

Project Design Phase-I - Solution Fit Template

Project Title: Smart Waste Management System For Metropolitan Cities

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Explore AS, differentiate

1. CUSTOMER SEGMENT(S)

CS

Who is your customer?
i.e. working parents of 0-5 y.o. kids

- Government and corporates managing the public

6. CUSTOMER CONSTRAINTS

CC

What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.

- Indicating the waste level
- Alerting through buzzer system
- Low power requirement
- User portable

5. AVAILABLE SOLUTIONS

AS

Which solutions are available to the customers when they face the problem

or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking

- Recycling - it has economic and environmental advantages.
- Incineration - This disposal process can be a source of air pollution.
- Landfill - significant cause of health and environmental problem
Example: gas from these landfills is often incredibly dangerous
- Biological Reprocessing- the ends of the stock is natural gas, which is used to produce heat and electricity.

2. JOBS-TO-BE-DONE / PROBLEMS

J&P

Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.

- Managing the wastes in metropolitan cities.
- Providing a smart solution in the form of smart bin.
- Reducing the pollution caused by the trashes.
- Making the public more aware.

9. PROBLEM ROOT CAUSE

RC

What is the real reason that this problem exists?
What is the back story behind the need to do this job?
i.e. customers have to do it because of the change in regulations.

- Lack of Public Awareness
- Refusal to Learn About Compliance
- Insufficient Investment in Waste Management
- Lack of Proper Machinery

NEEDS : saving money protect the environment creating jobs builds resilience reduce emission and promote community

7. BEHAVIOUR

BE

What does your customer do to address the problem and get the job done?

i.e. directly related: find the right solar panel installer, calculate usage and benefits;
indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)

- Proper installation of bins at regular interval.
- Providing enough awareness to people.
- Correct disposal of trashes in the bin.
- Standard discharging of wastes once the bin is filled and
- Keeping for reloading of waste.

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

Define CS, fit into CC

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

3. TRIGGERS**TR**

What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news.

- The amount of waste generated by an incident affects decisions regarding how to manage the waste, including the storage, treatment and disposal of the waste.
- Available capacity is further limited if facilities still accept waste from daily activities during the incident response or choose not to accept incident-generated waste at all.

4. EMOTIONS: BEFORE / AFTER**EM**

How do customers feel when they face a problem or a job and afterwards?
i.e. lost, insecure > confident, in control - use it in your communication strategy & design.

- Improper management of wastes
- Less control of the public in waste

disposal AFTER:

- Efficient way of trash monitoring
- Improvement in cleanliness and public hygiene
- Quick action of emptying and refilling of bin

10. YOUR SOLUTION**SL**

If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality.
If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour.

To implement a smart bin built on a microcontroller based platform Arduino Uno board which is interfaced with GSM modem and Ultrasonic sensor which can give the status of the waste present in the dustbin to the municipal authority.

8. CHANNELS of BEHAVIOUR**CH****8.1 ONLINE**

What kind of actions do customers take online? Extract online channels from #7

8.2 OFFLINE

What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.