**METHODOLOGY**

**1. Data Collection Method:**

For this survey, **Lulu Mall** was chosen as the survey location to gather responses from a diverse population in **Lucknow**, ensuring a representative sample for the garbage disposal habits of households. A **stratified random sampling** method was employed to target different demographics, including families, individuals, and groups of varied household sizes. Participants were selected randomly across different sections of the mall, ensuring inclusivity of respondents from varied socio-economic backgrounds.

**2. Survey Instrument Design:**

The survey was designed with a structured questionnaire comprising both multiple-choice and scale-based questions. The primary focus was on understanding household waste disposal behavior. The questions included:

* **Household Size**: "How many members are in the household (Adults, minors, infants)?"
* **Waste Disposer**: "Who disposes of the waste?" (Options: Servant, Family member, All of them, Others)
* **Waste Disposal Method**: "How do you dispose of the waste?" (Options: In the dustbin, By the roadside, Door-to-door waste collection)
* **Segregation**: "Do you segregate the garbage into wet and dry?"
* **Frequency**: "How often do you dispose of the waste?" (Every day, Once every two days, Once every three days)
* **Time of Disposal**: "Generally, at what time of the day do you dispose of the waste?" (Morning, Afternoon, Evening)
* **Penalty Awareness**: "Are you aware of the penalty for not segregating garbage?"
* **Satisfaction**: "How satisfied are you with the current government waste removal system?" (Rating scale 1-6)
* **Training Interest**: "Would you like to attend training on household waste disposal?"

**3. Dummy Variable Creation:**

For categorical data, **dummy variables** were created for the regression model. The following variables were dummy coded:

* **Waste Disposal Method** (In the dustbin, Door-to-door waste collection)
* **Time of Disposal** (Morning, Afternoon)
* **Frequency of Disposal** (Every day, Once every two days, Once every three days)
* **Penalty Awareness** (Yes, No)
* **Training Interest** (Yes, No)

Each category was assigned a binary code (1 or 0), which allowed for the inclusion of these variables in the regression analysis.

**4. Sample Size:**

A sample size of **500 respondents** was targeted to ensure the reliability of the results. This sample size was determined based on the diversity of the mall visitors and to achieve a 95% confidence level with a margin of error of 5%.

**5. Data Analysis:**

A **regression analysis** was conducted to identify the **significant predictors** of waste disposal behaviors. The following dummy variables were analyzed:

* **Dummy(In dustbin)** (Rank 3): Coefficient = -0.947791182
* **Dummy(Door-to-door)** (Rank 6): Coefficient = -0.352579338
* **Dummy(Once-every-two-days)** (Rank 1): Coefficient = 1.697209202
* **Dummy(Morning)** (Rank 4): Coefficient = 0.930825683
* **Dummy(Afternoon)** (Rank 2): Coefficient = 1.091867728
* **Dummy(Penalty Awareness)** (Rank 5): Coefficient = 0.652095703
* **Dummy(Training)** was also tested, but not included in the top ranks.

**6. Ranking of Predictors:**

Significant predictors were ranked based on their absolute values of the coefficients, indicating their strength in influencing waste disposal behavior. For example, **Dummy(Once-every-two-days)** with the highest coefficient was identified as the most influential predictor.

**How collecting the garbage Once-every-two-days, collecting garbage in Afternoon , dispose garbage In dustbin, is able to explain the satisfaction level of individual ?**

### 1. ****Collecting Garbage Once-Every-Two-Days:****

* **Efficiency & Convenience**: Households disposing of garbage once every two days may find the system efficient enough to manage their waste without needing daily collection. This can lead to higher satisfaction, especially if they produce less waste and are satisfied with the less frequent service.
* **Service Adequacy**: If the waste removal service is reliable and still maintains cleanliness despite the two-day collection interval, people may feel that their needs are met. In contrast, dissatisfaction might arise if this frequency leads to waste buildup, affecting cleanliness or hygiene.

### 2. ****Collecting Garbage in the Afternoon:****

* **Flexibility of Timing**: Households that prefer afternoon collection may find it more convenient if they’re not available in the morning. If the waste collection service is adaptable to their schedules, this can lead to increased satisfaction.
* **Less Congestion**: Afternoon collection may occur when fewer people are disposing of waste simultaneously, leading to a smoother and quicker process, which could contribute positively to satisfaction.
* **Environmental Conditions**: Some may find afternoon collection preferable, especially in certain weather conditions. However, if delays in collection lead to odors or issues in hotter afternoons, it could negatively impact satisfaction.

### 3. ****Disposing of Garbage in Dustbin:****

* **Cleanliness & Hygiene**: Disposing of waste in dustbins, particularly public or well-maintained dustbins, can create a sense of cleanliness and order, positively impacting satisfaction. The presence of accessible dustbins could reflect well on the waste management system.
* **Convenience & Accessibility**: People may be more satisfied with the system if the dustbins are conveniently located and regularly emptied, preventing overflow. However, if bins are overflowing or not maintained, it could lead to dissatisfaction.
* **Environmental Responsibility**: Disposing of waste in a dustbin instead of by the roadside suggests a greater sense of responsibility. If individuals see the waste management system promoting responsible disposal, it can contribute to higher satisfaction levels with the service.