Methodology & Workflow

1. Data Import and Transformation

- Connected Excel to raw source files via Power Query.

- Removed top rows and promoted headers in all tables.

- For the “Category Mapping” table, headers were manually adjusted due to structural inconsistencies.

- All tables were loaded into the Power Pivot data model.

2. Data Modeling

- Created a star schema with the following main tables: `Calendar`, `Actuals_Data`, `Budget_Data`, `CostCenters`, and `CategoryMapping`.

- Built relationships between tables using shared fields such as `Date`, `Cost Center`, `Department`, and `Category`.

- Faced language issues between English and Spanish month names, requiring creation of translated month columns and a new synthetic date column for Budget data.

3. DAX Measures and Calculations

- Built core measures:

  - `Total Cost` = SUM of actuals.

  - `Total Budgeted Cost` = SUM of planned amounts.

  - `Variance` = Actual - Budget.

  - `Variance %` = (Variance / Budget).

  - Accumulated monthly values for year-to-date tracking.

4. Visualization and Dashboard Design

- Created multiple Pivot Tables to serve as source for charts.

- Designed and formatted:
  - Line chart showing accumulated budget vs actual.
  - Bar chart for variance by department.
  - Top 5 variance by category with conditional formatting.
  - Variance by region.
- Added dynamic slicers for region, department, and month.

5. Design Iteration and Refinement

- Added icons to indicate positive or negative values.
- Improved layout and user experience.
- Resolved filtering issues due to missing relationships.
- Replaced legacy graphs with more intuitive bar/line charts.