

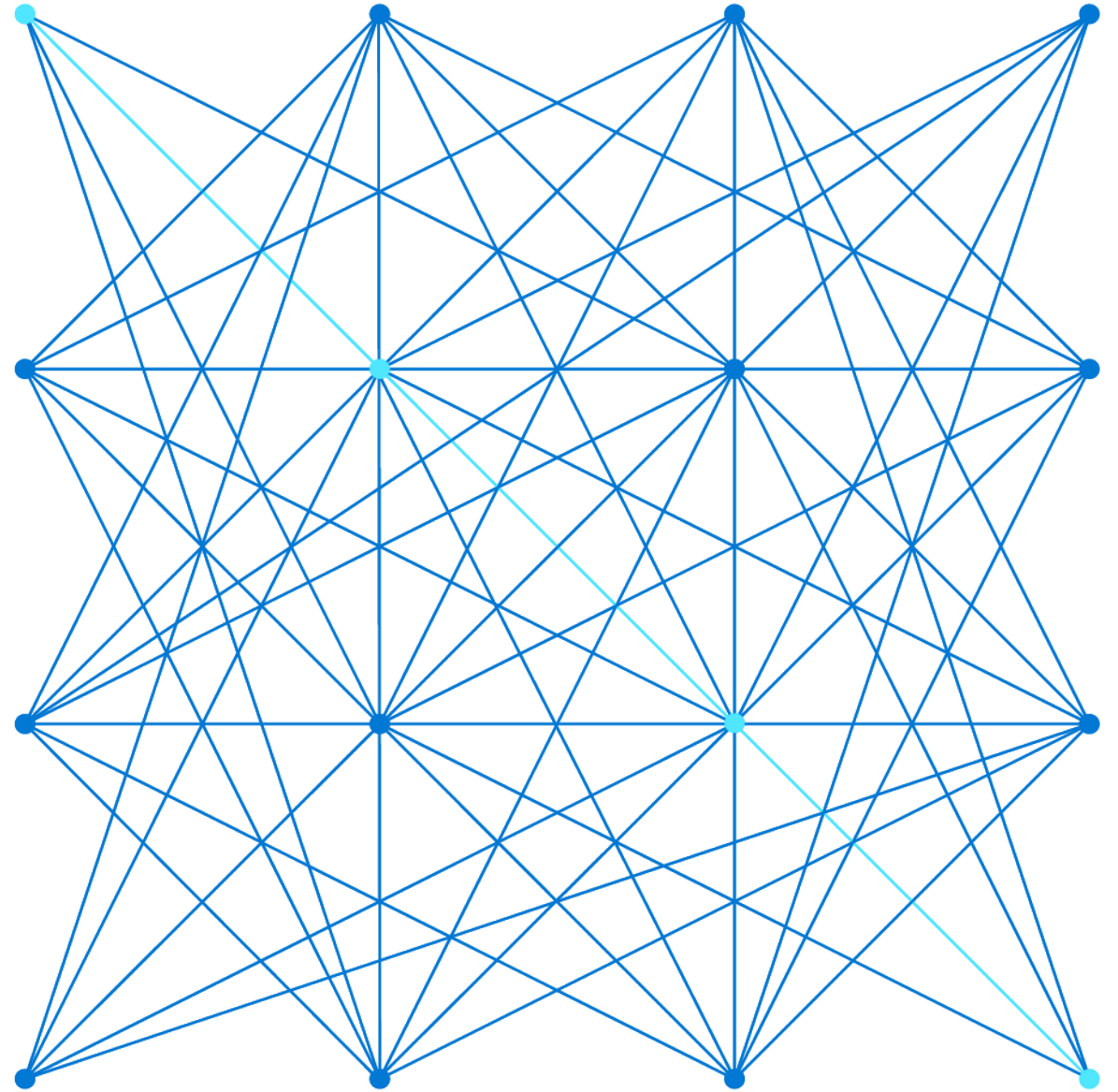
Online Role-based training resources:

**Microsoft Learn**

<https://docs.microsoft.com/en-us/learn/>

# DA-100 Analyzing Data with Power BI

<Name>, <Title>



# Module 10: Perform Advanced Analytics

# Learning Objectives

You will learn the following concepts:

- Advanced Analytics
- Data Insights through AI Visuals



# Lesson 1: Advanced Analytics



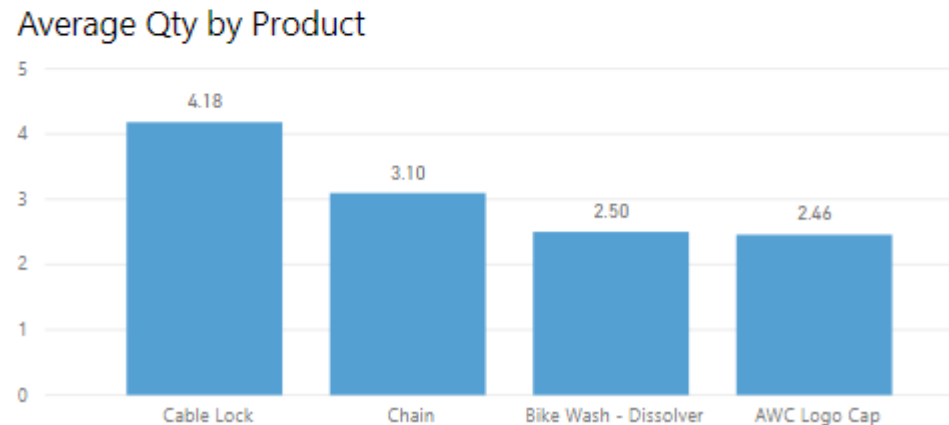


# Introduction to Advanced Analytics

- Advanced analytics enables organizations to make better business decisions and create actionable and meaningful insights.
- The emerging power of advanced analytics.
- Bring value to an organization through Power BI's advanced analytics capabilities.

# Explore Statistical Summary

- Information that provides quick and simple description of your data.
- See clusters, patterns, and behavioral data.



Visualizations

Filters

Axis

Product Name

Legend

Add data fields here

Values

Average Qty

Tooltips

Remove field  
Rename  
Move to

Sum  
✓ Average  
Minimum  
Maximum  
Count (Distinct)  
Count  
Standard deviation  
Variance  
Median

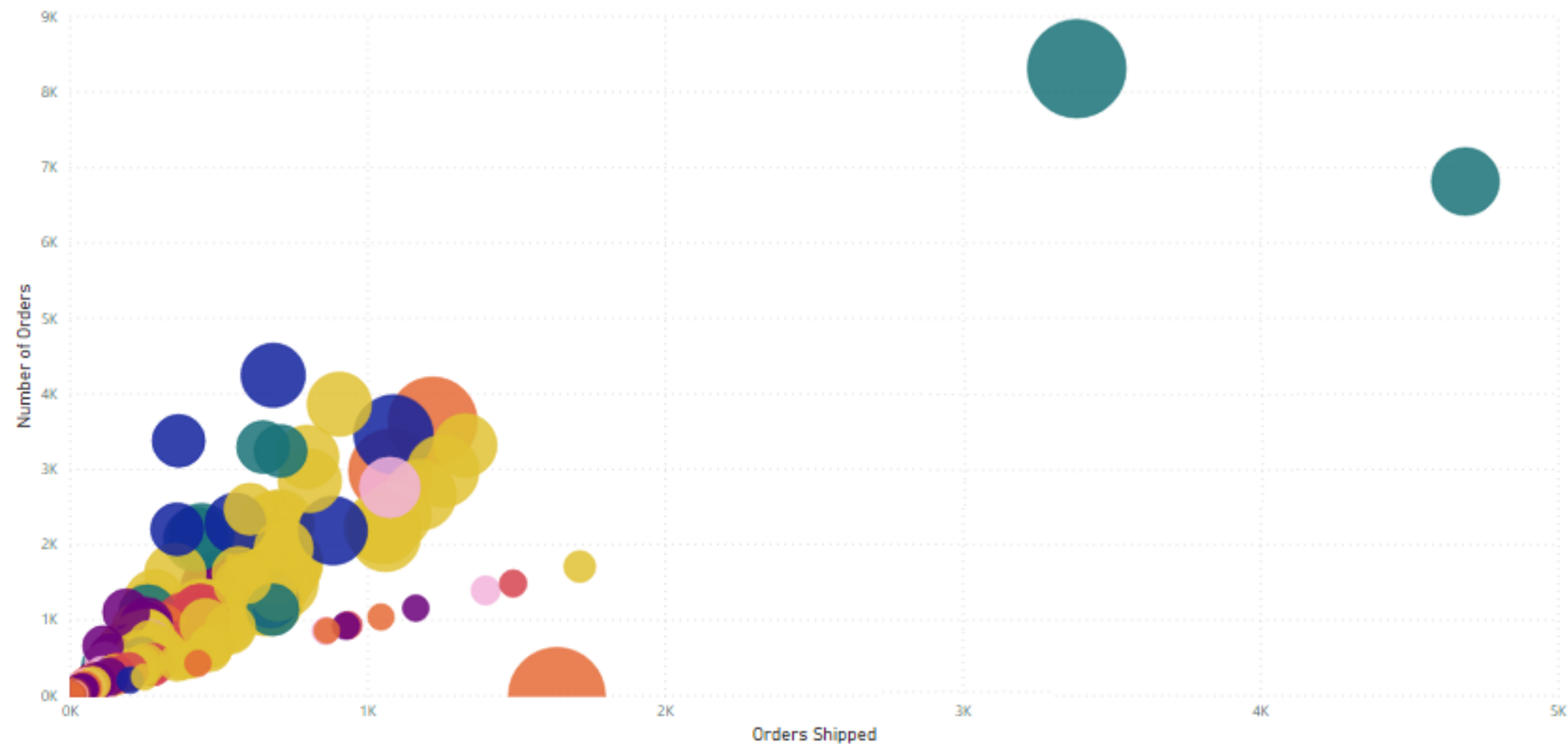
Show value as

New quick measure

# Identify Outliers

Number of Orders by Orders Shipped by Product Category

Product Category ● Clothing ● HL Mountain Bikes ● LL Bikes ● ML Mountain ● Mountain ● Road ● Ski Gear ● Touring

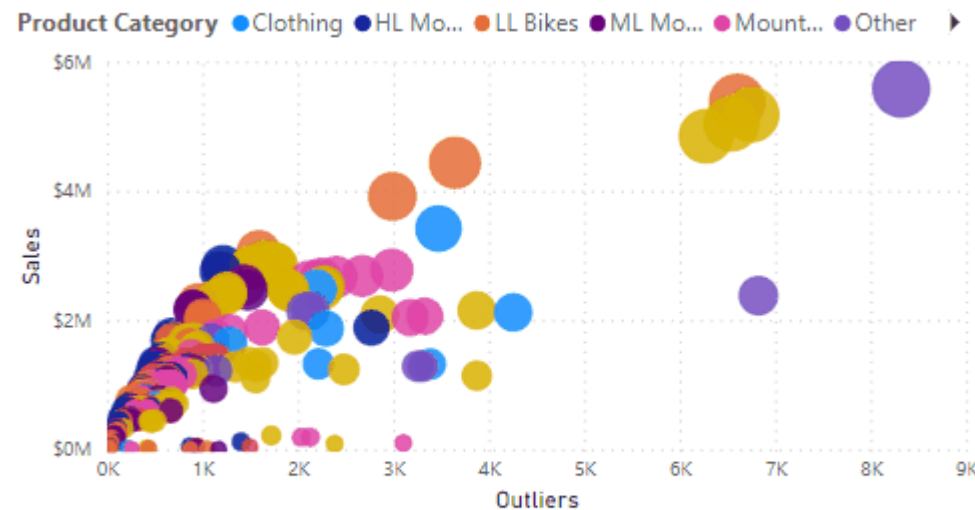




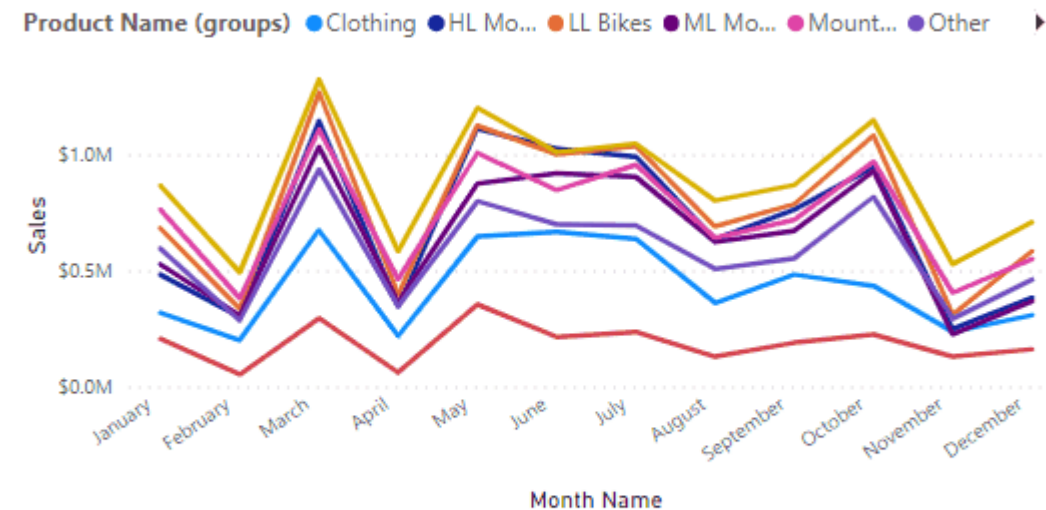
# Conduct Time-series Analysis

- Analyze a series of data over time.
- Identify meaningful trends and make predictions.

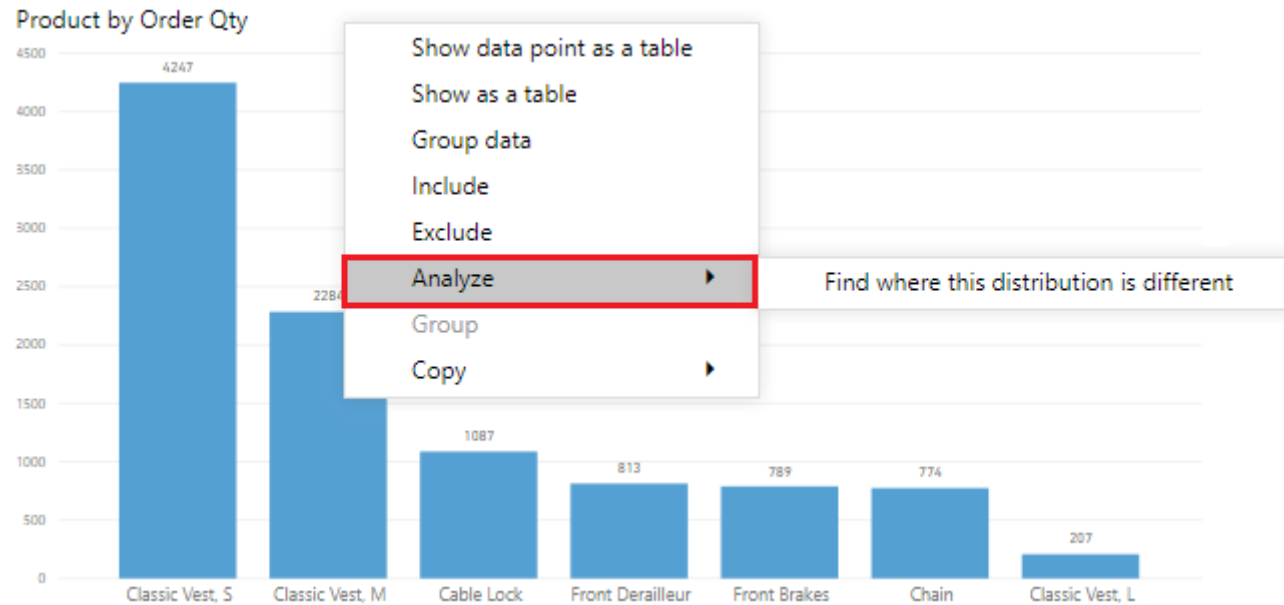
Sales by Product Category



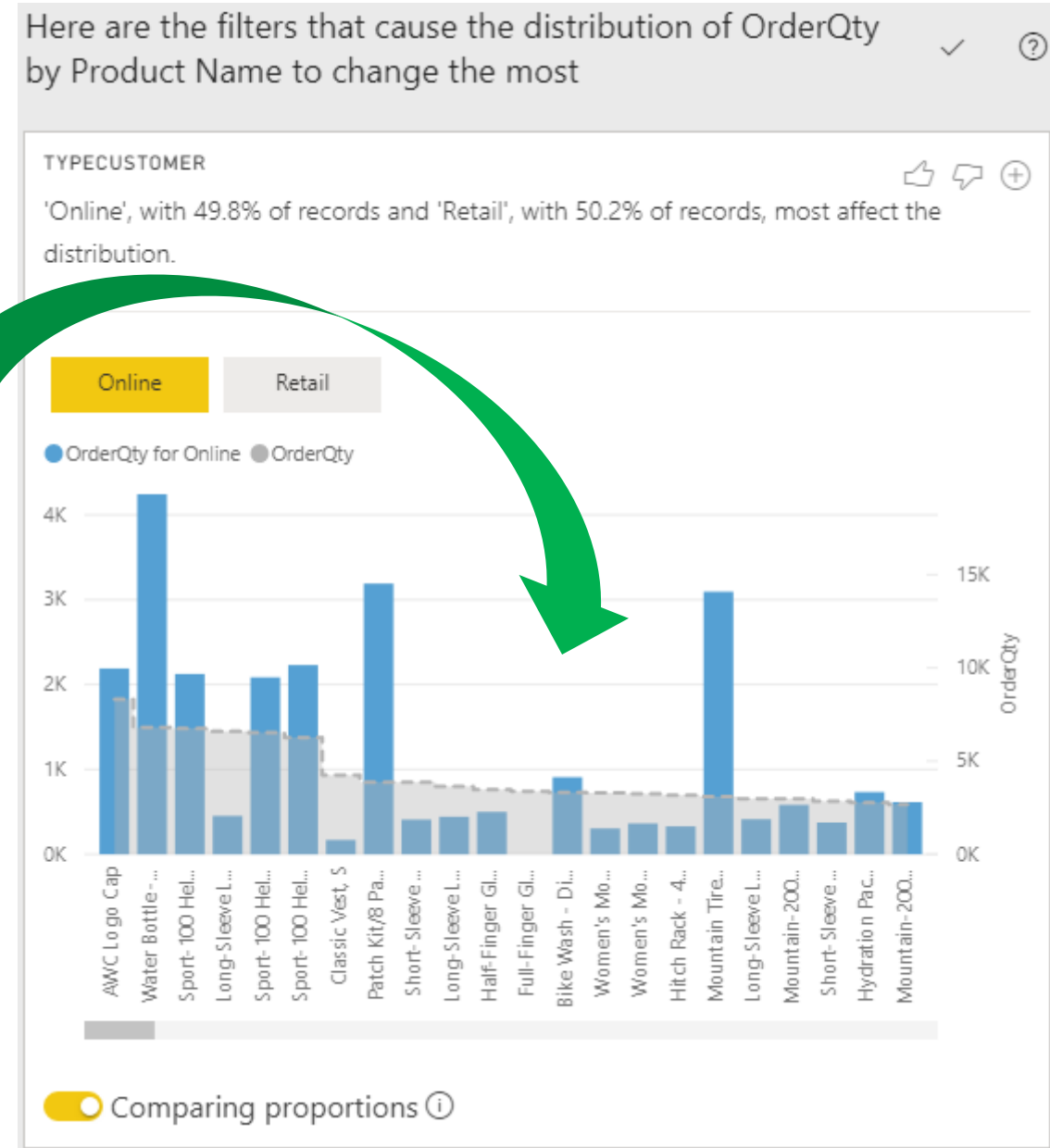
Sales by Month



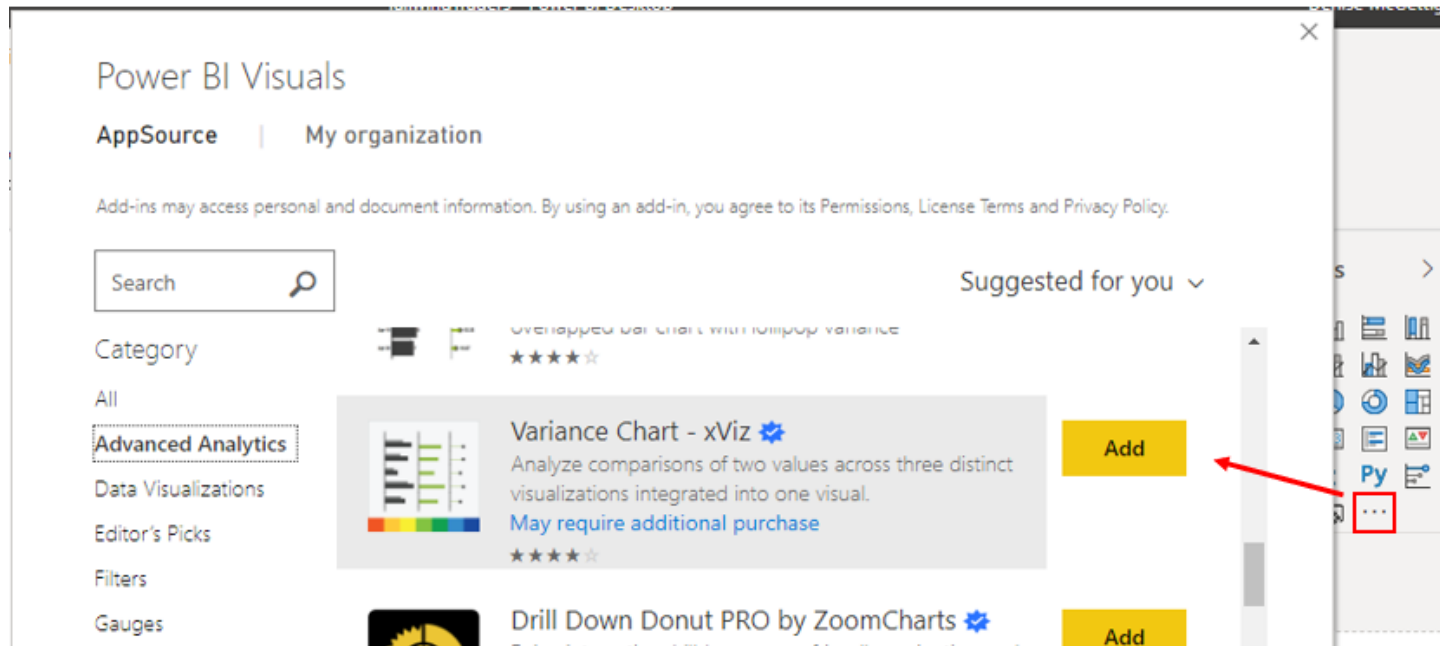
# Using the Analyze Feature



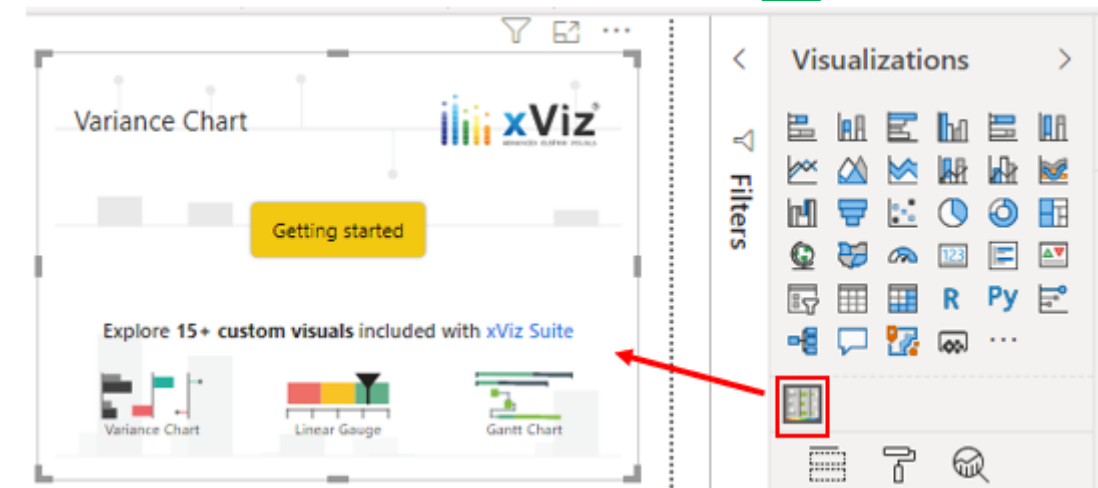
Get fast, automated, and insightful analysis on your data.



# Advanced Analytics Custom Visuals



Add a layer of data insights to your reports for further analysis.

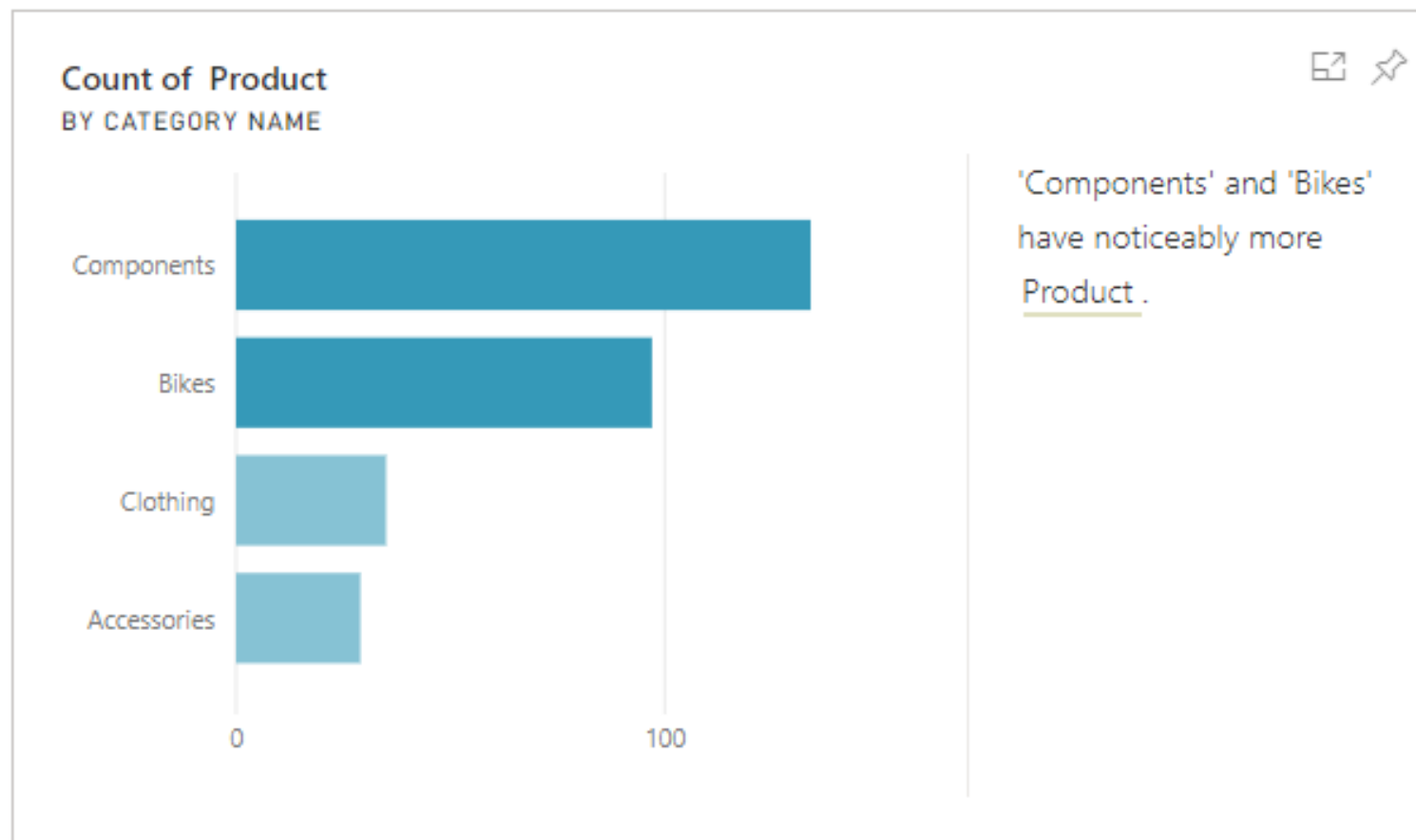


# Quick Insights

- Uses Machine Learning algorithms to produce quick insights.
- Uncover insights missed during report construction.
- Generate stimulating visual interactions.

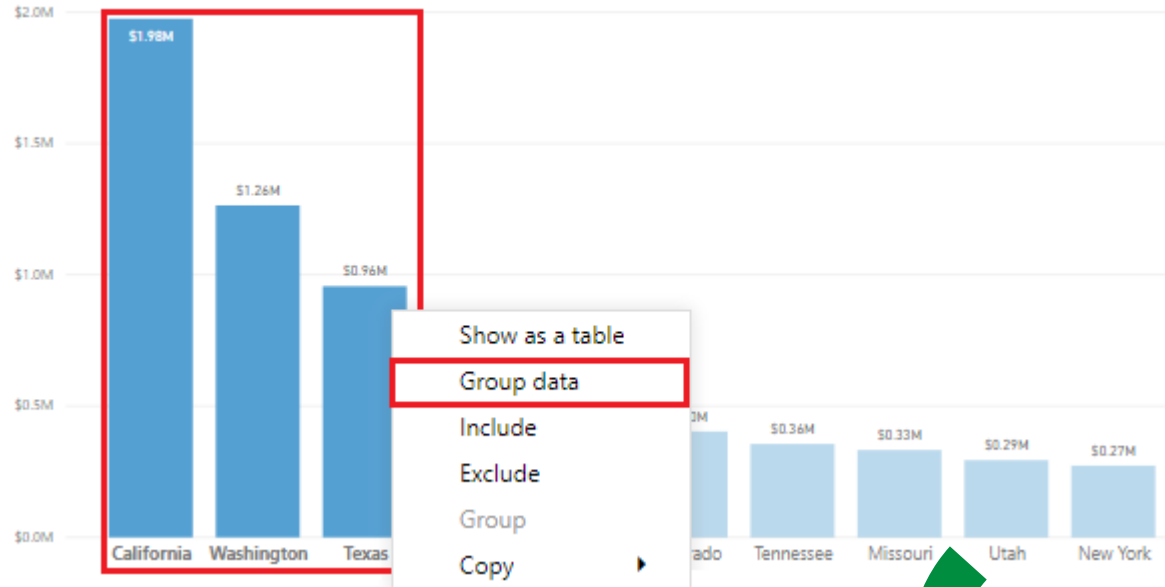
## Quick Insights

A subset of your data was analyzed and the following insights were found. [Learn more](#)



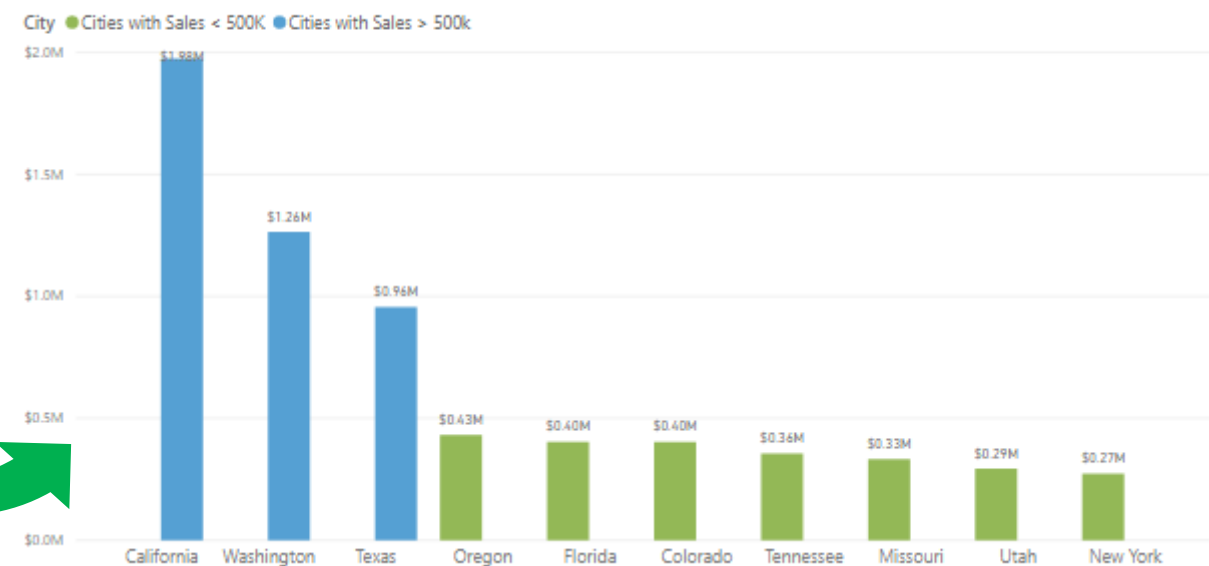
# Grouping and Binning

Total Sales by City



- Grouping: Group categories of data.
- Binning: Group continuous fields.

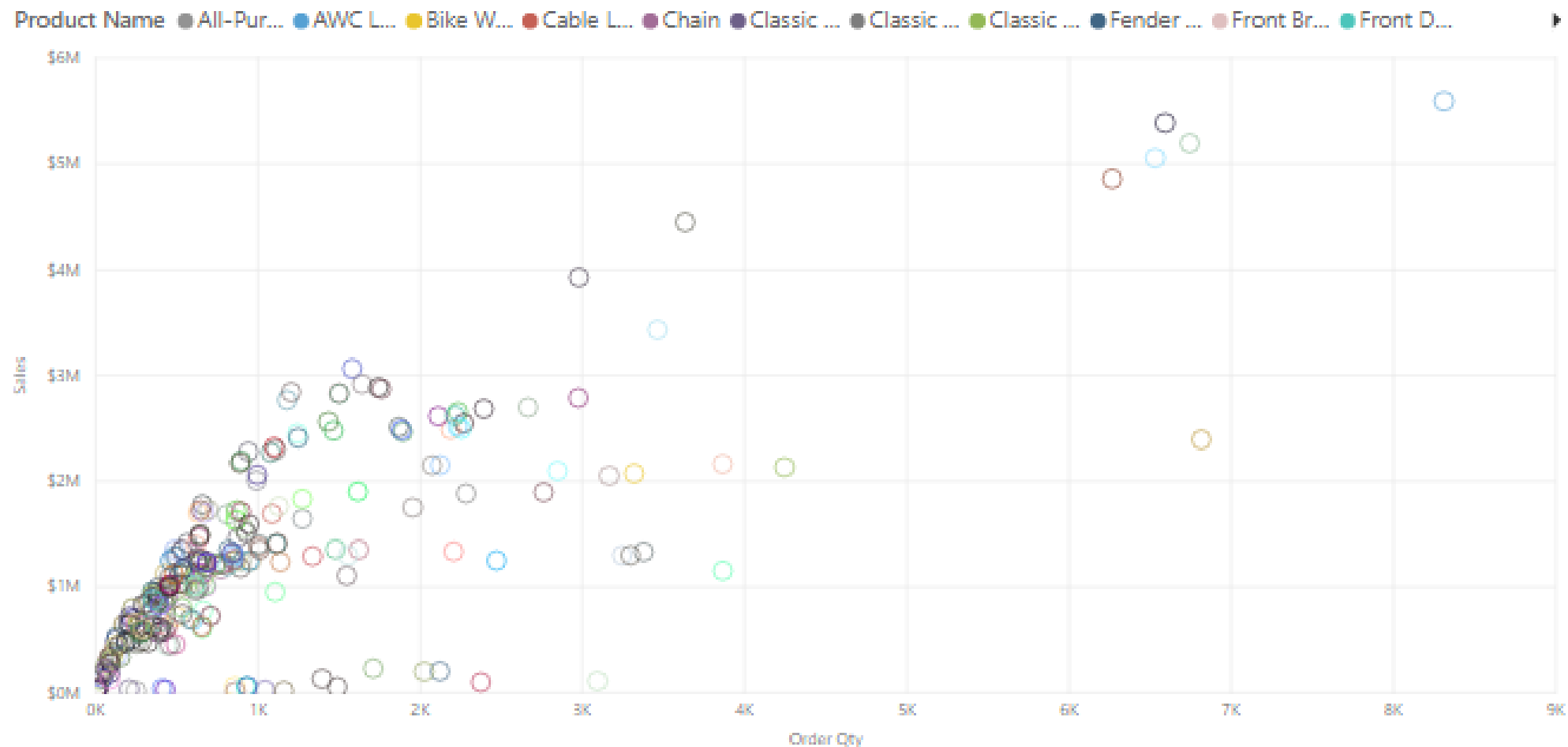
Total Sales by City





# Clustering Techniques

Product Clusters



# Review Questions

- Q01 – What Power BI feature can give an in-depth analysis of the distribution of data?
- A01 – The Analyze feature allows a user to understand why the distribution of data looks the way it does.
- Q02 – Where are time series charts located?
- A02 – Time series charts can be imported from AppSource.
- Q03 – What visual should be used to display outliers?
- A03 – The scatter chart displays outliers.

# Lesson Review

- Advanced analytics enables organizations to make better business decisions and create actionable and meaningful insights.
- The emerging power of advanced analytics.
- Bring value to an organization through Power BI's advanced analytics capabilities.



# Lesson 2: Data Insights through AI Visuals





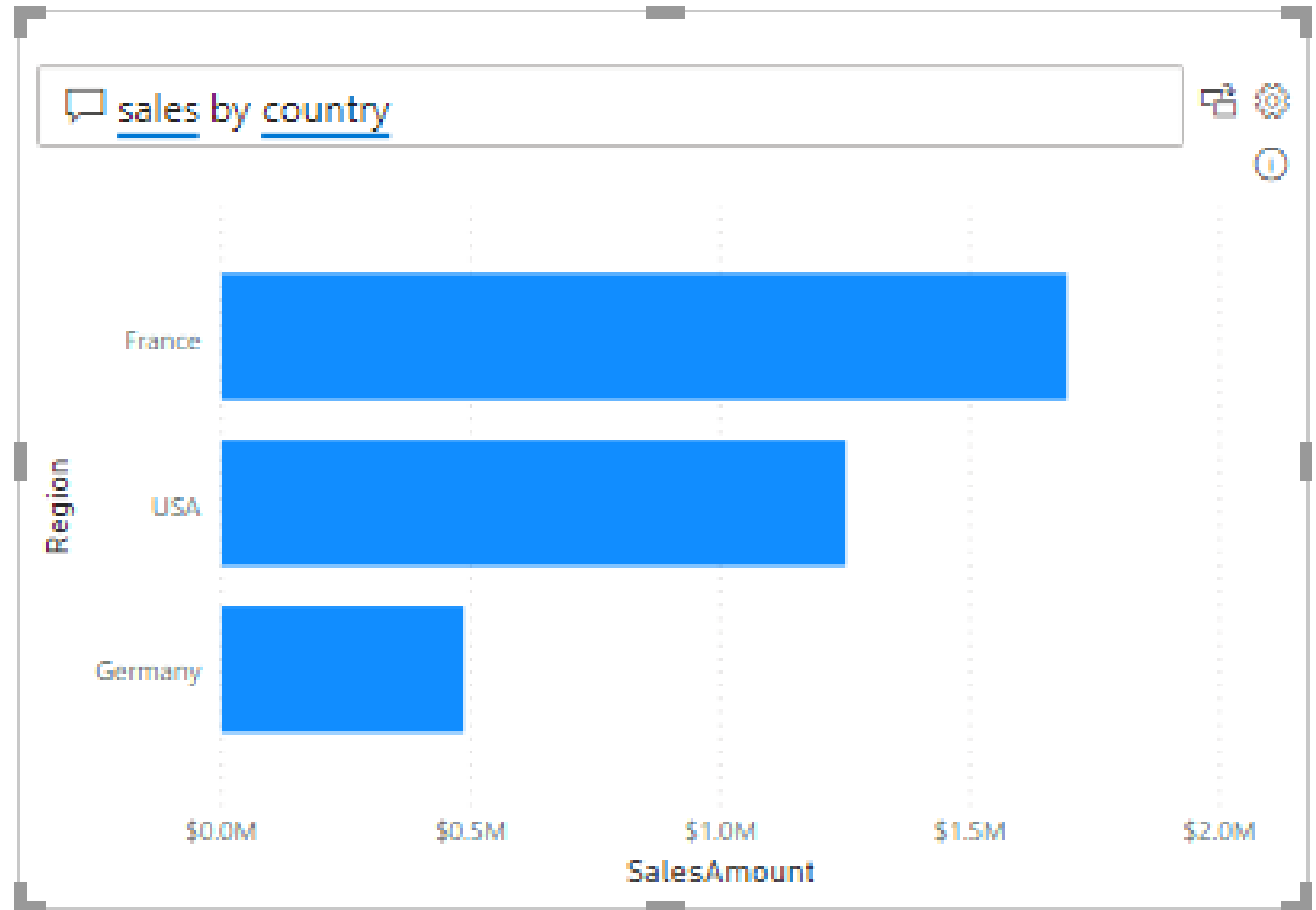
# Introduction to AI Visuals

- Power BI provides a wide range of methods to analyze data.
- Fastest way to get an answer is to ask a question.
- Analyze raw data and transform it into valuable information.



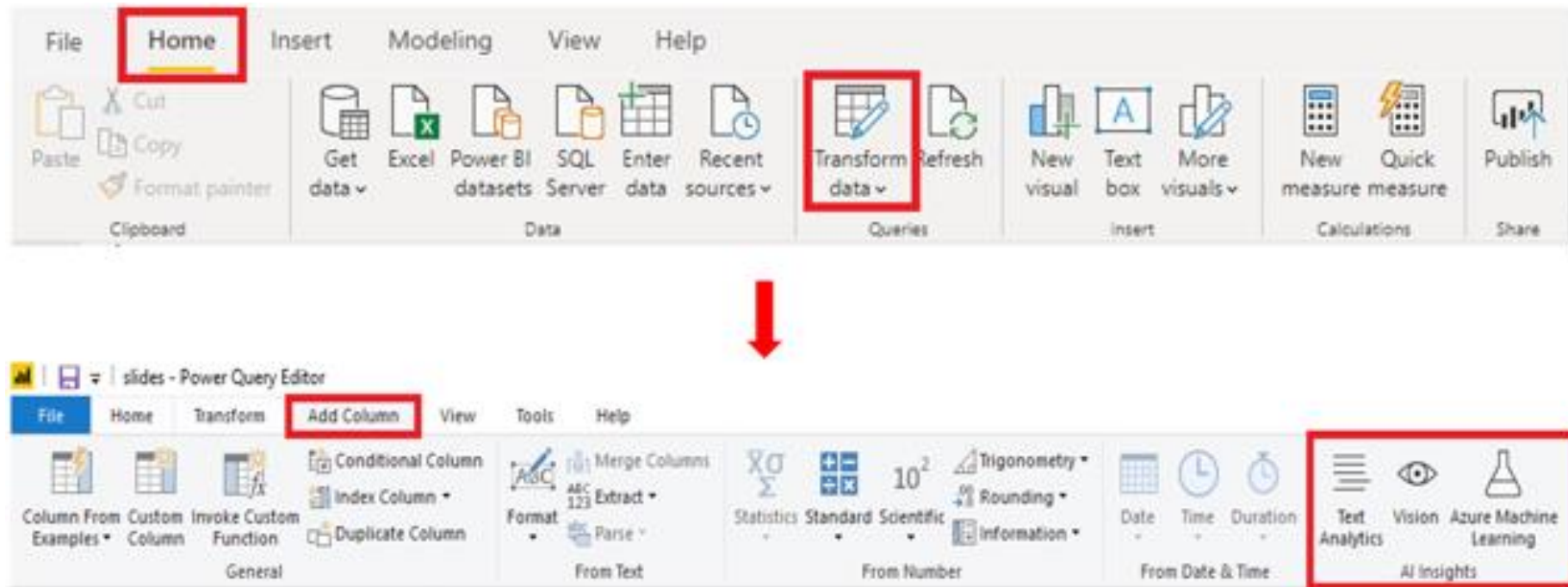
# The Q&A Feature

- Explore data in your own words.
- Ask natural language questions.
- A “self-help” feature for insights the user is interested in.



# AI Insights

Connect to a collection of pre-trained Machine Learning models.



# Key Influencer Visual

Key influencers Top segments

What influences Sales to Increase ?

When...

...the average of Sales increases by

City is California

\$130.7K

City is Texas

\$90.94K

City is Washington

\$75.24K

City is Ontario

\$71.48K

City is England

\$50.2K

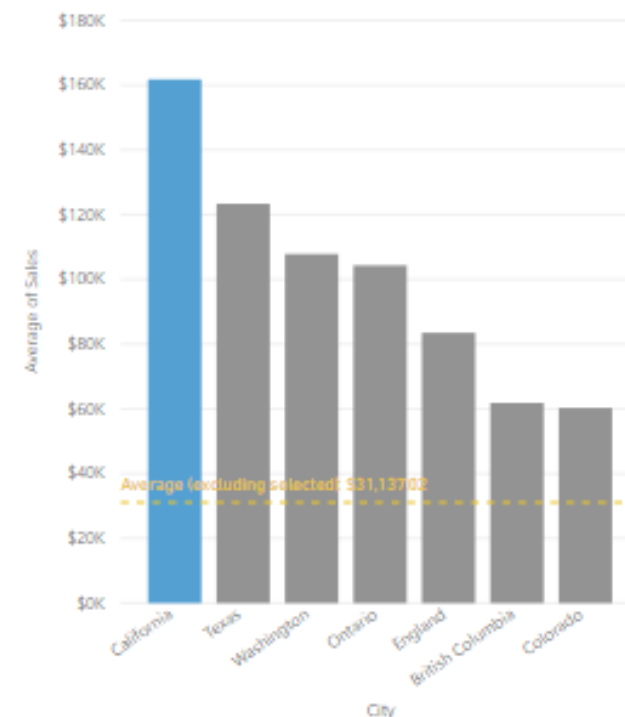
City is British Columbia

\$27.92K

City is Colorado

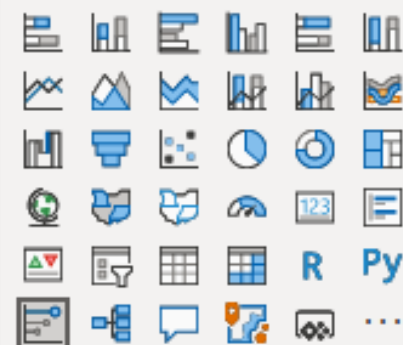
\$26.19K

< Sales is more likely to increase when City is California than otherwise (on average).



☒ Only show values that are influencers

Visualizations



Analyze

Sales

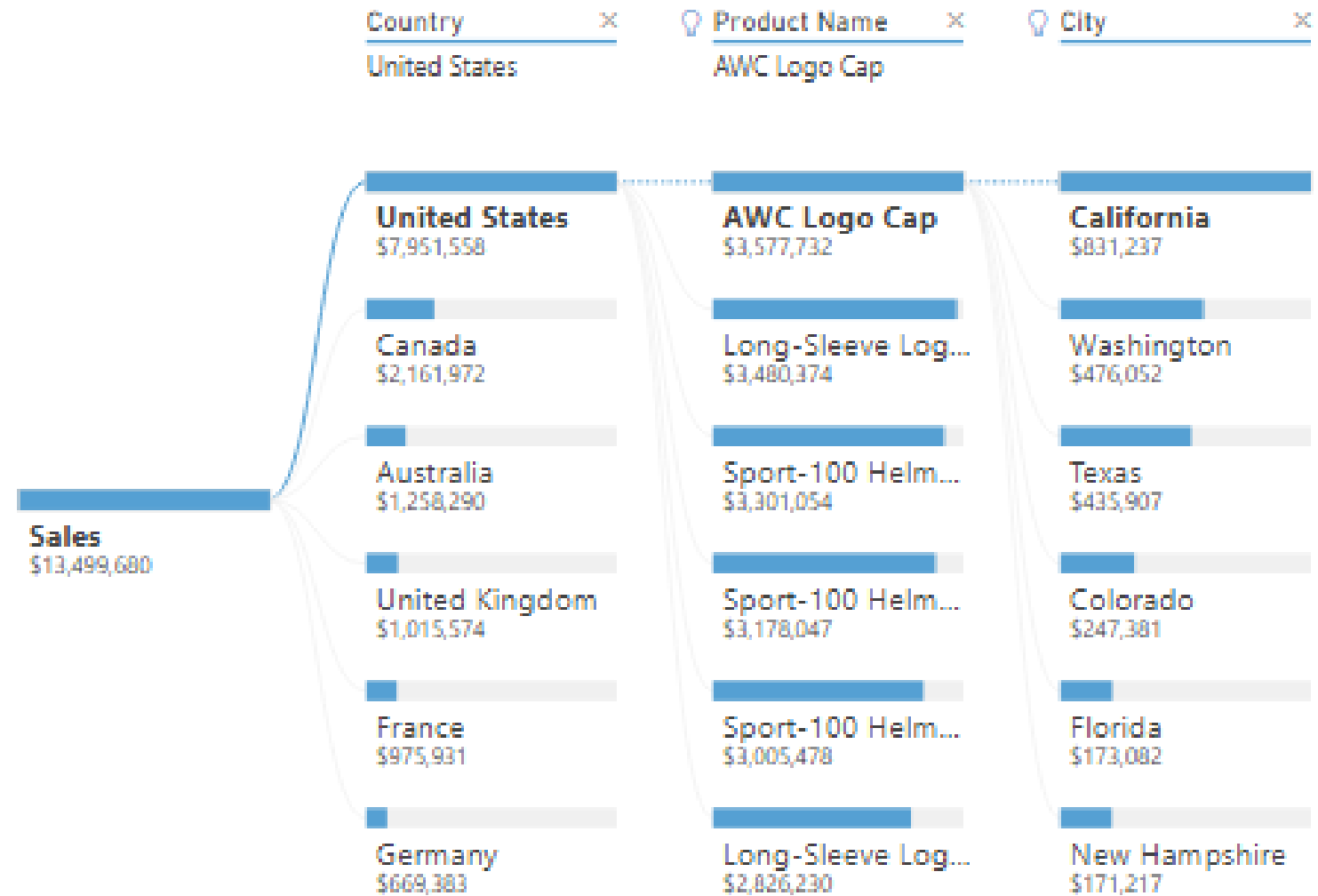
Explain by

City

Product Name

# Decomposition Tree Visual

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



# Review Questions

- Q01 – What does the AI splits feature do?
- A01 – AI splits work by considering all the available fields and determining which one to drill into to get the highest/lowest value of a measure that is being analyzed.
- Q02 – Can you access the Q&A feature by using buttons?
- A02 – Yes, you can access the Q&A feature by selecting the Q&A button type.
- Q03 – What is not a feature of the Q&A feature?
- A03 – Searching for help topics about Power BI.
- Q04 – What does the decomposition tree not enable you to do?
- A04 – Conduct what-if analysis with built-in parameters.



# Lesson Review

- Use the AI aspects of advanced analytics in Power BI to dig deeper into data.
- Use AI to answer more business questions.
- Use AI visuals to understand factors affecting a metric or view data across multiple dimensions for root cause analysis.

# Lab: Data Analysis in Power BI

# Module Overview

We covered the following concepts:

- Advanced Analytics
- Data Insights through AI Visuals

# References

- DA-100 Perform analytics in Power BI  
<https://docs.microsoft.com/en-us/learn/paths/perform-analytics-power-bi/>
- Work with AI visuals  
<https://docs.microsoft.com/en-us/learn/modules/ai-visuals-power-bi/>



# Azure Technical Trainer Role Based Training