# Milestone 1: Verifying the Problem

## Payout

This sheet gives the actual and budget payout information of all the partners along with branch they work in, and cluster associated with the branch.

1. **BP code:** Unique code or ID of the partner. E.g., BP1003.
2. **BP:** Name of the partner.
3. **OU:** Branch code in which the partner operates.
4. **Cluster:** Name of the cluster associated with the branch
5. **Total Payout:** Total payout to the partner in ₹ for the month for delivering packages.
6. **Budgeted payout:** Payout of the partner in ₹ as per budget allocation by the finance team.

# Milestone 2: Building Cost Model

## partner_vehicles_form_AMD

This sheet consolidates the form data acquired from the partners. Each row has information about one partner. It gives information about the vehicles operated by the partner: name of the vehicle, year of purchase, and type of purchase.

1. **OU:** Name of the branch in which partner works.
2. **BP name:** Name of the partner
3. **Vehicle:** Code of the vehicles the partner has. If a partner has multiple vehicles, they are separated by a comma.
4. **Vehicle Ownership:** Describes how the partner acquired the vehicle. It can be owned, EMI, or Market.
5. **Year of purchase:** The year when the vehicle was purchased. Market vehicles are taken on rent hence their year of purchase is NA.

## AMD_OU_Data

The data in this sheet was collected by the ground team. It may have inconsistencies. This sheet contains 4 tables:

1. **Capacity (tons):** Gives information on capacity of vehicles across branches.
2. **Mileage (in km/liter):** Has the mileage of each vehicle across branches.
3. **KM and Fuel cost:** Gives information on distance travelled by all vehicles in km and fuel cost per liter (₹/liter) across branches.
4. **Maintenance and additional cost (in ₹):** Maintenance and any other cost incurred by the partners for running a vehicle across branches.

## AMD_EMI_Data

This sheet contains data for calculating EMI of vehicles which a partner may incur. It contains downpayment % required, default tenure of EMI, yearly interest rate charged by banks, and ex-showroom price (in ₹) of all the vehicles.

### vehicle_mapping

This sheet contains the mapping of vehicle codes and names.

1. **Code:** Unique code of a vehicle.
2. **Name:** Name of the vehicle.

## Milestone 3: Analyzing Current Situation

### payouts_table_AMD

This sheet gives the information on per kg rates and load delivered by partners responsible for delivering in pin codes covered by the Ahmedabad cluster.

1. **bp_id:** Unique code or ID of the partner. E.g., BP1003.
2. **bp_name:** Name of the partner.
3. **branch_name:** Name of the branch in which the partner operates.
4. **per_kg_rate:** Per kg rate offered to partner.
5. **kg_delivered:** Total load delivered by the partner in the month in kilograms.

## Milestone 4: Improving Current Situation

### cost_base_improved

You have to develop improved cost structure of partners in this sheet.

*Rest of the sheets are already covered in previous milestones.

## Milestone 5: Deep Diving Into Profitability

You need to use the workbook of milestone 4 for this milestone as well.

## Milestone 6: Solving the Problem

### Drop Down Lists

This sheet all the data required to make drop down lists for model inputs. It also contains additional charges rates, and on which cost they apply.

### Cost Calculator

This sheet is where your final model will be.

### Calculator Raw

You can use this sheet to do backend calculations for the model. A basic template is given to you. You are free to develop your own approach.

## Assumption_Distance

This sheet contains the expected distances across clusters that a vehicle would cover. The distances are different for partners with different delivery capabilities.

1. **Cluster:** Code of the cluster with which the partner's branch is associated with.
2. **Intra-city:** Maximum distance a partner can travel with "intra-city" delivery capability.
3. **Intra-city:** Maximum distance a partner can travel with "Long distance" delivery capability.

## Vehicle_Maintenance

This sheet contains vehicles' capacity and maintenance cost rates (tyre maintenance ₹ per km and other costs ₹ per km).

1. **Vehicles:** Unique Code of vehicle.
2. **Capacity:** Vehicle capacity in tons.
3. **Insurance and RTO:** Arrived Insurance and RTO costs per month in ₹.
4. **Driver Expenses:** Expected expenses of the driver in ₹.

## Vehicle EMI Sheet

This sheet contains data for calculating EMI.

1. **Vehicles:** Unique code of vehicle.
2. **Ex-Showroom Price:** Ex-showroom price in ₹ of the vehicle obtained from manufacturer's site.
3. **Downpayment %:** Percentage of downpayment required.
4. **Balance:** Balance on which EMI must be paid.
5. **Rate of interest:** Interest charged by bank per annum.

## Assumption_Mileage

This sheet contains data on mileage a vehicle gives across different clusters.

To calculate fuel consumed, calculate **bottom cap** of mileage by **rounding down the average mileage** of vehicles across all clusters.

## Assumption_Salary

This sheet contains data on salaries obtained from government websites.

1. **Cluster:** Unique cluster code.
2. **State:** State in which cluster is.
3. **Semi skilled:** Salary of a semi-skilled labor in that state.
4. **Skilled:** Salary of a skilled labor in that state.
5. **Highly skilled:** Salary of a highly skilled labor in that state.

**Manpower (team) cost** = loader salary + driver salary + supervisor salary

**Rules:**

1. If vehicle capacity is more than 2 tons, 2 loaders are required, otherwise 1 loader is sufficient.

2. Every vehicle will require 1 driver. Market vehicle's driver's salary is **NOT paid by partner.**
3. If a partner has:
   a) More than 6 vehicles, 2 supervisors are required.
   b) More than 3 vehicles, 1 supervisor is required.
   c) Less than or equal to 3 vehicles, no supervisor is required.

## Cluster Mapping

This sheet contains the mapping of branches and clusters.

1. **Location code:** Unique code of the branch.
2. **CLUSTER:** Unique code of the cluster under which the branch operates.
3. **Cluster Name:** Name of the cluster.

## Vehicle Mapping

This sheet contains mapping of vehicle codes and names.

1. **Vehicle:** Unique code of the vehicle.
2. **Mapped Vehicles:** Name of the vehicle.