

## Phase I

### Problem Statements

Date	06.10. 2023
Team ID	au962921104008
Project Name	Waste water treatment
Maximum Marks	2 Marks

#### Customer Problem Statement Template:

With the increasing population and industrialization of nations throughout the globe, waste has become a great concern for all of us. Over years, researchers figured that only waste treatment is not enough for its proper management and disposal techniques to preserve our environment and keeping it clean in this era of globalization. With the help of technology researchers have, introduced IOT based waste water treatment solutions and initiatives that ensures reduced amount of time and energy required to provide waste management services and reduce the amount of waste generated. Unfortunately, developing countries are not being able to implement those existing solutions due to many factors like socio-economic environment. Therefore, in this research we have concentrated our thought on developing a smart IOT based waste management system for developing countries like INDIA that will ensure proper disposal, collection, transportation and recycling of household waste with the minimum amount of resources being available.

Reference: <https://miro.com/templates/customer-problem-statement/>

#### Example:





## DESIGN THINKING

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Project Name	WASTE WATER TREATMENT
Maximum Marks	2 Marks

### Proposed Solution Template:

S.No.	Parameter	Description
•	Problem Statement (Problem to be solved)	There have always been cases of overflowing water from the bins, causing havoc in the surroundings. With the presence of this waste treatment system, the user is alerted when the bin can full, so as to take necessary action. The bin status is sent to a web app through the cloud, which makes real-time monitoring a possible case for the users.
•	Idea / Solution description	IoT provides businesses with a real-time look into how their systems really work, delivering insights into everything from the performance of machines to supply chain and logistics operations. IoT enables companies to automate processes and reduce labor costs.
•	Novelty / Uniqueness	novelty associated with IoT stems from its potential for widespread application as technical barriers associated with automated surveillance have been gradually eroding, drastically decreasing the associated costs in its wake.
•	Social Impact / Customer Satisfaction	The positive impact of the IoT on citizens, businesses and governments will be significant, ranging from helping governments reduce healthcare costs and improving quality of life, to reducing carbon footprints, increasing access to education in remote

		underserved communities, and improving transportation safety.
•	Business Model (Revenue Model)	<p>The most common assumption about a business model paints it as the approach followed by an organization for creating, delivering, and capturing value. One of the general assumptions about IoT is that adding sensors to any existing product could help in delivering value to users.</p> <p>Such IoT-based business ideas are more likely to offer short-term benefits, albeit without generating actual value in the long term. An IoT-based business model is a model which emphasizes capturing and delivering differentiated and innovative long-term value. At the same time, business models of IoT businesses must also focus on making the most of characteristic features in IoT solutions. The unique characteristics of IoT solutions include references to complicated third-party integrations, data collection, mobility and automation, cloud-neutral architectures, processing, and analytics, as well as other crucial functionalities.</p>
•	Scalability of the Solution	<p>Scale, by definition, refers to the capability of a system, network or process to handle a growing amount of work. Similarly, scale refers to a system's potential to accommodate such growth. Achieving either of these ambitions with connected devices is easier said than done. The majority of companies today struggle with scalability due to budgetary constraints, poor planning and future compatibility uncertainties. As a result, companies often doubt that the infrastructure, cloud and connectivity layers can grow with them.</p> <p>Various technical and organizational factors add to the degree of difficulty. For example, security. Consider that potential network vulnerabilities often increase with device volume. Likewise, data management. Most companies institute connected device projects to uncover efficiency insights. However, in the absence of proper data management and governance, data silos can result and impede outcomes. Further, a lack of committed resources, IoT experience and leadership buy-in can also complicate connected device scalability.</p>

