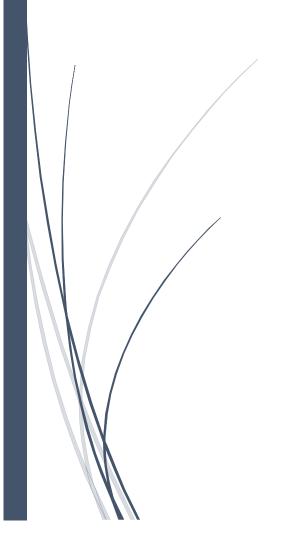
Analyzing Transport Data with Power BI(Techdome)

Data Analyst

Report on Transportation

Dataset

Shivam joshi



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Objective

- 1. Utilize Power BI to analyze and visualize transportation data sourced from an Excel file.
- 2. Convert raw transportation data into actionable insights through comprehensive analysis.
- 3. Develop interactive dashboards within Power BI for presenting insights effectively.
- 4. Derive informed business decisions by exploring and interpreting the analytical findings.
- 5. Provide participants with practical experience in data transformation, visualization, and decision-making processes using Power BI.

1.Data import and Data Cleaning

- **Import Data:** Import the provided Excel file into Power BI using the appropriate connector.
- **Identify Missing Values**: Use Power BI's data view to identify any missing values in the dataset.
- Handle Missing Values: Replace missing values with appropriate substitutes.

2.Data Exploration

- 1. **TripID:** Just a unique identifier for each trip.
- 2. **ShipperID:** Identifies which company shipped the goods.
- 3. **CategoryID:** Tells us the category of the shipment.
- 4. **Customer:** Who received the goods.
- 5. **ShipDate:** When the shipment started its journey.
- 6. **OriginCity and OriginState:** Where the shipment began its journey.
- 7. **ShipDays:** How many days it took to ship.
- 8. **DestinationCity and DestinationState:** Where the shipment ended up.
- 9. **DeliveryDate:** When the shipment reached its destination.
- 10. **TotalMiles:** The total distance traveled.
- 11. **LoadedMiles:** Distance traveled with the goods loaded.
- 12. **ShippingCost:** How much it cost to ship.
- 13. **Revenue:** How much money was made from the shipment.
- 14. Capacity: The capacity of the shipment.
- 15. **TripType:** Whether it was a domestic or international trip.
- 16. **CheckPoints:** Number of checkpoints during the journey.

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summary statistics for key variables

Total Miles:

Total Distance Traveled: Sum of all total miles in the dataset.

Measure: Sum Total Miles = SUM('Worksheet'[TotalMiles])

Loaded Miles:

Total Distance Traveled with Goods Loaded: Sum of all loaded miles in the dataset.

Measure: Sum Loaded Miles = SUM('Worksheet'[LoadedMiles])

Shipping Cost:

Total Shipping Costs: Sum of all shipping costs in the dataset.

Measure: Sum Shipping Cost = SUM('Worksheet'[ShippingCost])

3. Visualization

• Create a column for Month Name:

Use the DAX formula below to extract the month name from the Ship Date

Month Name = FORMAT(Worksheet[ShipDate], "mmmm")

• Create a column for Month Number:

Use the DAX formula below to extract the month number from the Ship Date:

Month Number = MONTH(Worksheet[ShipDate])

- Implement time series analysis using line charts or area charts:
- Place Ship Date (or Month Name/Month Number) on the x-axis and relevant metrics.
- Create a line chart or area chart to visualize trends over time.

Geographic analysis using maps to visualize the origin and destination cities:

- Utilize map visualizations to represent the geographic distribution of shipments.
- Plot origin and destination cities on a map using latitude and longitude coordinates.
- Customize map markers to differentiate between origin and destination cities.
- Geographic analysis helps in identifying transportation routes and understanding regional trends.

Revenue and Shipping Cost trends over time:

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- Use line charts to visualize the trends in Revenue and Shipping Date over time.
- Use line charts to visualize the trends in sum of revenueRevenue and Delivery Date Date over time.
- Used linea chart for to visualize Revenue by minth name.
- Line charts provide a clear representation of how Revenue and Shipping Cost vary over different time periods.
- Analyze trends to identify revenue-generating opportunities and cost-saving measures.

4. Key Performance Indicators (KPIs): Define and calculate relevant KPIs for transportation performance.

Total Miles:

Definition: The total distance traveled by all shipments.

Calculation: Sum of the total miles for all trips in the dataset.

Shipping Cost:

Definition: The total cost incurred for shipping all the goods.

Calculation: Sum of the shipping costs for all trips in the dataset.

Loaded Miles:

Definition: The total distance traveled with goods loaded on the vehicles.

Calculation: Sum of the loaded miles for all trips in the dataset.

Total Revenue:

Definition: The total income generated from all shipments.

Calculation: Sum of the revenue for all trips in the dataset.

5. Filtering and Slicing:

- Add a slicer or filter component to the Power BI report canvas.
- Select the "Origin City" and "Origin State" and "Month Name" fields as filter options.
- Users can interact with the slicer or filter to dynamically select specific origin cities or states.