**Project Design Phase**

**Problem – Solution Fit Template**

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| Date | 29 June 2025 |
| Team ID | LTVIP2025TMID44727 |
| Project Name | CleanTech: Transforming Waste Management with Transfer Learning |
| Maximum Marks | 2 Marks |

### **Template**

| **S.No.** | **Parameter** | **Details / Description** |
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| 1 | Customer Problem | Inefficient and inaccurate waste segregation leads to increased environmental pollution and higher processing costs. |
| 2 | Customer Behavior | Customers and waste management workers often manually sort waste, leading to errors and inconsistent categorization. |
| 3 | Proposed Solution | Implement a transfer learning-based image classification system that automatically and accurately classifies waste types (biodegradable, recyclable, trash). |
| 4 | Fit Between Problem & Solution | The solution automates and simplifies waste classification, aligning perfectly with the need to reduce manual errors and improve sorting speed. |
| 5 | Channels & Mediums | Web and mobile applications deployed to municipalities and waste management companies; integration with existing waste processing systems. |
| 6 | Value Proposition | Improved accuracy and efficiency in waste classification, reducing landfill waste, lowering costs, and promoting environmental sustainability. |