Project Title: Smart Waste Management System for Metropolitan Cities | **Project Design Phase-I - Solution Fit Template** | **Team ID:** PNT2022TMID18433

Define CS, fit into CC

1. CUSTOMER SEGMENT(S) — CS

Municipality and Local authorities of Metropolitan cities of India are our customers.

6. CUSTOMER CONSTRAINTS — CC

1. Availability of internet all the time for data updation.
2.Constant power supply for the product.
3.Need proper maintenance of the product.
4.Product need to be in a compact size.

5. AVAILABLE SOLUTIONS — AS

1.Recycling
2.Knowing location of garbage bins for better resource management.
3. Smart loader trucks
4. Segregation of biodegradable and non-biodegradable waste for better waste management.

Explore AS, differentiate

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

2. JOBS-TO-BE-DONE / PROBLEMS — J&P

1. monitoring the levels of bins and alerting the user to clean provide location of the bin.
2. improper placement of garbage bins.
3. Proper Segregation of wastes.
4. Avoid fixed routine for waste Collection.

9. PROBLEM ROOT CAUSE — RC

1. Workers unawareness of amount of garbage in bins leads to messy environment.
2. Following the regular routine is not effective all the time i.e., Garbage bins fill faster in holidays which cause overflow of garbage from bins.
3. Wastage of resource like fuel labour i.e., need to visit the place even the garbage bin is not full

7. BEHAVIOUR — BE

1.Find the required sensor based on the requirements and get the expected results.
2.Verify whether the cloud database giving the correct information to check the correctness of sensors is must and webapp should be updated at each instance.

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

3. TRIGGERS — TR

1. Motivate & influence people to follow proper waste disposal.
2. Reading about more advanced technologies used by the people in the other countries to manage waste.

10. YOUR SOLUTION — SL

1.Ultrasonic sensor to detect the level of garbage in bins.
2.Weight sensor to obtain the weight of garbage bins
3.Combining the result of ultrasonic sensor and weight

8. CHANNELS of BEHAVIOUR — CH

8.1 Online
1. We can monitor in live.
2. People can give complaints and feedback about the work.
3. A customer can also notify the receivers where the

Identify strong TR & EM

4. EMOTIONS: BEFORE / AFTER EM

Before: Unclean environment, Improper timings

After: Clean environment, Time and resource management

sensor the result is produced.

4.Cloud is used for data processing which ensures scalability.

5.Use of GPS to know the location of filled garbage bin.

smart bins about to fill.

8.2 Offline

1. Taking necessary action on collecting the garbage regularly.

2. A customer would not fill their waste in unwanted place. Place their waste in right bins.

Identify strong TR & EM