SHIPPING COST CALCULATOR

Project title:- Spreadsheet Model to optimise shipping cost for D2C E-Commerce.

Problem Statement:- As an analyst and domain expert in the QS Excellence Team, your task is to develop a "Logistics Cost Calculator." This essential tool will help QuickShip accurately assess shipping costs per order, allowing for efficient reconciliation of logistics expenses. By using this calculator, QuickShip can optimize budget allocation and make informed decisions to enhance overall logistics management.

Overview:-This shipping cost calculator is designed to determine the total cost of shipping an order based on its dimensional weight, dead weight, and the shipping zone. It takes into account base costs, additional charges, and Cash on Delivery (COD) fees.

Key Components :-

1. **Order ID**: A unique identifier for each order.
2. **Shipping State**: The state from which the item is being shipped.
3. **Courier Mode**: The mode of delivery, in this case, "Delhivery Surface".
4. **Zone**: Shipping zones that determine the cost based on the distance from the origin to the destination.
5. **Dimensional Weight**: A calculated weight based on the dimensions of the package.
6. **Dead Weight**: The actual weight of the package.
7. **Max(Dimensional Weight, Dead Weight)**: The maximum value between the dimensional weight and the dead weight, used for cost calculation.
8. **Rounding Weight**: The weight rounded up to the nearest integer.
9. **Weight Slab**: A predefined weight category used to calculate the base cost.
10. **Particulars**: The different components that contribute to the total shipping cost:
    - **Base Cost**: The basic charge for shipping.
    - **Additional Charges**: Any extra fees that may apply.
    - **COD**: Charges applied if the Cash on Delivery option is chosen.
11. **Total Cost**: The sum of the base cost, additional charges, and COD fees.

Step-by-Step Calculation:-

Input Data

Order ID: Unique order number (e.g., M416942).

Shipping State: State from where the shipment originates (e.g., Karnataka).

Dimensional Weight: Weight calculated based on package dimensions (e.g., 16.53).

Dead Weight: Actual weight of the package (e.g., 13).

Weight Calculation

Determine the maximum value between the dimensional weight and dead weight.

Max(Dimensional Weight, Dead Weight): 16.53

Round up the weight to the nearest integer.

Rounding Weight: 17

Determine the weight slab.

Weight Slab: 10

Cost Calculation

Base Cost: Fixed cost for the weight slab and zone.

Example: 200

Additional Charges: Any extra costs applied.

Example: 140

COD: Charges for Cash on Delivery.

Example: 0 (if not applicable)

Total Cost: Sum of the base cost, additional charges, and COD fees.

Example: 200 + 140 + 0 = 340