



Perform Advanced Analytics

Learning Objectives

By the end of this lesson, you will be able to:

- 🕒 Identify outliers
- 🕒 Conduct time series analysis
- 🕒 Evaluate grouping and binning of data
- 🕒 Analyze AI insights



Advanced Analytics

Advanced Analytics

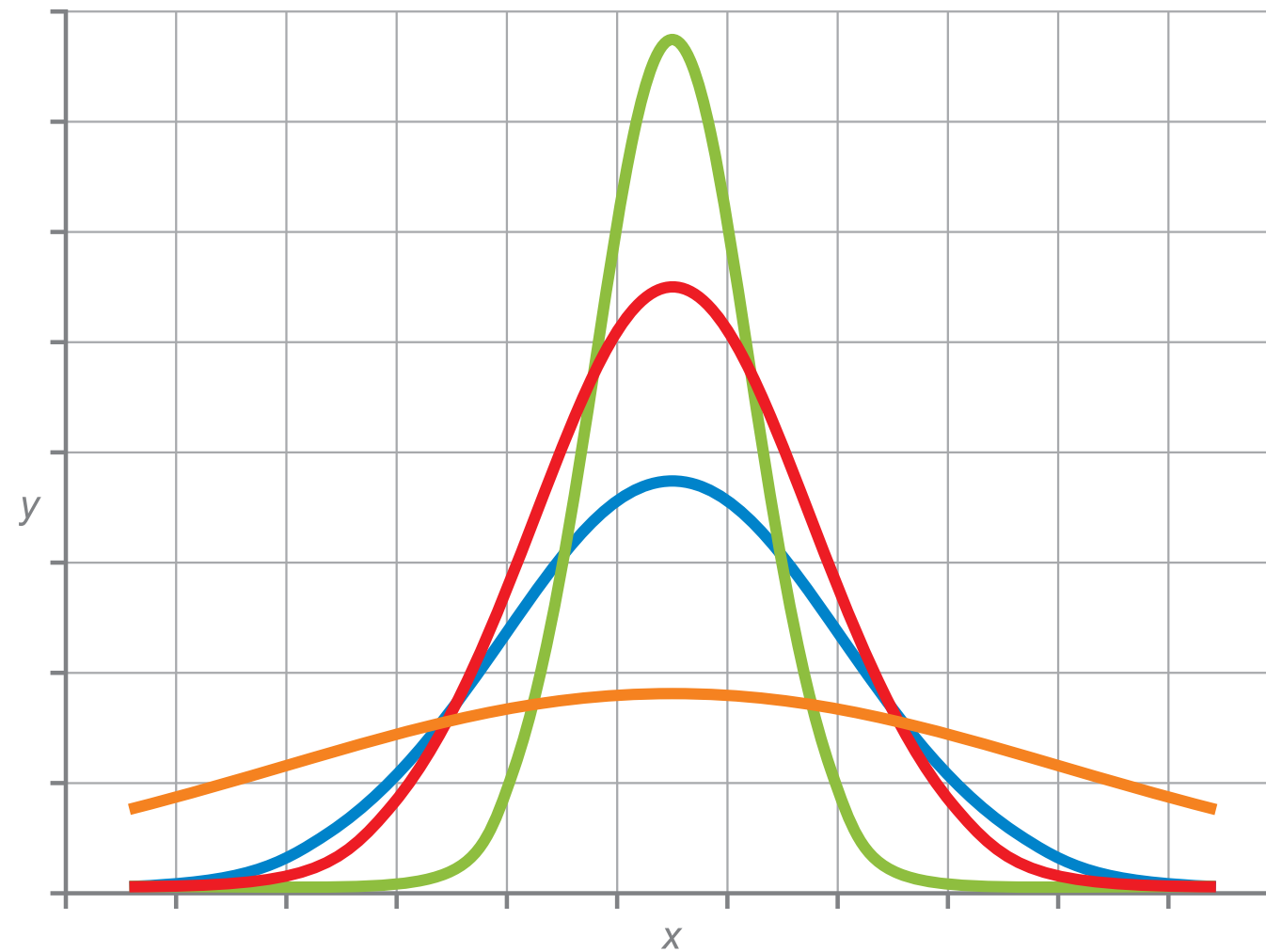
It enables organizations to make better business decisions and create actionable, meaningful insights.



Identify Outliers

Outliers

It is a type of anomaly in data based on historical averages or results.



Identify Outliers

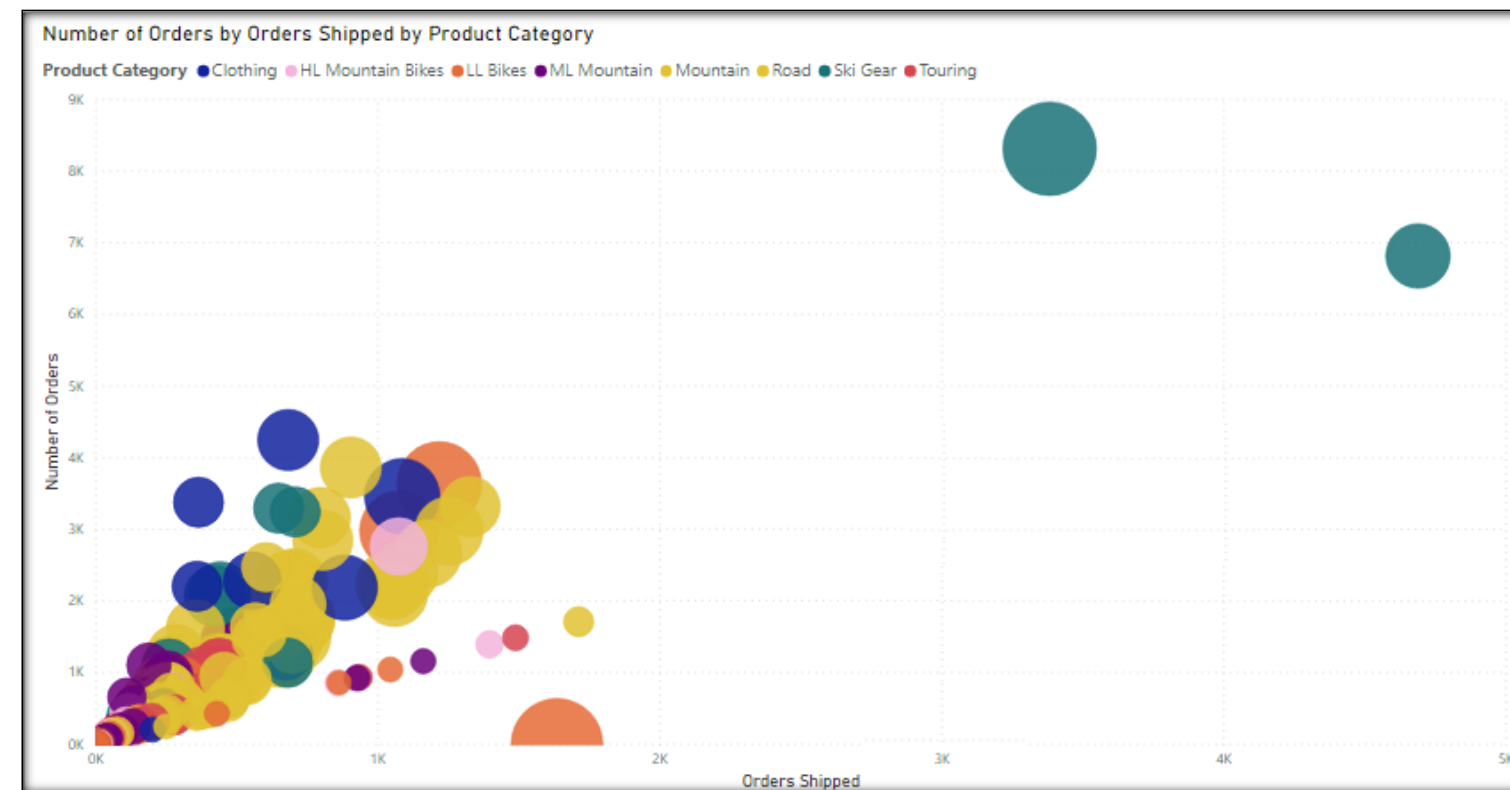


- To identify the outliers, perform formulation on calculated columns for static results until refreshed.
- The outliers can also be identified using visualization or DAX formula for dynamic results.

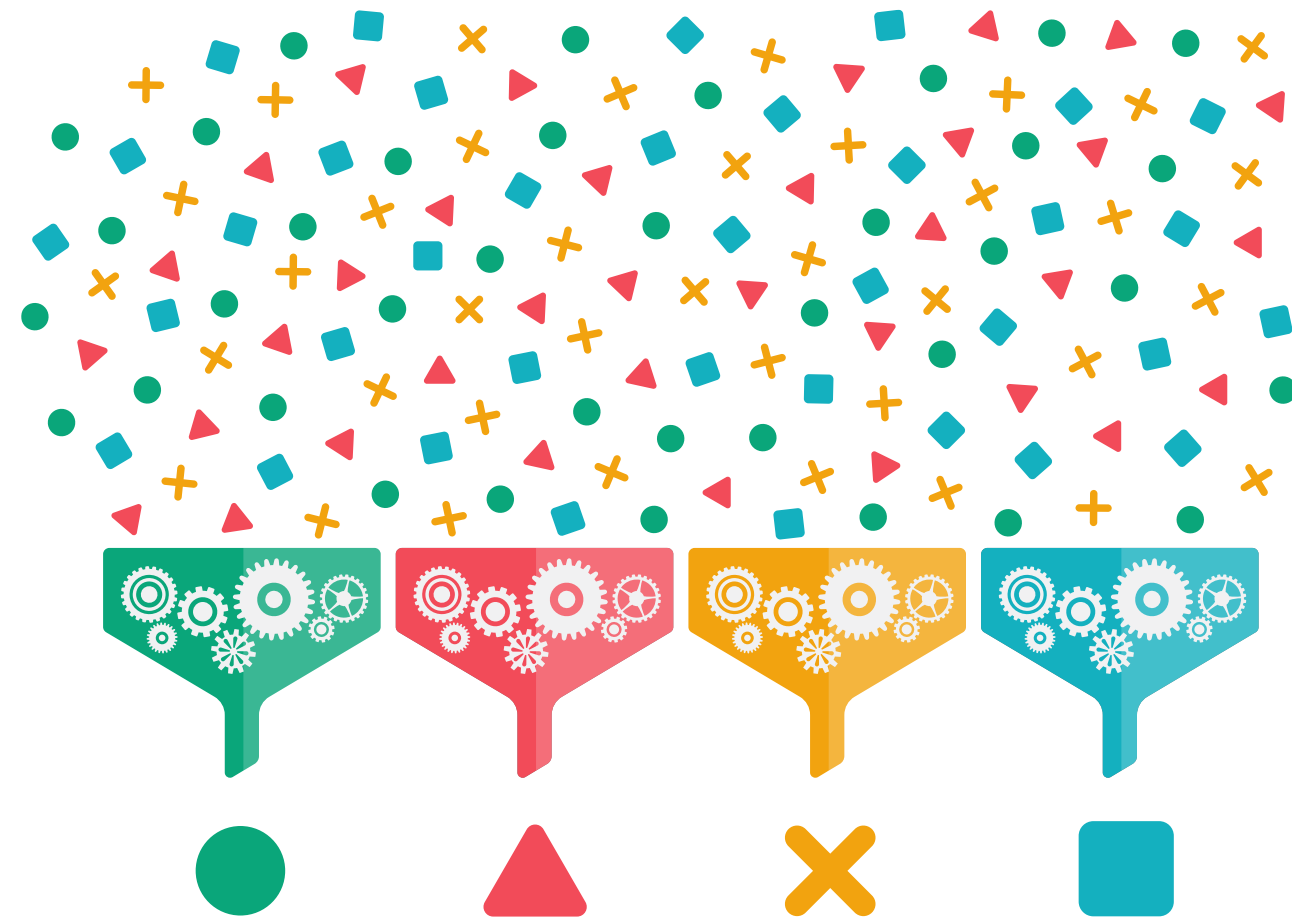


Use a Visual to Identify Outliers

The best visual to identify outliers is the scatter chart that shows the relationship between two numerical values and displays patterns in large sets of data.



Use DAX to Identify Outliers



DAX helps to create a measure to identify the outliers in data, and after it is created, the data is grouped into categories using the grouping feature.

Conduct Time Series Analysis

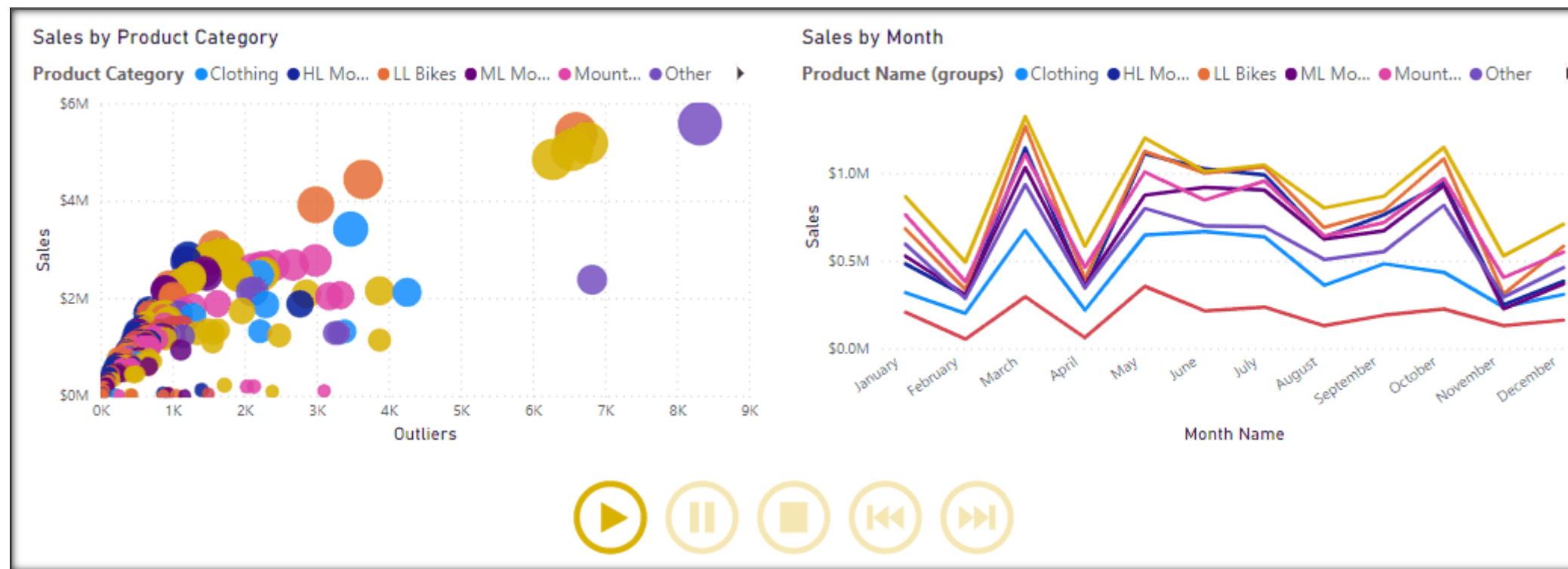
Time Series Analysis



- It involves analyzing series of data based on time to identify trends and make predictions.
- It can be widely used for forecasting activities.

Time Series Analysis

To conduct a time series analysis in Power BI, use a suitable visualization type such as a line chart, area chart, or scatter chart for displaying trends that change over time.



Grouping and Binning

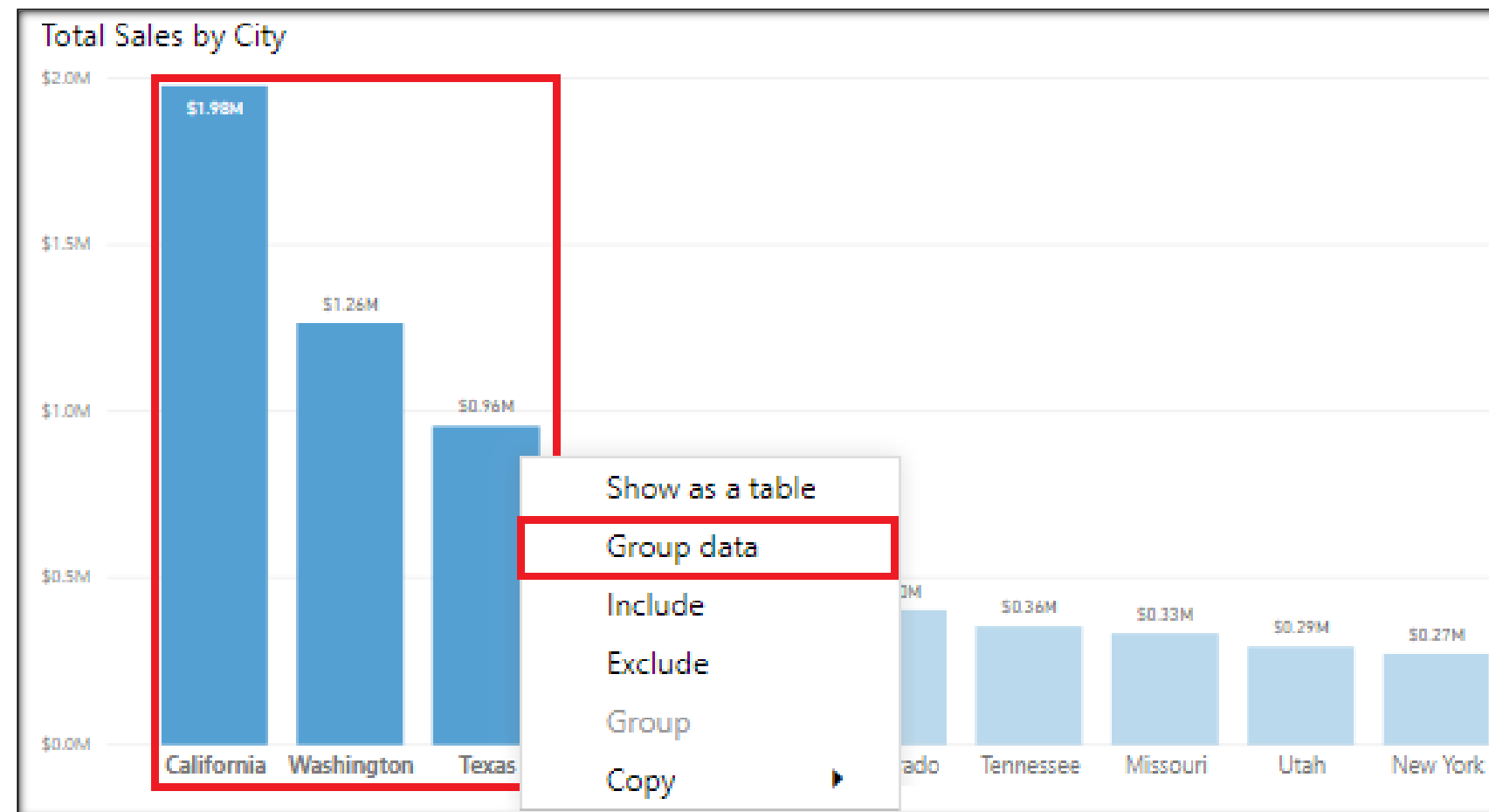
Grouping and Binning of Data



- To create visuals, Power BI Desktop aggregates data into groups based on the values in the underlying data.
- Group data points help to view, analyze, and explore data more clearly.

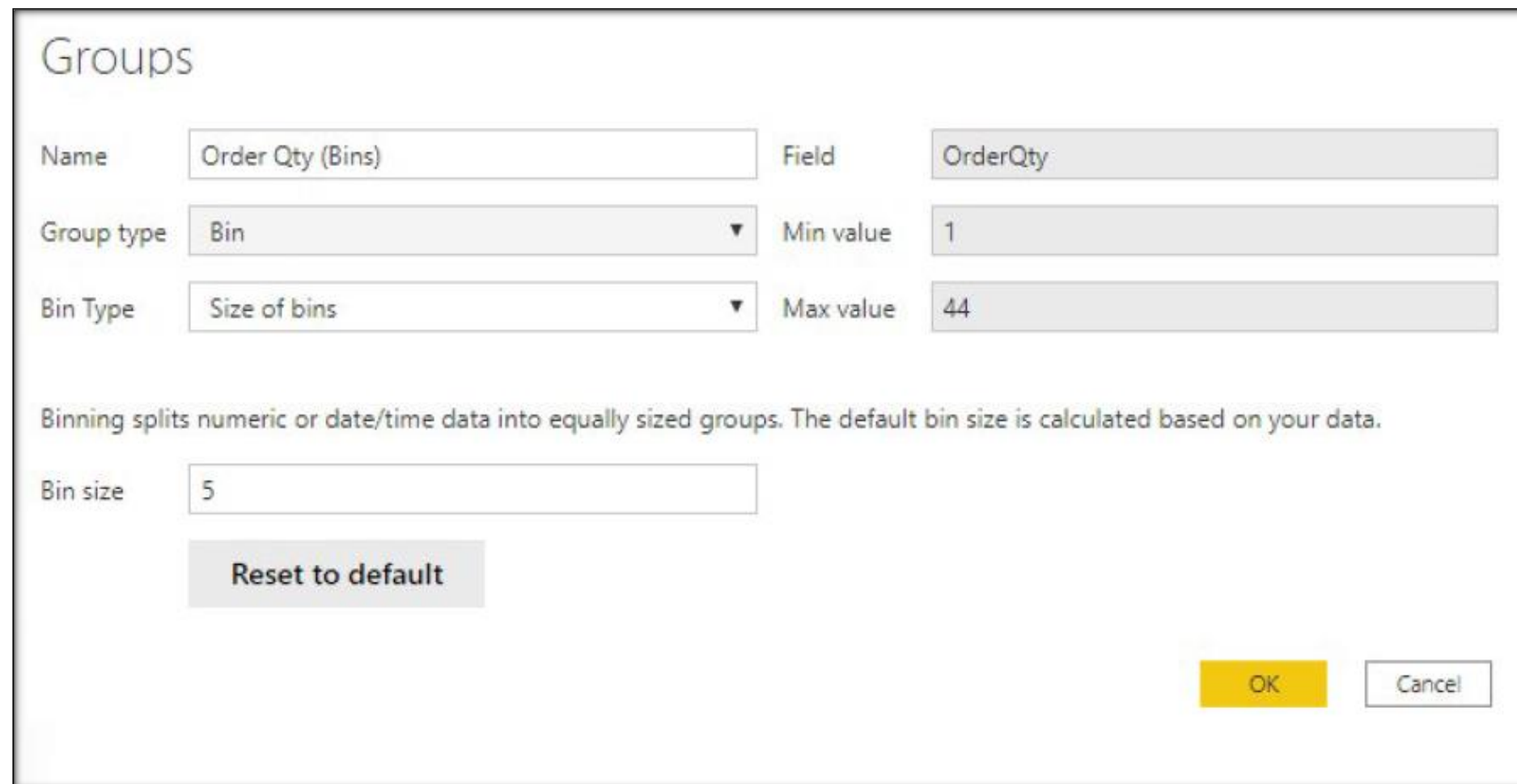
Grouping

Grouping is used for various categories of data.



Binning

It helps to group numerical and time field data into **bins** of equal size to visualize and identify trends in data.



Groups

Name	Order Qty (Bins)	Field	OrderQty
Group type	Bin	Min value	1
Bin Type	Size of bins	Max value	44

Binning splits numeric or date/time data into equally sized groups. The default bin size is calculated based on your data.

Bin size: 5

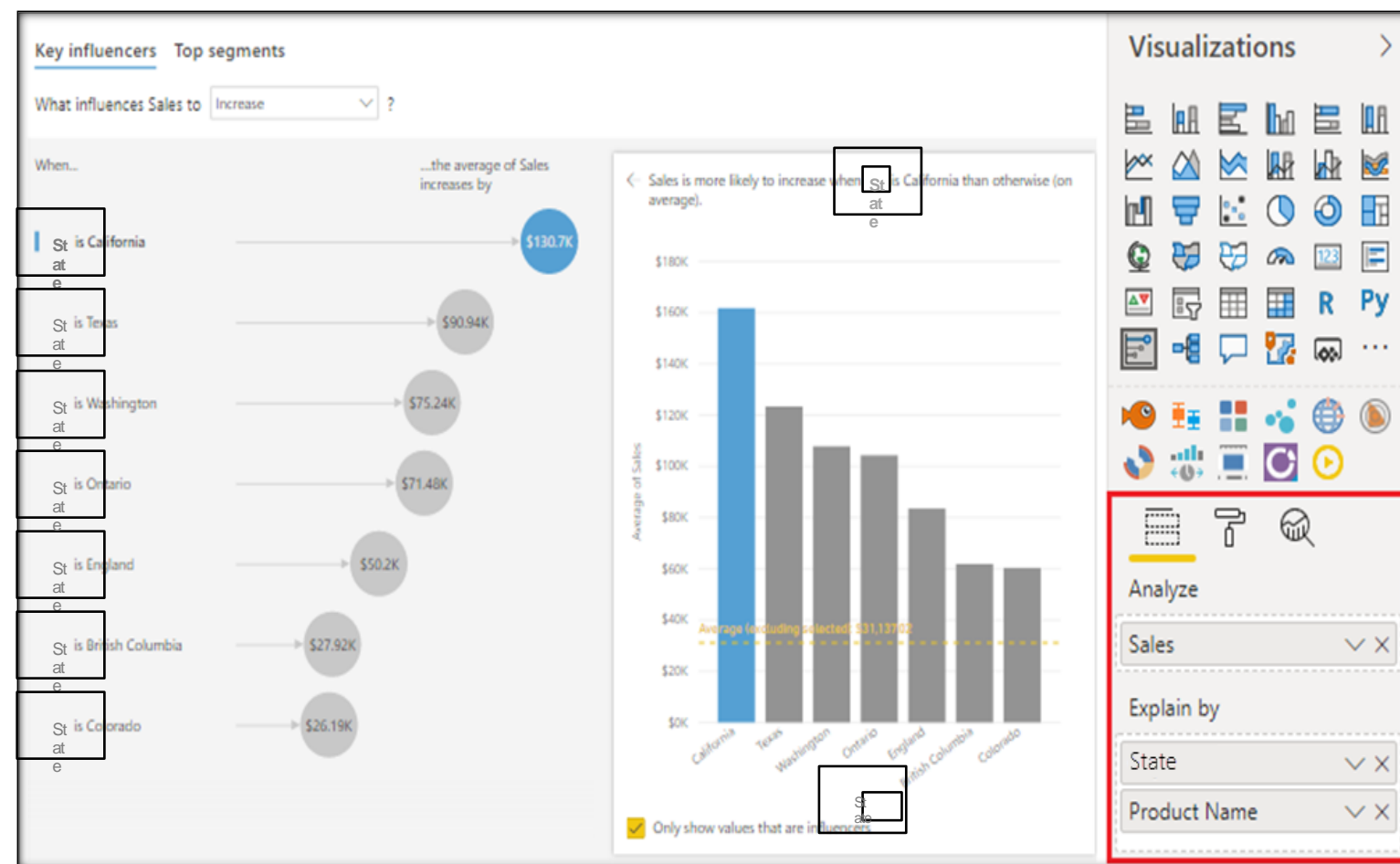
Reset to default

OK Cancel

Key Influencer Visual

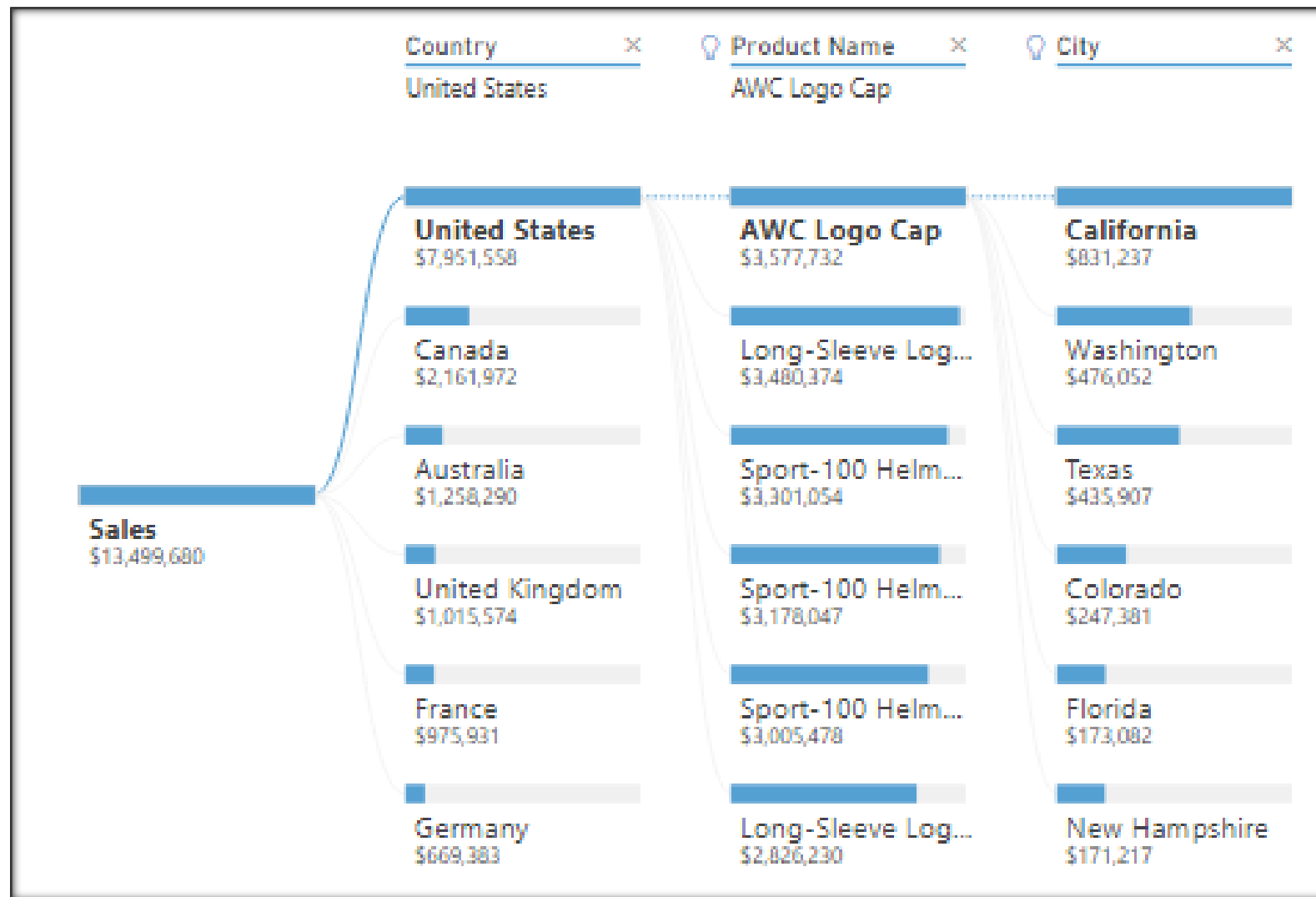
Key Influencer Visual

It helps to understand the factors that are affecting a specific metric and display important factors based on ranks.



Decomposition Tree Visual

Decomposition Tree Visual

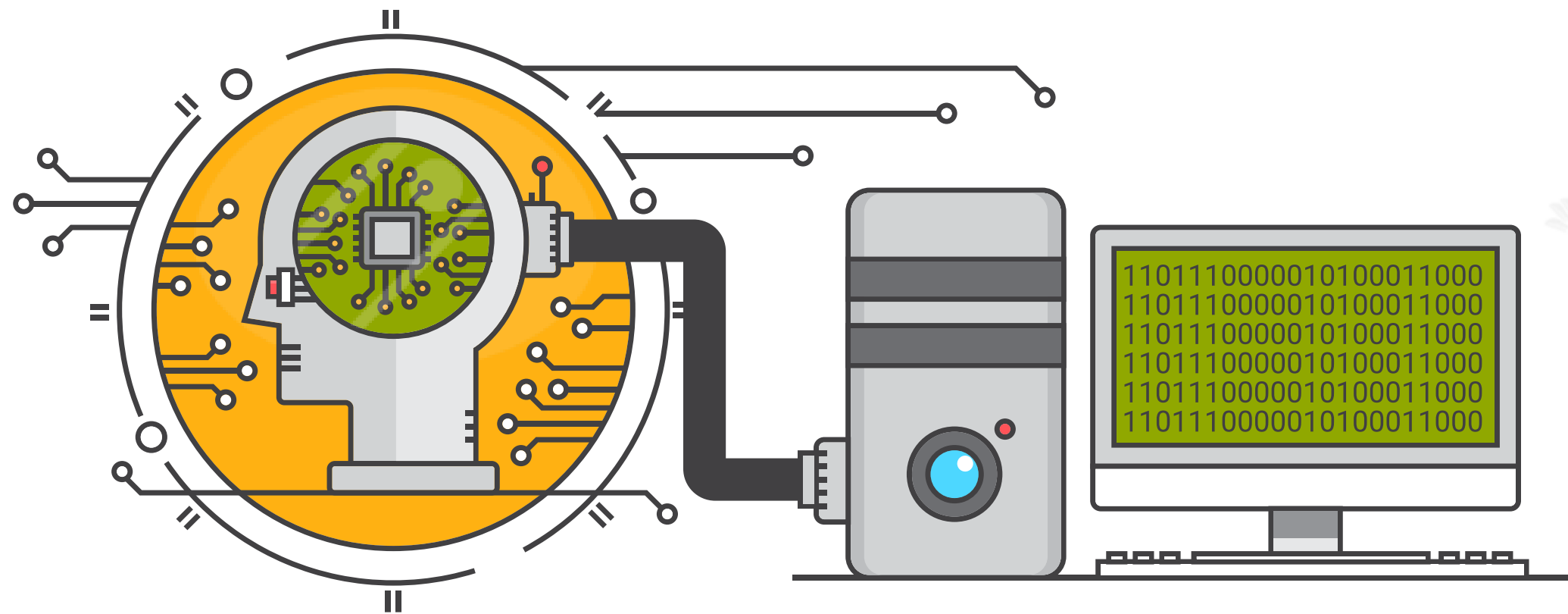


- Aggregate data and drill down into dimension
- Improvise exploration and root cause analysis

AI Insights

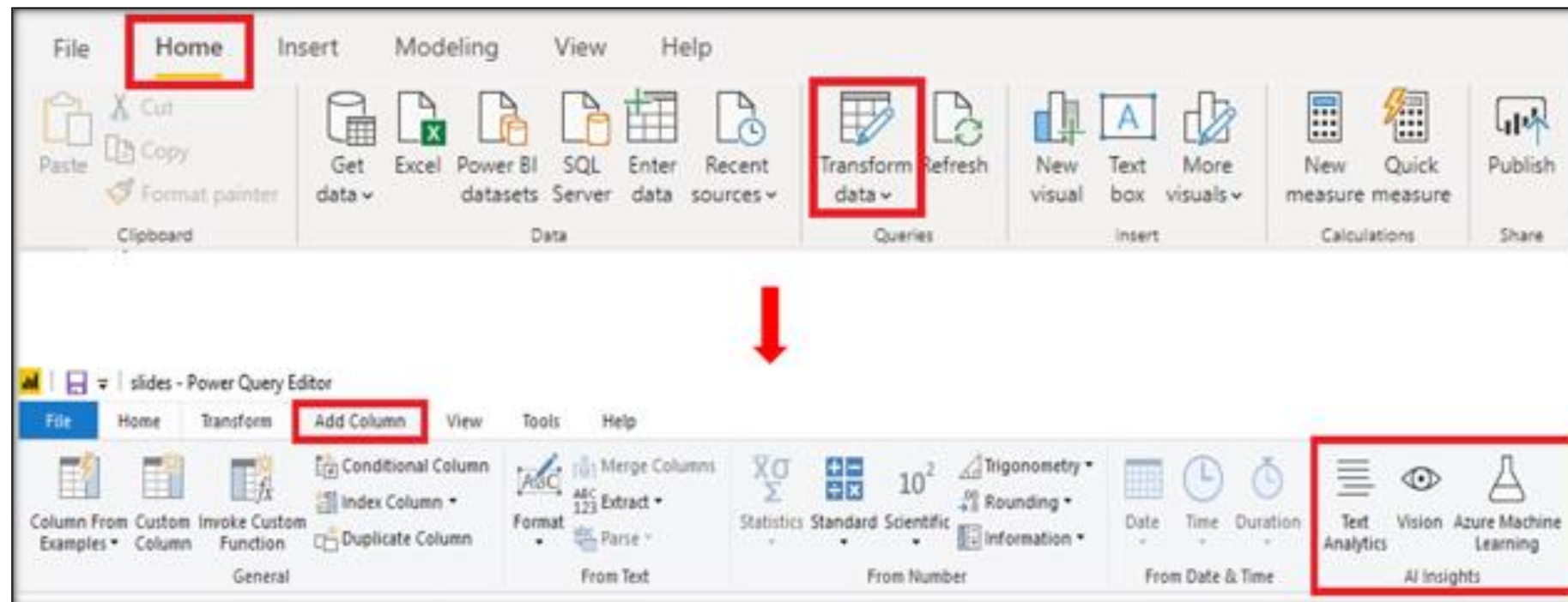
AI Insights

It helps to apply pre-trained machine learning models on data to enhance data preparation.



AI Insights

AI insights can be gathered using associated features and functions through the **Home** and **Add Column** tabs in the Power Query Editor.



Key Takeaways

- Advanced analytics enables organizations to make better business decisions and create meaningful insights.
- Time series analysis involves analyzing a series of data in time order to identify trends and make predictions.
- Key influencer visual helps to understand the factors that are affecting a specific metric.
- AI insights help to apply pre-trained machine learning models on data to enhance data preparation.





Knowledge Check

Knowledge Check

1

What are the two ways to identify outliers in Power BI?

- A. DAX
- B. Visualization
- C. AI insights
- D. Key influencer



Knowledge Check

1

What are the two ways to identify outliers in Power BI?

- A. DAX
- B. Visualization
- C. AI insights
- D. Key influencer



The correct answers are **A, B**

DAX and Visualization are the two ways to identify outliers in Power BI.

**Knowledge
Check**
2

Which of the following helps to group numerical and time field data into bins of equal size?

- A. Grouping
- B. Binning
- C. AI insights
- D. Outliers



**Knowledge
Check**
2

Which of the following helps to group numerical and time field data into bins of equal size?

- A. Grouping
- B. Binning
- C. AI insights
- D. Outliers



The correct answer is **B**

Binning helps to group numerical and time field data into bins of equal size.

**Knowledge
Check**
3

Which of the following helps in analyzing series of data in time order to identify trends and make predictions?

- A. Time series analysis
- B. Binning
- C. AI insights
- D. DAX



**Knowledge
Check**
3

Which of the following helps in analyzing series of data in time order to identify trends and make predictions?

- A. Time series analysis
- B. Binning
- C. AI insights
- D. DAX



The correct answer is **A**

Time series analysis helps in analyzing series of data in time order to identify trends and make predictions.