Project Title: Smart Waste Management System for Metropolitan Cities

Project Design Phase-I - Solution Fit

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Define CS,fit into CC

1.CUSTOMER SEGMENT(S) — CS

1. People who reside near the dumpsters
2. Stray animals
3. Municipalities
4. Labors who collect the garbage

6.CUSTOMER CONSTRAINTS — CC

1. Budget
2. Time
3. Odour
4. People might have the misconception of getting respiratory diseases or allergy when they clean the dumpsters by themselves

5.AVAILABLE SOLUTIONS — AS

Available solutions

1. Separation of biodegradable and non-biodegradable waste
2. Manual checking of dumpsters
3. Occasional checking of cleanliness of the areas by the officials

Pros

No investment

Cons

Not effective

Explore A

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

2.JOBS-TO-BE-DONE/PROBLEMS — J&P

1. Ensure a healthy environment
2. Improve the cleanliness of the streets
3. Prevent contamination
4. Prevent stray animals from consuming the garbage
5. Reduce pollution
6. Control garbage overflow

9. PROBLEM ROOT CAUSE — RC

1. Unorganized and improper management of garbage
2. Lack of public awareness
3. Unhygienic environment
4. Lack of proper dumpsters
5. Public's irresponsibility

7. BEHAVIOUR — BE

1. Reduce usage of plastic
2. Carry reusable cloth bags
3. Restrict stray animals from consuming the garbage
4. To control the overflow of garbage, sensor is to be inserted in the dumpsters, thus ensuring a clean and hygienic environment.

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

Identify strong TR & EM

3. TRIGGERS

TR

Seeing our neighboring countries manage the garbage properly, thereby maintaining a clean environment; Awareness of this system and its benefits that help both public and the environment

4.EMOTIONS

EM

Before – Fear of respiratory diseases and allergies, feeling of disgust, bad odour due to overflowing dumpsters

After – Feeling of satisfaction and cleanliness, calm and fresh state of mind

10.YOUR SOLUTION

SL

Currently, due to the inefficient management of garbage, our environment remains polluted and unhygienic. The proposed system would be able to automate the solid waste monitoring process and management with the help of IOT (Internet of Things). The proposed system consists of sensor that is attached to the dumpster and a threshold value is set. When the amount of garbage reaches the threshold value, corresponding message is sent to the concerned official. The official then sends the location of the particular dumpster to the nearby truck drivers. The proposed system not only ensures a clean environment, but also provides time efficiency by choosing an optimal path for the truck drivers to reach the location of the dumpster.

8. CHANNELS OF BEHAVIOUR

CH

8.1 ONLINE

1. Spread awareness about the importance of clean environment on social media platforms.
2. Create advertisements to differentiate hygienic and unhygienic environment and its effects

8.2 OFFLINE

1. Conduction of awareness programs
2. Inclusion of the importance of clean environment and the effects of unhygienic environment in school textbooks.
3. Campaigns and rallies

Identify strong TR & EM