Assistant Using IBM Granite LLM
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:

Problem-Solution Fit canvas		Purpose / Vision	Version:
1. CUSTOMER SEGMENT(S) CS Urban municipal officers, water board staff, traffic management teams, environmental NGOs, and citizens concerned with sustainable urban development.	6. CUSTOMER LIMITATIONS CL EG. BUDGET, DEVICES Lack of AI tools - Poor integration with existing systems - Budget or training constraints for new tech	5. AVAILABLE SOLUTIONS AS PROS & CONS Traditional route maps - Basic Excel-based waste/water reports - Static traffic plans not based on real-time data	
2. PROBLEMS / PAINS + ITS FREQUENCY PR Analyze waste data and optimize disposal methods - Predict future water usage trends and shortages - Analyze and optimize city traffic routes using coordinate data	9. PROBLEM ROOT / CAUSE RC No centralized AI system for holistic analysis - Lack of technical expertise or real-time data mapping	7. BEHAVIOR + ITS INTENSITY BE Officers manually check Excel files - Residents post complaints on social media - Delayed responses due to reactive planning	
3. TRIGGERS TO ACT TR Increase in uncollected waste complaints - Water scarcity reports in urban zones - Congestion and citizen frustration with city traffic	10. YOUR SOLUTION SL A web app powered by the IBM Granite LLM, with modules for: - Smart Waste Management (PDF upload → AI response) - Water Prediction System (CSV upload → trends + charts) - Traffic Route Optimizer (coordinates → route map + suggestions)		8. CHANNELS of BEHAVIOR CH ONLINE Email, phone, or local apps - WhatsApp or physical reports for complaints - No AI-enabled dashboards in use OFFLINE
4. EMOTIONS BEFORE / AFTER EM Before: Helpless, overwhelmed by disorganized data, poor visibility - After: Confident, proactive with insights, data-backed decisions			