

Project Design Phase
Problem – Solution Fit Template

Date	27 June 2025
Team ID	LTVIP2025TMID36584
Project Name	cleantech: transforming waste management with transfer learning
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.**
- ☐

Example: cleantech: transforming waste management with transfer learning

Problem-Solution fit canvas 2.0

Purpose / Vision

Define CS, fit into	1. CUSTOMER SEGMENT(S) CS <ul style="list-style-type: none"> Municipal waste management departments Recycling plant operators Environmentally conscious urban citizens Educational institutions promoting sustainability 	6. CUSTOMER CC <p>What limitations do your users face?</p> <ul style="list-style-type: none"> Lack of technical knowledge Limited internet or smart device access (in some cases) Budget limitations for advanced hardware like smart bins Time constraints for manually learning how to segregate correctly 	5. AVAILABLE SOLUTIONS AS <p>What do customers use currently?</p> <ul style="list-style-type: none"> Manual waste sorting Printed posters/signage above bins Mobile apps with static waste guidelines Occasional training or awareness drives <p>Limitations of existing solutions:</p> <ul style="list-style-type: none"> Inaccuracy, human dependency, not real-time, not scalable 	Explore AS, AS
	2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none"> Incorrect waste segregation at the source Difficulty in identifying recyclable vs. non-recyclable materials Manual sorting is time-consuming and error-prone Lack of awareness or tools to assist in waste classification 	9. PROBLEM ROOT CAUSE RC <p>Why does this problem exist?</p> <ul style="list-style-type: none"> Waste is diverse and often unlabelled Citizens are not trained in waste categorization No real-time support or verification available at the time of disposal Increasing urban waste volumes demand faster solutions 	7. BEHAVIOUR BE <p>What do they currently do to solve the problem?</p> <ul style="list-style-type: none"> Try to guess bin categories based on labels Ask others or check the packaging for symbols Occasionally misuse bins due to lack of clarity Rarely use digital tools for classification 	
Identify strong TR & EM	3. TRIGGERS TR <ul style="list-style-type: none"> Seeing overfilled bins with mixed waste News or campaigns about sustainable practices Regulations around waste sorting (e.g., fines or mandates) Installation of smart bins in a locality Frustration due to lack of clear disposal guidelines 	10. YOUR SOLUTION SL <p>CleanTech - Transforming Waste Management with AI</p> <ul style="list-style-type: none"> A web-based tool that uses AI and transfer learning (MobileNetV2) to classify images of waste into: <ul style="list-style-type: none"> Recyclable, Biodegradable, and Trash Users upload an image via mobile or desktop and get instant feedback Can be integrated with smart bins and mobile apps Offers scalable, real-time, low-cost classification without manual effort 	8. CHANNELS of BEHAVIOUR CH <p>8.1 ONLINE:</p> <ul style="list-style-type: none"> Web search for "how to dispose XYZ" Use of environmental forums or mobile apps (rarely) Social media awareness posts <p>8.2 OFFLINE:</p> <ul style="list-style-type: none"> Rely on local signage or community awareness Observe what others are doing at disposal points Listen to instructions from garbage collectors or housing staff 	Extract online & offline CH or BE
	4. EMOTIONS: BEFORE / AFTER EM <p>Before: Confused, frustrated, unsure, guilty about wrong disposal After: Confident, empowered, environmentally responsible, relieved</p>			



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References: <https://www.ideahackers.network/problem-solution-fit-canvas/>