

# Analyzing Logistic Data with Power BI



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## What Data is Saying

The dataset provided by company consists of logistic-related to shipping and delivery of good information for various trips.

The description about columns in the dataset along with their data types:

Column	Description	Data Type
TripID	Unique identification for each trip.	Numeric/Integer
ShipperID	Identifier for the shipper or transporter associated with the trip.	Numeric/Integer
CategoryID	Identifier for the category of the trip.	Numeric/Integer
Customer	Name of the customer associated with the trip.	Text/String
ShipDate	Date when the trip started or when the shipment was dispatched.	Date
OriginCity	City where the trip originated from.	Text/String
OriginState	State where the trip originated from.	Text/String
ShipDays	Number of days taken for shipping.	Numeric/Integer
DestinationCity	City where the trip is destined to.	Text/String
DestinationState	State where the trip is destined to.	Text/String
DeliveryDate	Date when the trip was delivered or when the shipment arrived at its destination.	Date
TotalMiles	Total distance travelled for the trip.	Numeric/Integer
LoadedMiles	Distance travelled with a loaded shipment.	Numeric/Integer
ShippingCost	Cost incurred for shipping.	Numeric/Decimal
Revenue	Revenue generated from the trip.	Numeric/Decimal
Capacity	Capacity of the transportation vehicle used for the trip.	Numeric/Decimal
TripType	Type of trip (e.g., Domestic, International)	Text/String

CheckPoints	Number of checkpoints or stops along the trip route.	Numeric/Integer
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This dataset contains information about delivery and shipment customer order product, including details such as trip id, customer name, ship id, ship & delivery dates, ship and delivery locations, distances travelled, shipping costs, revenues, and trip characteristics. The data can be used for analysing transportation performance, finding the gap, cost-effectiveness, performance and customer satisfaction.

Problem identified in data:

Problem with data is ShippingDate is recorded after the DeliveryDate for trips with a particular DeliveryDate of 21/03/2016. Any good which is to be delivered must be prior to delivery date. Inconsistency in data indicates inaccuracies in recording on particular date or processing shipment timelines, requiring further investigation and data validation measures.

## **Business Problem:**

Analysing the performance of data related to logistic and transportation of goods.

## **Objective:**

Developed a business dashboard to analyse the performance of a logistic company, tracking their key performance indicators (KPIs) related to logistic of goods, cost-effectiveness, and customer satisfaction. The dashboard should provide actionable insights to help decision-makers identify areas for improvement, allocate resources efficiently, and make data-driven decisions to optimize transportation operations.

## **Steps Taken in Dashboard Preparation:**

Here are the steps followed to create the dashboard:

### **Data Understanding:**

1. Reviewed the provided dataset to grasp its structure, variables, and relevance to the business.
2. Identified crucial metrics and KPIs that align with the business problem or goal.
3. Assessed data preprocessing needs, including managing missing values or outliers.

### **Measures and DAX Formulation:**

1. Formulated calculated columns or measures using DAX to compute key performance indicators (KPIs) and metrics.
2. Employed DAX functions for data aggregation, filtering, or manipulation tailored to the analysis requirements.
3. Verified that the measures precisely capture the intended calculations and meet business criteria.

### **Visualization Development:**

1. Used suitable visualizations (like charts, graphs, tables) based on the data type and the insights to convey.
2. Crafted visualizations using Power BI or other dashboard tools to ensure they are visually engaging, user-friendly, and informative.
3. Personalized visualizations with relevant labels, titles, colors, and formatting to improve clarity and readability.

### **Analysis and Insights:**

1. Scrutinized dashboard visualizations to spot trends, patterns, outliers, and significant insights.

2. Contrasted KPIs and metrics across various dimensions (e.g., time frames, regions, product types) to reveal actionable insights.
3. Interpreted the findings considering the business problem or goal, pinpointing areas for enhancement, optimization, or strategic actions.
4. Documented main findings, suggestions, and actionable items derived from the analysis.

## **Analysis and Finding:**

The company have generated a revenue of \$8.81 million over 9 months, with the highest revenue being \$13,410.

The most successful trip type is domestic.

June stands out as the best-performing month.

The highest number of goods deliveries occurred on March 21, 2016.

Illinois emerges as the top-performing state.

Products are delivered within an average of 2.06 days.

Shipping performance shows improvement over time.