Project Design Phase-I - Solution Fit

**Project Title: Smart Waste Management System for Metropolitan Cities Team ID:** PNT2022TMID20896

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|  | **1. CUSTOMER SEGMENT(S)** | **CS** | **6. CUSTOMER CONSTRAINTS**   1. Less cost efficiency 2. Awareness regarding the technology 3. Lack of hands - on experience. | **CC** | **5. AVAILABLE SOLUTIONS** |
| Municipality(Trash holders), Citizens , Private industrial and commercial organization. |  |  | 1. Reusing materials that would otherwise be discarded, by recycling materials and by using recycled materials. 2. Establish incentives for participation to minimize residual waste. For example, charge less to collect organics and recyclables than residual waste, and provide smaller bins for residual waste |

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| **Focus on J&P, tap into BE, understand RC** | **2. JOBS-TO-BE-DONE / PROBLEMS**  1. Proper Time Schedules for waste collection should be maintained.  2.Lesser cost efficiency seen in purchasing bins to segregate waste based Establish incentives for participation to minimize residual waste. For example, charge less to collect organics and recyclables than residual waste, and provide smaller bins for residual waste on degradation. | **J&P** | **9. PROBLEM ROOT CAUSE**  1.Increasing population that led to over exploitation of resources thereby accumulation of waste has increased.  2. To avoid dumping large quantities of garbage without any segregation of waste based on their degradation leading to land pollution and groundwater depletion. | **RC** | **7. BEHAVIOUR**   1. Different types of sensors are used so as to segregate the entire garbage into biodegradable as well as non- biodegradable. 2. The Nordsense smart bin sensors collect data on waste generation patterns and send this information to the cloud. | **BE** | **Focus on J&P, tap into BE, understand RC** |

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| **Identify strong TR & EM** | **3. TRIGGERS TR**  To reduce pollution causing toxic pollutants from causing various diseases and it also helps humans from falling sick by saving them from an unhygienic environment. | **10. YOUR SOLUTION SL**   1. Regular interval of monitoring of trash discharge. 2. Creating an AI based smart waste bin, for monitoring the location, weight, and level of   garbage cans   1. Solar power usage | 1. **CHANNELS of BEHAVIOUR CH**    1. **ONLINE** 2. We can monitor in live 3. People can give complaints and feedback about the work   **8.2 OFFLINE**  Taking necessary action on collecting the garbage regularly |  |
| **4. EMOTIONS: BEFORE / AFTER EM**  Before:  People living near heaps of garbage as well as people with lesser immune systems are prone to diseases.  After:  Once there is a regular disposal of waste the environment remains neat and clean. |