

## PROBLEM SOLUTION FIT

Date	19 September 2022
Team ID	PNT2022TMID14644
Project Name	Efficient Water Quality Analysis and prediction using machine learning
Maximum Marks	4 Marks

### PROBLEM SOLUTION FIT

In this activity you are expected to prepare problem - solution fit document and submit for review.

## Problem Solution Fit

**Purpose :** the water quality varies in urban spaces non-linearly and depends on multiple factors, such as meteorology, water usage patterns, and land uses, so this project aims at building a Machine Learning (ML) model to Predict Water Quality.

### 1. CUSTOMER SEGMENT(S)

CS

Customers / Users :

People, Beverage manufacturing companies,  
Schools , Offices, Packed water companies,etc.,

### 6. CUSTOMER LIMITATIONS

EG. BUDGET, DEVICES

CL

Cost, Available resources, inadequate solutions

### 5. AVAILABLE SOLUTIONS

PLUSES & MINUSES

AS

Physical,chemical & bacteriological tests(manual test,costly)

Laboratory methods(time consuming)

### 2. PROBLEMS / PAINS + ITS FREQUENCY

PR

Location of water resources

Availability of unclean water

Manual testing of water

### 9. PROBLEM ROOT / CAUSE

RC

Pollution of water with wastes,chemicals etc,

No proper monitoring of water resources

High release of chemicals near water resources

### 7. BEHAVIOR + ITS INTENSITY

BE

User tries various manual tests like chemical tests inorder to check the quality of the water.

To check the quality of the water using available lab resources

### 3. TRIGGERS TO ACT

TR

Polluted and contaminated drinking water triggers users to check for the quality of water before using it.

### 10. YOUR SOLUTION

SL

This project aims at building a Machine Learning (ML) model to Predict Water Quality by considering all water quality standard indicators.

### 8. CHANNELS of BEHAVIOR

CH

Quality of water analysis using manual methods

Quality of water analysis using modern solutions

### 4. EMOTIONS BEFORE / AFTER

EM

Frustrated, angry because of time consuming quality tests