



BIG DATA ANALYTICS

POWER BI

Transforming Data into Insights

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WHAT IS POWER BI?

Power BI is a powerful business analytics tool developed by Microsoft, focusing on **data visualization** and **business intelligence**.

Components: Power BI Desktop, Power BI Service, Power BI Mobile, Power BI Report Server.



ORIENTATION TOWARDS BIG DATA

Big Data Capabilities:

- Designed to handle and process large volumes of data efficiently.
- Suitable for big data scenarios where traditional data processing methods may not suffice.



KEY TECHNOLOGIES OF POWER BI

Following are the core technologies of Power Bi

SQL Server Analysis Services (SSAS)

For Data Modeling.

Azure Analysis Services

Cloud-Based Analytics

Power Query Engine (M)

Powerful Data Transformation.

THEORETICAL CONCEPTS BEHIND POWER BI

Following are the few foundational concepts of Power Bi

Data Warehousing

Online Analytical Processing (OLAP)

Columnar Database (VertiPaq)

Centralized Data Storage

Fast Data Querying

Compressed Data For Speed

POWER BI: SUPPORT BOTH ETL & ELT

ETL (Extract, Transform, Load) Process

- **Extract:** Connects to databases, web services, and files.
- **Transform:** Power Query for cleaning, shaping, and aggregating data.
- **Load:** Data is loaded into Power BI's data model for reporting.

Example:

Data from CRM, ERP, web analytics standardized and cleansed before loading into Power BI.

ELT (Extract, Load, Transform) Process

- **Extract:** Retrieves data from various sources.
- **Load:** Raw data is loaded into Power BI.
- **Transform:** Power Query used post-load for transformations.

Example:

Raw data loaded into Power BI; transformations applied for analysis.

USES OF POWER BI

Data Visualization
(Charts, Graphs & Interactive Reports)

Data Connectivity
(Connect the data from Excel, databases or online service)

Data Modeling
(Find relationships from data and reshape it for analysis)

Business Intelligence Features
(Find useful insights from data which helps in growing the business)

Collaboration and Sharing
(Can work in a team or share the reports)

KEY BENEFITS

Scalability

(Suitable for both small businesses and large enterprises.)

Integration

(Works seamlessly with other Microsoft tools like Excel and Azure.)

Accessibility

(Available on desktop, web, and mobile devices.)

Processes of Power Bi

Data Connectivity

Multiple Sources: Connect to databases, data warehouses, and big data services.

Data Transformation & Modeling

Power Query: Clean and shape data.
DAX: Create complex calculations.

Data Visualization

Interactive Visuals: Create and share insightful visualizations.

Applications of Power Bi in real world

Healthcare Analytics

Analyze patient data: Identify trends, predict outcomes, improve services.

Retail Analytics

Optimize inventory and sales: Analyze sales data and customer behavior.

Financial Services

Monitor transactions and risks: Inform investment decisions, detect fraud.

Manufacturing

Improve production: Monitor processes, predict maintenance, enhance quality.



GETTING STARTED WITH POWER BI

Download and Install the Power Bi

DOWNLOAD AND INSTALL POWER BI FROM THIS LINK

<https://powerbi.microsoft.com/en-us/downloads/>



CASE STUDY

DATA ANALYSIS FOR SUPERMARKET SALES FORECASTING

CASE STUDY

Brief Description:

Demonstrating how data analysis, specifically time series analysis, can forecast supermarket sales.

Overview of steps:

Creating a dashboard with key metrics, analyzing data, and forecasting sales using time series analysis.



MAIN STEPS

We perform the following main steps to implement the case study.

- Get Data
- Clean Data
- Dashboard Creation
- DAX Queries



VIEWS

There are four views in Power BI

Report View

Table View

Model View

DAX Query View

Interactive Data
Visualizations

Tabular Data
Representation

Relationships
Visualization

Key Performance
Metrics Display

REPORT VIEW

File Home Insert Modeling View Optimize Help

Cut Copy Paste Format painter Clipboard

Get data Get data from OneLake workbook data hub SQL Server Enter data Dataverse Recent sources Transform Refresh data New visual Text box More New measure Quick Sensitivity Publish Copilot

Clipboard

Report view

Build visual

Filters

Visualizations

Data

Search

SuperStore_Sales_Dat...

Category
City
Country
Customer ID
Customer Name
Order Date
Order ID
Payment Mode
Product ID
Product Name
 \sum Profit
 \sum Quantity
Region
Returns
 \sum Row ID+O6G3A...
 \sum Sales
Segment
Ship Date
Ship Mode
State
Sub-Category

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Build visuals with your data
Select or drag fields from the Data pane onto the report canvas.

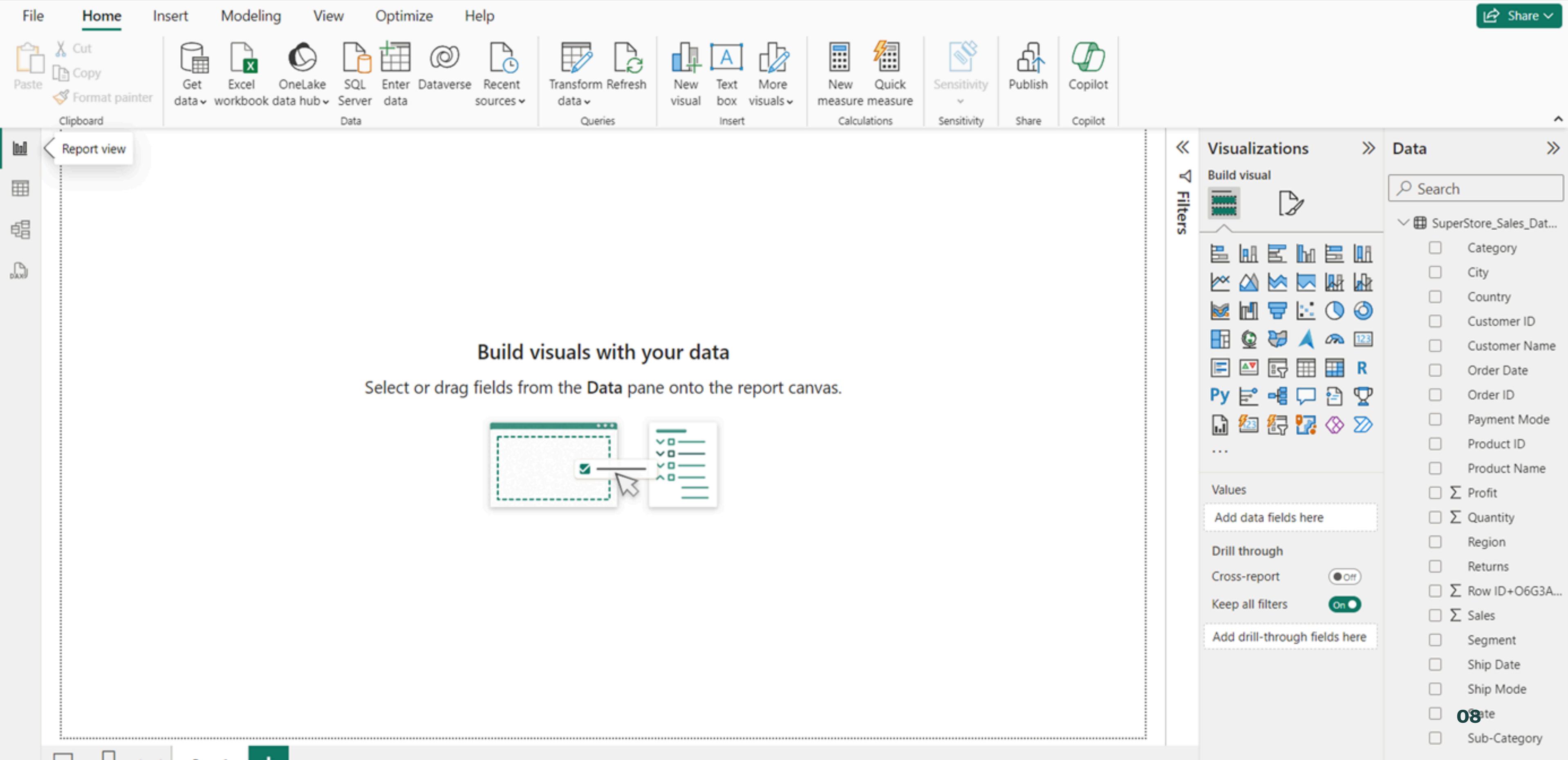


TABLE VIEW

File Home Help **Table tools** Share ▾

Name SuperStore_Sales_D... Mark as date table Manage relationships New Quick New measure measure column New table Calculations

Structure Calendars Relationships

X ✓ R A1:R6 Order ID Order Date Ship Date Ship Mode Customer ID Customer Name Segment Country City State Region Product ID Category

Table view

	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country	City	State	Region	Product ID	Category
7894	CA-2020-125367	23-07-2020	30-07-2020	Standard Class	NM-18445	Nathan Mautz	Home Office	United States	New York City	New York	East	OFF-BI-10002412	Office Supplies
759	CA-2020-117240	23-07-2020	28-07-2020	Standard Class	CP-12340	Christine Phan	Corporate	United States	New York City	New York	East	OFF-BI-10000848	Office Supplies
6940	CA-2020-107132	26-06-2020	30-06-2020	Standard Class	SC-20260	Scott Cohen	Corporate	United States	New York City	New York	East	OFF-BI-10001071	Office Supplies
1951	CA-2020-157987	02-09-2020	06-09-2020	Standard Class	AC-10615	Ann Chong	Corporate	United States	New York City	New York	East	OFF-BI-10004970	Office Supplies
5403	CA-2020-123043	24-08-2020	29-08-2020	Standard Class	AH-10195	Alan Haines	Corporate	United States	New York City	New York	East	OFF-BI-10003910	Office Supplies
5404	CA-2020-123043	24-08-2020	29-08-2020	Standard Class	AH-10195	Alan Haines	Corporate	United States	New York City	New York	East	OFF-BI-10000138	Office Supplies
9270	US-2020-102183	21-08-2020	28-08-2020	Standard Class	PK-19075	Pete Kriz	Consumer	United States	New York City	New York	East	OFF-BI-10003476	Office Supplies
9271	US-2020-102183	21-08-2020	28-08-2020	Standard Class	PK-19075	Pete Kriz	Consumer	United States	New York City	New York	East	OFF-BI-10001359	Office Supplies
3100	CA-2020-131233	14-04-2020	19-04-2020	Standard Class	CS-12355	Christine Sundaresam	Consumer	United States	New York City	New York	East	OFF-BI-10000829	Office Supplies
9829	CA-2020-169999	19-06-2020	26-06-2020	Standard Class	JS-15685	Jim Sink	Corporate	United States	New York City	New York	East	OFF-BI-10004728	Office Supplies
2639	CA-2020-108441	12-06-2020	18-06-2020	Standard Class	SB-20190	Sarah Bern	Consumer	United States	New York City	New York	East	OFF-BI-10000848	Office Supplies
3942	CA-2020-117863	18-05-2020	23-05-2020	Standard Class	TS-21340	Toby Swindell	Consumer	United States	New York City	New York	East	OFF-BI-10000605	Office Supplies
5135	CA-2020-155607	26-11-2020	30-11-2020	Standard Class	FG-14260	Frank Gastineau	Home Office	United States	New York City	New York	East	OFF-BI-10003364	Office Supplies
2463	CA-2020-148691	03-12-2020	09-12-2020	Standard Class	CS-12460	Chuck Sachs	Consumer	United States	New York City	New York	East	OFF-BI-10001524	Office Supplies
1073	CA-2020-106943	14-11-2020	19-11-2020	Standard Class	FO-14305	Frank Olsen	Consumer	United States	New York City	New York	East	OFF-BI-10003669	Office Supplies
3218	CA-2020-104640	10-11-2020	16-11-2020	Standard Class	FH-14275	Frank Hawley	Corporate	United States	New York City	New York	East	OFF-BI-10003925	Office Supplies
6510	CA-2020-102197	20-12-2020	26-12-2020	Standard Class	DK-13150	David Kendrick	Corporate	United States	New York City	New York	East	OFF-BI-10001524	Office Supplies
7041	CA-2020-103443	17-12-2020	23-12-2020	Standard Class	AT-10735	Annie Thurman	Consumer	United States	New York City	New York	East	OFF-BI-10001617	Office Supplies
573	CA-2020-164826	28-12-2020	04-01-2021	Standard Class	JF-15415	Jennifer Ferguson	Consumer	United States	New York City	New York	East	OFF-BI-10001922	Office Supplies
1507	CA-2020-154935	24-12-2020	29-12-2020	Standard Class	AR-10540	Andy Reiter	Consumer	United States	New York City	New York	East	OFF-BI-10003708	Office Supplies
2464	CA-2020-148691	03-12-2020	09-12-2020	Standard Class	CS-12460	Chuck Sachs	Consumer	United States	New York City	New York	East	OFF-BI-10001553	Office Supplies
390	CA-2020-101798	11-12-2020	15-12-2020	Standard Class	MV-18190	Mike Vittorini	Consumer	United States	New York City	New York	East	OFF-BI-10000050	Office Supplies
6748	CA-2020-100230	11-12-2020	15-12-2020	Standard Class	AA-10375	Allen Arnold	Consumer	United States	New York City	New York	East	OFF-BI-10002498	Office Supplies
3823	CA-2020-141873	09-10-2020	14-10-2020	Standard Class	HG-14845	Harry Greene	Consumer	United States	New York City	New York	East	OFF-BI-10003655	Office Supplies
3820	CA-2020-141873	09-10-2020	14-10-2020	Standard Class	HG-14845	Harry Greene	Consumer	United States	New York City	New York	East	OFF-BI-10001031	Office Supplies
2154	CA-2019-117282	14-07-2019	18-07-2019	Standard Class	DR-12880	Dan Reichenbach	Corporate	United States	New York City	New York	East	OFF-BI-10004094	Office Supplies
5227	CA-2019-119865	21-06-2019	26-06-2019	Standard Class	AS-10090	Adam Shillingsburg	Consumer	United States	New York City	New York	East	OFF-BI-10003007	Office Supplies

Search SuperStore_Sales_Dataset

MODEL VIEW

File Home Help Share ▾

Paste Cut Copy Get Excel OneLake SQL Enter Dataverse Recent data workbook data hub Server data sources Transform Refresh data Manage relationships New measure column New table Manage roles View as Q&A Language setup Sensitivity Linguistic schema Q&A Sensitivity Publish

Clipboard Data Relationships Calculations Security Share

Customer Product Territories Calendar Sales Budget

AddressLine1 BirthDate CommuteDist... CustomerCity

Category Color DaysToManufac... ListPrice

Country Group Region RegionImage

Date FiscalMonth FiscalMonthLong FiscalMonthNum

CustomerKey OrderDate OrderQuantity ProductKey PromotionKey SalesAmount

BudgetAmount Category Month ProductKey ProductName

Search

Budget Calendar Customer Product Sales Territories

Properties

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The diagram illustrates the relationships between six tables in a data model:

- Customer** has a 1-to-1 relationship with **Product**.
- Customer** has a 1-to-1 relationship with **Territories**.
- Customer** has a 1-to-1 relationship with **Calendar**.
- Product** has a 1-to-1 relationship with **Sales**.
- Territories** has a 1-to-1 relationship with **Sales**.
- Calendar** has a 1-to-1 relationship with **Sales**.
- Sales** has a many-to-many relationship with **Budget**.

The **Properties** pane on the right shows the selected table is **Budget**, which contains fields: BudgetAmount, Category, Month, ProductKey, and ProductName.

The bottom left corner shows "All tables" and a "+" button.

The screenshot shows the Microsoft Power BI desktop interface. The ribbon at the top has tabs: File, Home, Insert, Modeling, View, Optimize, and Help. The Home tab is selected, indicated by a green underline.

The main area displays the "Add data to your report" screen. A red arrow points from the "Get data" button in the ribbon down to the "More..." option in the "Power BI Template Apps" dropdown menu.

The ribbon icons include:

- Paste, Cut, Copy, Format painter, Clipboard
- Get data (highlighted with a red box), workbook data hub, Excel, OneLake, SQL Server, Enter data, Dataverse, Recent sources
- Transform data, Refresh data, New visual, Text box, More visuals, Insert
- New measure, Quick measure, Sensitivity, Publish, Copilot

The "Common data sources" dropdown menu lists:

- Excel workbook
- Power BI semantic models
- Dataflows
- Dataverse
- SQL Server
- Analysis Services
- Text/CSV
- Web
- OData feed
- Blank query
- Power BI Template Apps (with a dropdown arrow)

The "Power BI Template Apps" dropdown menu includes:

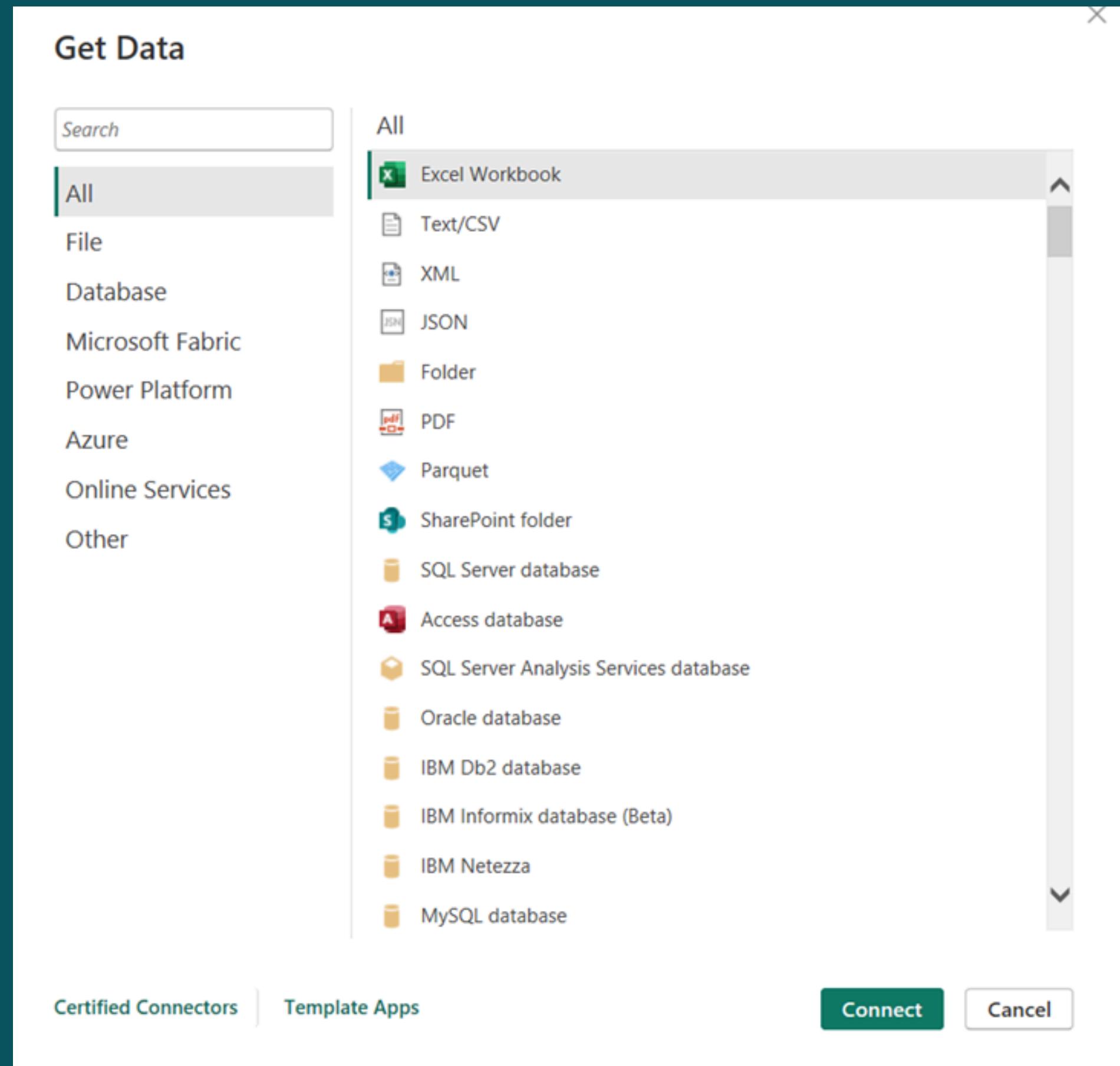
- data from Excel (selected, highlighted with a green box)
- Import data from SQL Server
- Paste data into a blank table
- Use sample data
- More...

Below the data sources, there is a "Get data from another source →" link.

The right side of the interface features the "Visualizations" pane, which contains sections for "Build visual" (with a DAX icon), "Filters", and "Values". The "Values" section includes options like "Add data fields here", "Drill through" (with an "Off" switch), "Cross-report", "Keep all filters" (with an "On" switch), and "Add drill-through fields here".

DATA SOURCES

Data sources include databases, Microsoft Azure, Power Platform and various online services.



DATA CLEANING

When our data has extra or unnecessary columns, clean and transform it to make it usable.

SuperStore_Sales_Dataset.csv

File Origin: 65001: Unicode (UTF-8) Delimiter: Comma Data Type Detection: Based on first 200 rows

Row ID+O6G3A1:R6	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country
4918	CA-2019-160304	01-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Murry	Corporate	United States
4919	CA-2019-160304	02-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Murry	Corporate	United States
4920	CA-2019-160304	02-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Murry	Corporate	United States
3074	CA-2019-125206	03-01-2019	05-01-2019	First Class	LR-16915	Lena Radford	Consumer	United States
8604	US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abelman	Corporate	United States
8605	US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abelman	Corporate	United States
8606	US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abelman	Corporate	United States
9494	CA-2019-105207	03-01-2019	08-01-2019	Standard Class	BO-11350	Bill Overfelt	Corporate	United States
9495	CA-2019-105207	03-01-2019	08-01-2019	Standard Class	BO-11350	Bill Overfelt	Corporate	United States
2898	US-2019-164630	04-01-2019	09-01-2019	Standard Class	EB-13975	Erica Bern	Corporate	United States
5868	CA-2019-158211	04-01-2019	08-01-2019	Standard Class	BP-11185	Ben Peterman	Corporate	United States
5869	CA-2019-158211	04-01-2019	08-01-2019	Standard Class	BP-11185	Ben Peterman	Corporate	United States
863	CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johnson	Corporate	United States
864	CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johnson	Corporate	United States
865	CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johnson	Corporate	United States
2162	CA-2019-101938	07-01-2019	12-01-2019	Standard Class	DW-13480	Dianna Wilson	Home Office	United States
8031	CA-2019-158806	07-01-2019	11-01-2019	Standard Class	NM-18520	Neoma Murray	Consumer	United States
8032	CA-2019-158806	07-01-2019	11-01-2019	Standard Class	NM-18520	Neoma Murray	Consumer	United States
6851	US-2019-100461	08-01-2019	12-01-2019	Standard Class	JO-15145	Jack O'Briant	Corporate	United States
6852	US-2019-100461	08-01-2019	12-01-2019	Standard Class	JO-15145	Jack O'Briant	Corporate	United States

Extract Table Using Examples Load Transform Data Cancel

We can check the data types of your columns and change them if needed.

Screenshot of Microsoft Power BI Data Editor showing the Transform ribbon tab selected. A context menu is open over the 'Order Date' column, specifically over the cell containing '01-01-2019'. The menu path 'Data Type: Text' is highlighted. The 'Transform' ribbon tab is active, showing various data transformation tools like 'Merge Queries', 'Text Analytics', and 'Combine Files'.

The main area displays a table from the 'SuperStore_Sales_Dataset' query, with the first few rows of data:

Row ID+O6G3A1:R6	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name
1	4918	CA-2019-160304	01-01-2019	Standard Class	BM-11575	Brendan Mur
2	4919	CA-2019-160304	02-01-2019	Standard Class	BM-11575	Brendan Mur
3	4920	CA-2019-160304	02-01-2019	Standard Class	BM-11575	Brendan Mur
4	3074	CA-2019-125206	03-01-2019	First Class	LR-16915	Lena Radford
5	8604	US-2019-116365	03-01-2019	Standard Class	CA-12310	Christine Abe
6	8605	US-2019-116365	03-01-2019	Standard Class	CA-12310	Christine Abe
7	8606	US-2019-116365	03-01-2019	Standard Class	CA-12310	Christine Abe
8	9494	CA-2019-105207	03-01-2019	Decimal Number	BO-11350	Bill Overfelt
9	9495	CA-2019-105207	03-01-2019	Fixed decimal number	BO-11350	Bill Overfelt
10	2898	US-2019-164630	04-01-2019	Whole Number	EB-13975	Erica Bern
11	5868	CA-2019-158211	04-01-2019	Percentage	BP-11185	Ben Peterma
12	5869	CA-2019-158211	04-01-2019	Date/Time	BP-11185	Ben Peterma
13	863	CA-2019-134474	05-01-2019	Date	AJ-10795	Anthony Joh
14	864	CA-2019-134474	05-01-2019	Time	AJ-10795	Anthony Joh
15	865	CA-2019-134474	05-01-2019	Date/Time/Timezone	AJ-10795	Anthony Joh
16	2162	CA-2019-101938	07-01-2019	Duration	DW-13480	Dianna Wilso
17	8031	CA-2019-158806	07-01-2019	Text	NM-18520	Neoma Murr
18	8032	CA-2019-158806	07-01-2019	True/False	NM-18520	Neoma Murr
19	6851	US-2019-100461	08-01-2019	Binary	JO-15145	Jack O'Briant
20	6852	US-2019-100461	08-01-2019	Drill Down	JO-15145	Jack O'Briant
21	7808	US-2019-137295	08-01-2019	Using Locale...	VS-21820	Vivek Sundar
22	7809	US-2019-137295	08-01-2019	Add as New Query	VS-21820	Vivek Sundar
23	7810	US-2019-137295	08-01-2019	Standard Class	VS-21820	Vivek Sundar
24	3209	CA-2019-108882	09-01-2019	Standard Class	LA-16780	Laura Armstr
25	3210	CA-2019-108882	09-01-2019	Standard Class	LA-16780	Laura Armstr
26	3702	CA-2019-126543	09-01-2019	Second Class	MF-17665	Maureen Frit
27	4667	CA-2019-116547	10-01-2019	Standard Class	KB-16585	Ken Black
28	4668	CA-2019-116547	10-01-2019	Standard Class	KB-16585	Ken Black

The 'Transform' ribbon tab is selected, showing various data transformation tools like 'Merge Queries', 'Text Analytics', and 'Combine Files'.

The 'Query Settings' pane on the right shows the dataset name 'SuperStore_Sales_Dataset' and the applied step 'Changed Type'.

At the bottom left, it says '3 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows'. At the bottom right, it says 'PREVIEW DOWNLOADED AT 5:16 PM'.

we can check your data Quality

Screenshot of Microsoft Power BI Data Editor showing data quality analysis.

The ribbon menu is visible at the top, with "File", "Home", "Transform", "Add Column", "View", "Tools", and "Help".

The "Query Settings" pane on the left shows "Formula Bar" checked, "Monospaced" and "Column distribution" unchecked, "Always allow" checked, "Show whitespace" checked, "Column profile" unchecked, and "Column quality" checked (highlighted with a red box).

The "Data Preview" pane displays the first 1000 rows of the "SuperStore_Sales_Dataset". A red box highlights the header row and the first few data rows. The columns are: Row ID+O6G3A1:R6, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, and Customer Name.

The "Query Settings" pane on the right shows the dataset name "SuperStore_Sales_Dataset" and the applied steps: "Source", "Promoted Headers", and "Changed Type".

The status bar at the bottom indicates "23 COLUMNS, 999+ ROWS" and "Column profiling based on top 1000 rows".

PREVIEW DOWNLOADED AT 5:16 PM

Row ID+O6G3A1:R6	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name
1	4910 CA-2019-160304	01-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Mur
2	4919 CA-2019-160304	02-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Mur
3	4920 CA-2019-160304	02-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Mur
4	3074 CA-2019-125206	03-01-2019	05-01-2019	First Class	LR-16915	Lena Radford
5	8604 US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abe
6	8605 US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abe
7	8606 US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abe
8	9494 CA-2019-105207	03-01-2019	08-01-2019	Standard Class	BO-11350	Bill Overfelt
9	9495 CA-2019-105207	03-01-2019	08-01-2019	Standard Class	BO-11350	Bill Overfelt
10	2898 US-2019-164630	04-01-2019	09-01-2019	Standard Class	EB-13975	Erica Bern
11	5868 CA-2019-158211	04-01-2019	08-01-2019	Standard Class	BP-11185	Ben Peterma
12	5869 CA-2019-158211	04-01-2019	08-01-2019	Standard Class	BP-11185	Ben Peterma
13	863 CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johr
14	864 CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johr
15	865 CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johr
16	2162 CA-2019-101938	07-01-2019	12-01-2019	Standard Class	DW-13480	Dianna Wilso
17	8031 CA-2019-158806	07-01-2019	11-01-2019	Standard Class	NM-18520	Neoma Murra
18	8032 CA-2019-158806	07-01-2019	11-01-2019	Standard Class	NM-18520	Neoma Murra
19	6851 US-2019-100461	08-01-2019	12-01-2019	Standard Class	JO-15145	Jack O'Briant
20	6852 US-2019-100461	08-01-2019	12-01-2019	Standard Class	JO-15145	Jack O'Briant
21	7808 US-2019-137295	08-01-2019	13-01-2019	Standard Class	VS-21820	Vivek Sundar
22	7809 US-2019-137295	08-01-2019	13-01-2019	Standard Class	VS-21820	Vivek Sundar
23	7810 US-2019-137295	08-01-2019	13-01-2019	Standard Class	VS-21820	Vivek Sundar
24	3209 CA-2019-108882	09-01-2019	15-01-2019	Standard Class	LA-16780	Laura Armstr
25	3210 CA-2019-108882	09-01-2019	15-01-2019	Standard Class	LA-16780	Laura Armstr
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We can automatically remove errors or blank rows in one step.

Screenshot of Microsoft Power BI Data Editor showing the Transform ribbon tab selected. A red box highlights the 'Remove Rows' dropdown menu, which is open to show options: Remove Top Rows, Remove Bottom Rows, Remove Alternate Rows, Remove Duplicates, Remove Blank Rows, and Remove Errors. The 'Remove Errors' option is selected. The main area shows a table with columns: Row ID, Order ID, Order Date, Ship Mode, Customer ID, and Customer Name. The 'Customer Name' column contains several names like Brendan, Lena, Christine, Bill, Erica, Ben, Anthony, and Dianna. The 'APPLIED STEPS' pane on the right shows 'Promoted Headers' and 'Changed Type'.

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Whole Number Use First Row as Headers Merge Queries Append Queries Text Analytics Vision Combine Files Azure Machine Learning

Close New Query Data Sources Parameters Query Manage Columns Reduce

Queries [1] fx = Table.TransformColumnTypes(#"Promoted Headers",{{"I

SuperStore_Sales_Dataset

	Order ID	Order Date	Ship Mode	Customer ID	Customer Name	
1	4918 CA-2019-160304	01-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Mur
2	4919 CA-2019-160304	02-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Mur
3	4920 CA-2019-160304	02-01-2019	07-01-2019	Standard Class	BM-11575	Brendan Mur
4	3074 CA-2019-125206	03-01-2019	05-01-2019	First Class	LR-16915	Lena Radford
5	8604 US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abe
6	8605 US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abe
7	8606 US-2019-116365	03-01-2019	08-01-2019	Standard Class	CA-12310	Christine Abe
8	9494 CA-2019-105207	03-01-2019	08-01-2019	Standard Class	BO-11350	Bill Overfelt
9	9495 CA-2019-105207	03-01-2019	08-01-2019	Standard Class	BO-11350	Bill Overfelt
10	2898 US-2019-164630	04-01-2019	09-01-2019	Standard Class	EB-13975	Erica Bern
11	5868 CA-2019-158211	04-01-2019	08-01-2019	Standard Class	BP-11185	Ben Peterma
12	5869 CA-2019-158211	04-01-2019	08-01-2019	Standard Class	BP-11185	Ben Peterma
13	863 CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johr
14	864 CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johr
15	865 CA-2019-134474	05-01-2019	07-01-2019	Second Class	AJ-10795	Anthony Johr
16	2162 CA-2019-101938	07-01-2019	12-01-2019	Standard Class	DW-13480	Dianna Wilso
17	8031 CA-2019-158806	07-01-2019	11-01-2019	Standard Class	NM-18520	Neoma Murr
18	8032 CA-2019-158806	07-01-2019	11-01-2019	Standard Class	NM-18520	Neoma Murr
19	6851 US-2019-100461	08-01-2019	12-01-2019	Standard Class	JO-15145	Jack O'Briant
20	6852 US-2019-100461	08-01-2019	12-01-2019	Standard Class	JO-15145	Jack O'Briant
21	7808 US-2019-137295	08-01-2019	13-01-2019	Standard Class	VS-21820	Vivek Sundar
22	7809 US-2019-137295	08-01-2019	13-01-2019	Standard Class	VS-21820	Vivek Sundar
23	7810 US-2019-137295	08-01-2019	13-01-2019	Standard Class	VS-21820	Vivek Sundar
24	3209 CA-2019-108882	09-01-2019	15-01-2019	Standard Class	LA-16780	Laura Armstr
25	3210 CA-2019-108882	09-01-2019	15-01-2019	Standard Class	LA-16780	Laura Armstr
26						

Query Settings

PROPERTIES

Name: SuperStore_Sales_Dataset

APPLIED STEPS

Source Promoted Headers Changed Type

23 COLUMNS, 999+ ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 5:16 PM

We can change or replace values in your data.

Screenshot of Microsoft Power BI Data Editor showing how to change or replace values in a dataset.

The screenshot shows the Power BI Data Editor interface with the following details:

- File, Home, Transform, Add Column, View, Tools, Help** menu bar.
- Query Settings** ribbon tab selected.
- Layout** ribbon tab selected.
- Data Preview** ribbon tab selected.
- Columns**, **Parameters**, **Advanced**, **Dependencies** ribbon tabs.
- Queries [1]** pane: SuperStore_Sales_Dataset.
- Table View**: A grid of data with columns: Sales, Quantity, Profit, Returns, ind1, and ind2.
- Contextual Menu** (right-clicked on the Returns column header):
 - Copy
 - Remove
 - Remove Other Columns
 - Duplicate Column
 - Add Column From Examples...
 - Remove Duplicates
 - Remove Errors
 - Change Type
 - Transform
 - Replace Values...** (highlighted with a red box)
 - Replace Errors...
 - Split Column
 - Group By...
 - Fill
 - Unpivot Columns
 - Unpivot Other Columns
 - Unpivot Only Selected Columns
 - Rename...
 - Move
 - Drill Down
 - Add as New Query
- Query Settings** pane:
 - PROPERTIES**: Name: SuperStore_Sales_Dataset, All Properties.
 - APPLIED STEPS**: Promoted Headers, **Changed Type**.

Sort the values

Query Settings

Layout

Formula Bar

Monospaced

Column distribution

Show whitespace

Column profile

Always allow

Go to Column

Advanced Editor

Query Dependencies

Dependencies

Queries [1]

SuperStore_Sales_Dataset

= Table.ReplaceValue(#"Changed Type", #N/A, 0, Replacer.ReplaceText, { Returns })

	1.2 Sales	1.3 Quantity	1.2 Profit	A ^B _C Returns	A ^B _C Payment Mode	A ^B _C ind1	A ^B _C ind2
1	73.94						
2	173.94						
3	231.98						
4	114.46						
5	30.08						
6	165.6						
7	180.96						
8	1592.85						
9	11.88						
10	959.968						
11	4.672						
12	104.58						
13	191.472						
14	5.248						
15	59.184		2	5.1786	0		
16	34.58		1	10.0282	0		
17	23.076		3	-10.9611	0		
18	25.92		5	9.072	0	Cards	
19	1565.88		6	407.1288	0	Online	
20	106.05		7	49.8435	0	Cards	
21	30.828		7	-24.6624	0	Cards	
22	47.616		3	5.952	0	COD	
23	108.784		2	10.8784	0	COD	
24	349.95		5	118.983	0	COD	
25	377.928		9	141.723	0	Cards	

Sort Ascending

Sort Descending

Clear sort

Clear Filter

Remove Empty

Text Filters

Search

(Select All)

0

List may be incomplete.

Load more

OK

Cancel

Query Settings

PROPERTIES

Name: SuperStore_Sales_Dataset

All Properties

APPLIED STEPS

Source

Promoted Headers

Changed Type

Replaced Value

We can duplicate and remove the column

Screenshot of Microsoft Power BI Query Editor showing the context menu for a column.

The context menu, which is open over the "Returns" column, includes the following options:

- Copy
- Remove** (highlighted with a red box)
- Remove Other Columns
- Duplicate Column

The "Remove" option is the primary focus of the screenshot, indicating how to delete a column from the dataset.

Index	Category	Value	Profit	Returns	Payment Mode	Impression
1	Sales	114.664	3	3.3534	1	Online
2		150.92	5	29.372	1	Online
3		112.36	7	26.544	1	COD
4		94.912	1	1.2714	1	Online
5		93.44	2	2.401	1	Online
6	Messages	159.04	6	25.02	1	Online
7		223.9	5	39.98	1	COD
8		150.04	3	9.6192	1	Online
9		149.14	2	7.9662	1	Cards
10		108.73	3	7.2177	1	Online
11		164.48	1	20.844	1	COD
12		133.048	3	-0.9012	1	Online
13		137.36	4	17.76	1	COD
14		236.352	3	5.1588	1	Online
15		502.7	5	20.539	1	COD
16		400.376	3	46.797	1	COD
17	Belt...	108.89	1	1.0114	1	Cards
18		96.24	9	-5.184	1	COD
19		119.776	6	-22.0416	1	Cards
20		125.336	4	0.896	1	COD
21	Shelf	130.96	2	-28.224	1	Cards
22		87.296	2	3.0212	1	COD
23		110.29	1	7.9896	1	COD
24		325.86	7	80.3208	1	COD
25		130.36	7	21.7728	1	COD

After transforming the data, you must close and apply to save the changes.

The screenshot shows the Microsoft Power BI Data Editor interface. The 'Transform' tab is selected in the ribbon. On the far left, there is a vertical pane with buttons for 'Close & Apply', 'New Source', 'Recent Sources', 'Enter Data', 'Data source settings', 'Manage Parameters', 'Refresh Preview', 'Properties', 'Advanced Editor', 'Choose Columns', 'Remove Columns', 'Keep Rows', 'Remove Rows', 'Split Column', 'Group By', 'Replace Values', 'Merge Queries', 'Append Queries', 'Combine Files', 'Combine', and 'AI Insights'. A red box highlights the 'Close & Apply' button, and a red arrow points to it from the left. To the right of the ribbon, there is a large data grid showing a table with columns: Sales, Quantity, Profit, Returns, and Payment Mode. The table contains 25 rows of data. On the far right, there is a 'Query Settings' pane with sections for 'PROPERTIES' (Name: SuperStore_Sales_Dataset) and 'APPLIED STEPS' (Source, Promoted Headers, Changed Type, Replaced Value, Sorted Rows, Removed Columns). The 'Removed Columns' step is currently selected.

	Sales	Quantity	Profit	Returns	Payment Mode
1	Accessories, Clear	114.664	3	3.3534	1
2	Covers with Diagonal Lined Pattern	150.92	5	29.372	1
3	Black Document Frame, Desktop, 5 x 7	112.36	7	26.544	1
4	Box	94.912	1	1.2714	1
5	Call Register, 11" X 8 1/2", 100 Messages	93.44	2	2.401	1
6	Low to Medium Pile Carpets	159.04	6	25.02	1
7	Medium Pile Carpets	223.9	5	39.98	1
8	Accessories	150.04	3	9.6192	1
9	Accessories	149.14	2	7.9662	1
10	Adhesive Labels	108.73	3	7.2177	1
11	SurgeMaster II Surge Protectors	164.48	1	20.844	1
12	Board - Black	133.048	3	-0.9012	1
13	Box	137.36	4	17.76	1
14	Box	236.352	3	5.1588	1
15	Box Envelopes	502.7	5	20.539	1
16	Box Envelopes	400.376	3	46.797	1
17	Lean Air Upright Vacuum, Replacement Belt...	108.89	1	1.0114	1
18	Sheet Lifters	96.24	9	-5.184	1
19	Box	119.776	6	-22.0416	1
20	Box Vacuum	125.336	4	0.896	1
21	Box Utility Table with Bottom Storage Shelf	130.96	2	-28.224	1
22	Box Bindings	87.296	2	3.0212	1
23	Box Staxonsteel/High-Stak Systems	110.29	1	7.9896	1
24	Box Sector	325.86	7	80.3208	1
25	Box Sector	130.36	7	21.7728	1



CREATING DASHBOARD

VISUALIZATION

VISUALIZATION TOOL

Build visuals with your data
Select or drag fields from the Data pane onto the report canvas.

The Data pane on the right lists fields from the SuperStore_Sales_Dat... table:

- Category
- City
- Country
- Customer ID
- Customer Name
- Order Date
- Order ID
- Payment Mode
- Product ID
- Product Name
- Σ Profit
- Σ Quantity
- Region
- Returns
- Σ Row ID+O6G3A...
- Σ Sales
- Segment
- Ship Date
- Ship Mode
- State
- Sub-Category

The Visualizations pane on the right contains a grid of visualization icons:

- Build visual
- Filters
- Values
- Add data fields here
- Drill through
- Cross-report (Off)
- Keep all filters (On)
- Add drill-through fields here

A DASHBOARD FOR SALES FORECASTING

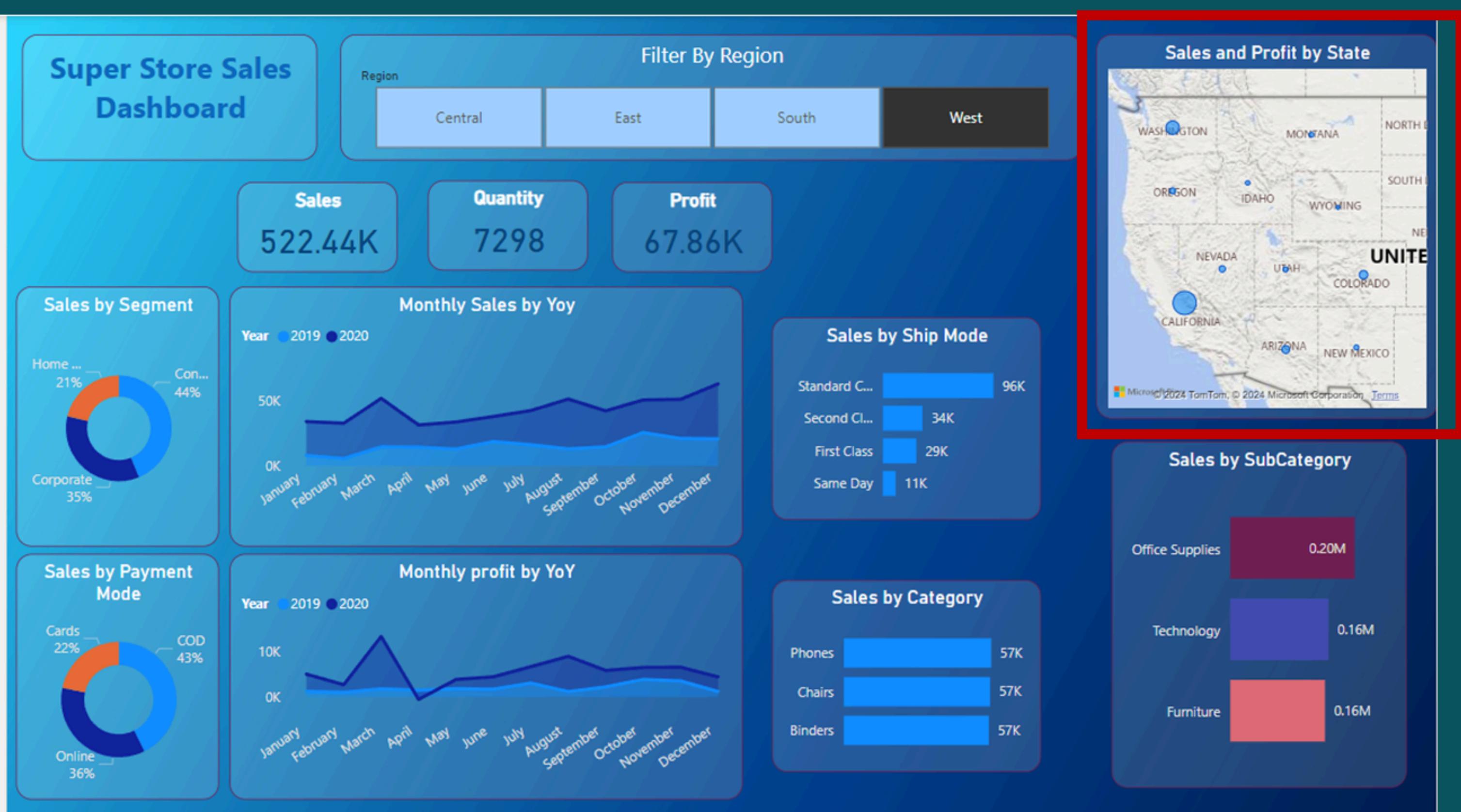
Donuts
Charts to
visualize
Sales % by
different
values



**Area Charts to
Displays trends in
monthly sales &
profits over
multiple years.**



Map Visual to display data geographically



As you see in previous slide we added 3 KPIs, and KPI for average ShipDate was missing due to it's missing columns so for that purpose we needed some new columns for which we need to use dax query.

Next we will show you how we are going to do that.





DAX QUERY & DATA ANALYSIS

ADD NEW COLUMN IN TABLE VIEW

Screenshot of Microsoft Power BI Table View interface showing the process of adding a new column.

The ribbon at the top shows the "Table tools" tab is selected. The "Column tools" group contains five icons: "Mark as date table" (with a red box), "Manage relationships", "New measure" (with a red box), "Quick measure" (with a red box), and "New column" (with a red box).

A tooltip above the "New column" icon says: "Write a DAX expression that creates a new column in the selected table and calculates values for each row."

The main area displays a table of data with columns: Row ID+O6G3A1:R6, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, Country, City, State, Region, Product ID, and Category. The "Order Date" column is currently selected.

The "Data" pane on the right lists columns from the SuperStore_Sales_Dataset:

- Category
- City
- Country
- Customer ID
- Customer Name
- Order Date
- Order ID
- Payment Mode
- Product ID
- Product Name
- Profit
- Quantity
- Region
- Returns
- Row ID+O6G3A1:R6
- Sales
- Segment
- Ship Date
- Ship Mode
- State
- Sub-Category

DAX query to extract Average Delivery date's difference for shipment

The following syntax error occurred during parsing: Invalid token, Line 1, Offset 42, ')'.
1 AvgDelivery = DATEDIFF('SuperStore_Sales_Dataset'[Order Date], 'SuperStore_Sales_Dataset'[Ship Date], DAY)

	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Profit	Returns	Payment Mode	AvgDelivery
	OFF-FA-10003472	Office Supplies	Fasteners	Bagged Rubber Bands	2975.51	3	-0.6048	0	COD	#ERROR
	OFF-BI-10004632	Office Supplies	Binders	GBC Binding covers	496.72	2	6.475	1	Online	#ERROR
	OFF-AP-10002457	Office Supplies	Appliances	Eureka The Boss Plus 12-Amp Hard Box Upright Vacuum, Red	509.3	2	56.511	0	COD	#ERROR
	OFF-FA-10003472	Office Supplies	Fasteners	Bagged Rubber Bands	388.024	3	-0.6048	0	Online	#ERROR
	OFF-BI-10003684	Office Supplies	Binders	Wilson Jones Legal Size Ring Binders	462.776	3	19.791	0	COD	#ERROR
	TEC-PH-10004774	Technology	Phones	Gear Head AU3700S Headset	441.93	7	2.7279	0	COD	#ERROR
	OFF-BI-10002103	Office Supplies	Binders	Cardinal Slant-D Ring Binder, Heavy Gauge Vinyl	295.904	2	4.5188	1	Online	#ERROR
	FUR-BO-10003441	Furniture	Bookcases	Bush Westfield Collection Bookcases, Fully Assembled	213.136	4	12.1176	0	COD	#ERROR
	OFF-FA-10000089	Office Supplies	Fasteners	Acco Glide Clips	282.6	5	9.604	1	Online	#ERROR
	FUR-CH-10002880	Furniture	Chairs	Global High-Back Leather Tilter, Burgundy	119.568	4	-44.2764	0	COD	#ERROR
	FUR-CH-10001270	Furniture	Chairs	Harbour Creations Steel Folding Chair	184.75	3	77. -44.2764	0	COD	#ERROR
	FUR-CH-10004495	Furniture	Chairs	Global Leather and Oak Executive Chair, Black	351.98	1	87.2842	0	COD	#ERROR
	FUR-FU-10002501	Furniture	Furnishings	Nu-Dell Executive Frame	419.12	8	37.4144	0	COD	#ERROR
	FUR-CH-10002602	Furniture	Chairs	DMI Arturo Collection Mission-style Design Wood Chair	460.84	8	314.0384	0	COD	#ERROR
	TEC-PH-10002563	Technology	Phones	Adtran 1202752G1	156.376	3	22.6782	0	Online	#ERROR
	OFF-FA-10002988	Office Supplies	Fasteners	Ideal Clamps	254.03	3	2.9547	0	Online	#ERROR
	OFF-AR-10003696	Office Supplies	Art	Panasonic KP-350BK Electric Pencil Sharpener with Auto Stop	478.58	1	10.0282	0	COD	#ERROR
	OFF-PA-10000994	Office Supplies	Paper	Xerox 1915	180.7	2	100.656	0	Online	#ERROR
	OFF-BI-10002414	Office Supplies	Binders	GBC ProClick Spines for 32-Hole Punch	408.53	1	5.8891	0	COD	#ERROR
	FUR-FU-10004093	Furniture	Furnishings	Hand-Finished Solid Wood Document Frame	466.46	2	20.538	1	COD	#ERROR
	TEC-PH-10000347	Technology	Phones	Cush Cases Heavy Duty Rugged Cover Case for Samsung Galaxy S5 - Purple	381.85	3	4.0095	0	COD	#ERROR
	FUR-FU-10004586	Furniture	Furnishings	G.E. Longer-Life Indoor Recessed Floodlight Bulbs	1302.968	3	-2.3904	0	Online	#ERROR
	FUR-FU-10001935	Furniture	Furnishings	3M Hangers With Command Adhesive	304.4	2	3.034	0	COD	#ERROR
	FUR-FU-10001935	Furniture	Furnishings	3M Hangers With Command Adhesive	478.96	2	-1.406	0	COD	#ERROR
	FUR-CH-10003968	Furniture	Chairs	Novimex Turbo Task Chair	331.704	6	-34.0704	0	Online	#ERROR
	FUR-CH-10004698	Furniture	Chairs	Padded Folding Chairs, Black, 4/Carton	116.372	2	-3.2392	0	COD	#ERROR

Super Store Sales Dashboard

Filter By Region

Region

Central

East

South

West

Sales

522.44K

Quantity

7298

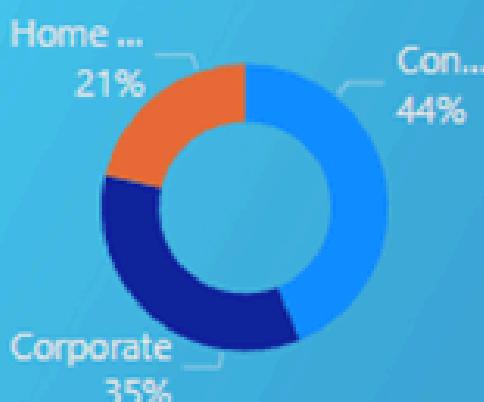
Profit

67.86K

Average Delivery

9

Sales by Segment



Monthly Sales by YoY

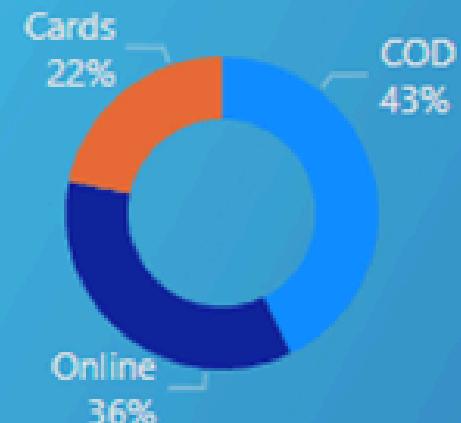
Year ● 2019 ● 2020



Sales by Ship Mode

Standard C...	96K
Second Cl...	34K
First Class	29K
Same Day	11K

Sales by Payment Mode



Monthly profit by YoY

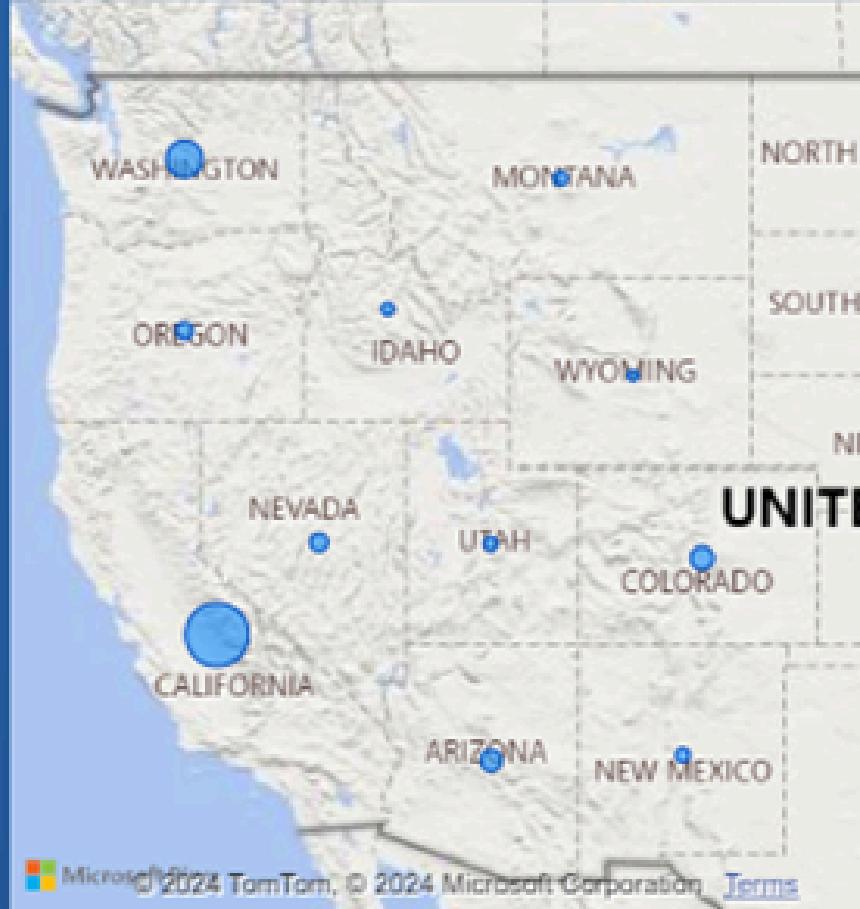
Year ● 2019 ● 2020



Sales by Category

Phones	57K
Chairs	57K
Binders	57K

Sales and Profit by State



Sales by SubCategory

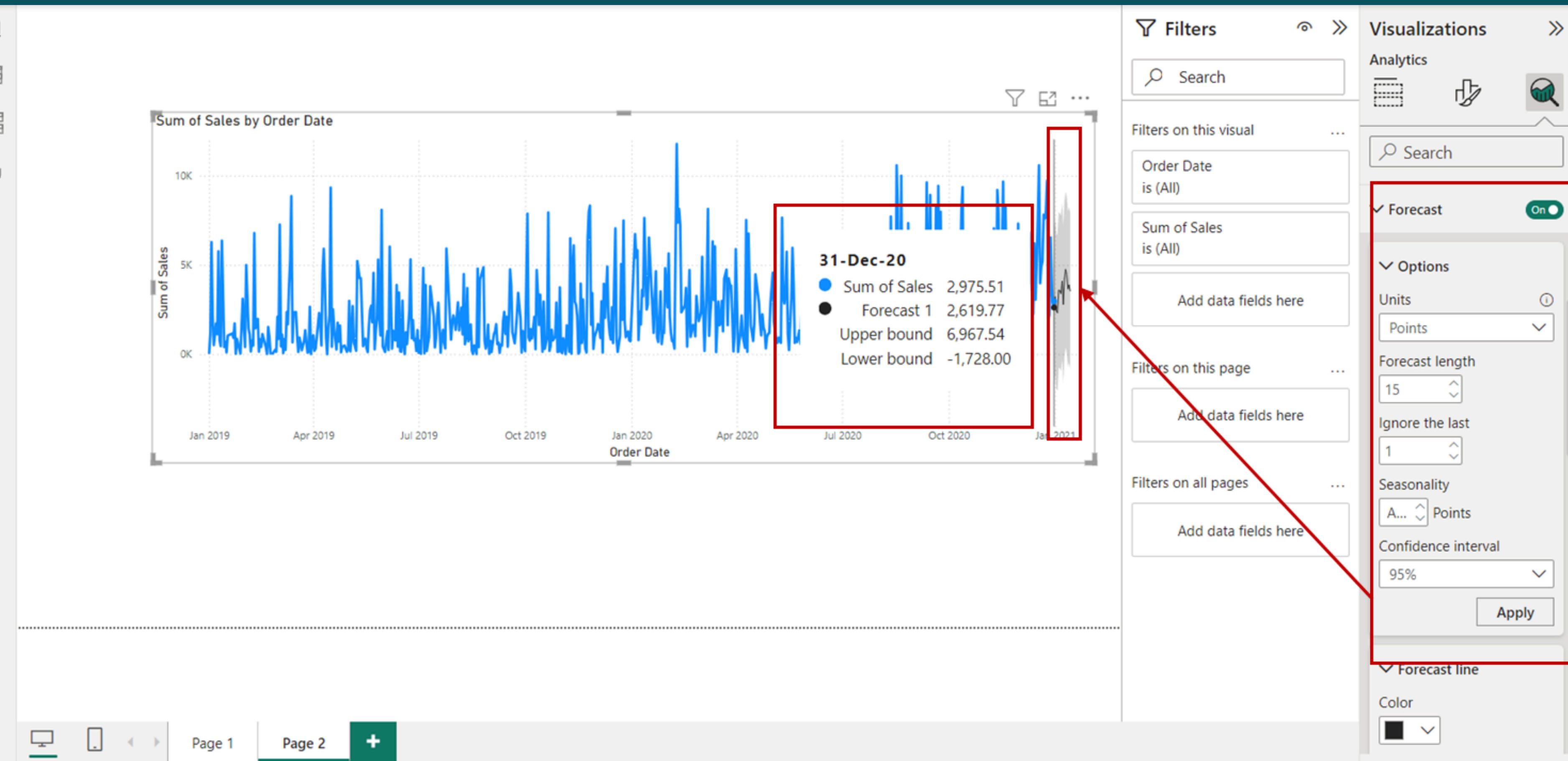
Office Supplies	0.20M
Technology	0.16M
Furniture	0.16M



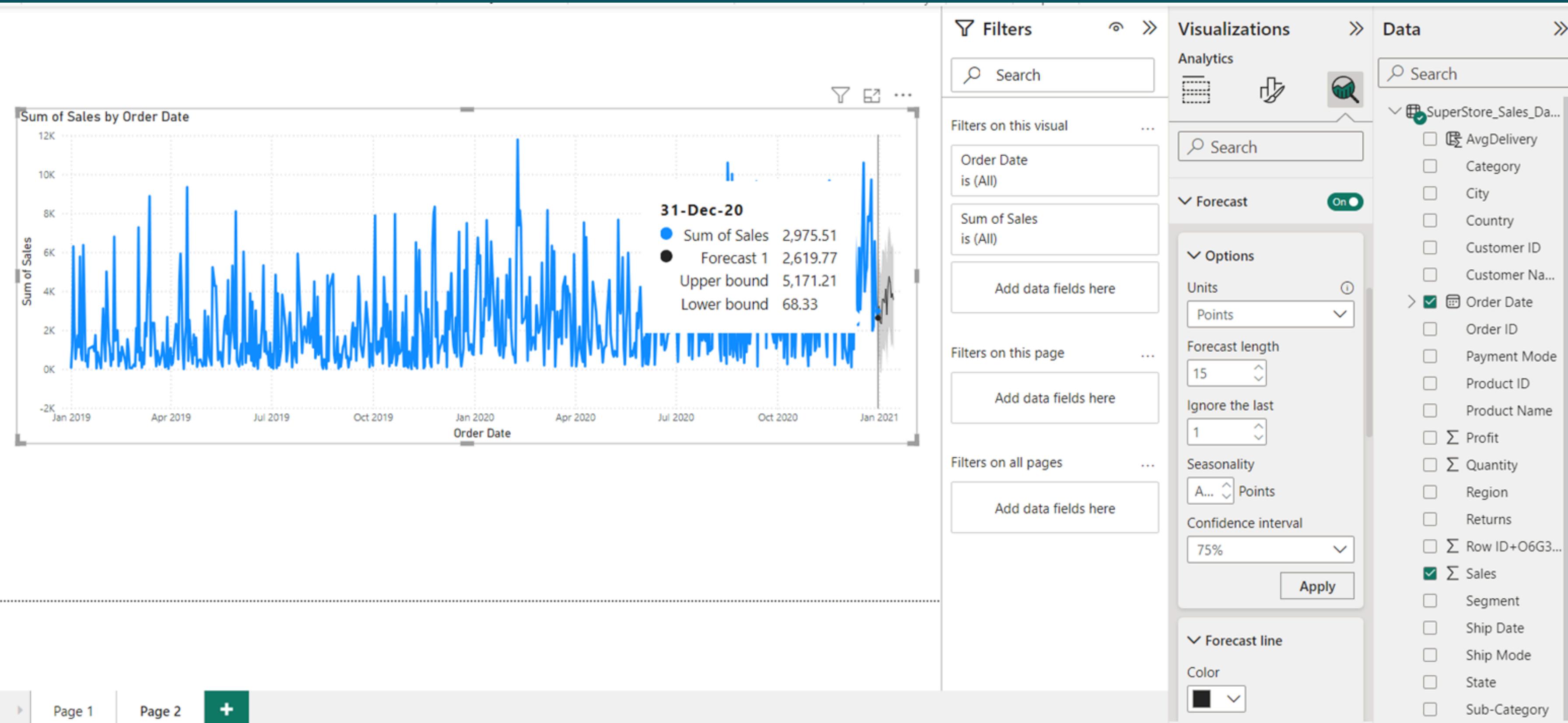
SALES FORECASTING

How do we do forecasting in power BI

Forecasting is done on Time series, so it's also called time series analysis



We can change confidence interval and it will analyze your data accordingly



We can export and share your forecast with client as well

The screenshot shows the Microsoft Power BI desktop interface. A bar chart titled "Sum of Sales by Order Date" is displayed, showing sales volume over time from January 2019 to January 2021. The Y-axis represents "Sum of Sales" with major ticks at 0K, 5K, and 10K. The X-axis represents "Order Date" with labels for Jan 2019, Apr 2019, Jul 2019, Oct 2019, Jan 2020, Apr 2020, Jul 2020, Oct 2020, and Jan 2021.

A context menu is open on the right side of the chart area, specifically over the legend. The menu items are:

- Export data
- Show as a table
- Remove
- Spotlight

The "Remove" option is highlighted with a red box.

The Power BI ribbon is visible at the top, showing the Home tab is selected. The Data Drill ribbon tab is also present. The Visualizations pane on the right shows a forecast configuration for the "SuperStore_Sales_Da..." dataset, with "Sales" checked. The Data pane lists various dimensions and measures like Category, City, Country, etc.

At the bottom, there are navigation buttons for Page 1, Page 2, and a plus sign, along with a status bar showing "Page 2 of 2" and "73%".

Publish Reports to share with the world and work collaboratively

app.powerbi.com/groups/me/reports/db8fad39-6258-471a-93ec-5d0b80209444/307b6cacad827d76c630?experience=power-bi

Gmail YouTube Research Proposal B... All Bookmarks

demo final | Data updated 6/30/24

Search

Pages Home Page 1 Page 2

File Export Share Chat in Teams Explore this data Get insights Subscribe to report Set alert Edit Copilot

Super Store Sales Dashboard

Filter By Region

Region: Central, East, South, West (West is selected)

Sales: 522.44K

Quantity: 7298

Profit: 67.86K

Average Delivery: 9

Sales by Segment

Home ...: 21%

Corporate: 35%

Con...: 44%

Monthly Sales by YoY

Year: 2019, 2020

50K

0K

January February March April May June July August September October November December

Sales by Ship Mode

Ship Mode	Sales
Standard C...	96K
Second Cl...	34K
First Class	29K
Same Day	11K

Sales by Payment Mode

Cards: 22%

Online: 36%

COD: 43%

Monthly profit by YoY

Year: 2019, 2020

10K

0K

January February March April May June July August September October November December

Sales and Profit by State

Map of the Western United States showing sales and profit by state.

There aren't any filters to display

Sales by SubCategory

SubCategory	Sales
Office Supplies	0.20M
Technology	0.16M
Furniture	0.16M

Sales by Category

Category	Sales
Phones	57K
Chairs	57K
Binders	57K

Filters

Search

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CREATING TABLE USING DAX QUERIES

File Home Help Table tools

Name SuperStore_Sales_D...

Structure

Calendars Relationships Calculations

Mark as date table Manage relationships New measure Quick New measure column New table

Data

Search: SuperStore_Sales_Dataset

Table view A1:R6 Order ID Order Date Ship Date Ship Mode Customer ID Customer Name Segment Country City State Region Product ID Category

7894	CA-2020-125367	23-Jul-20	30-07-2020	Standard Class	NM-18445	Nathan Mautz	Home Office	United States	New York City	New York	East	OFF-BI-10002412	Off
759	CA-2020-117240	23-Jul-20	28-07-2020	Standard Class	CP-12340	Christine Phan	Corporate	United States	New York City	New York	East	OFF-BI-10000848	Off
6940	CA-2020-107132	26-Jun-20	30-06-2020	Standard Class	SC-20260	Scott Cohen	Corporate	United States	New York City	New York	East	OFF-BI-10001071	Off
1951	CA-2020-157987	09-Feb-20	06-09-2020	Standard Class	AC-10615	Ann Chong	Corporate	United States	New York City	New York	East	OFF-BI-10004970	Off
5403	CA-2020-123043	24-Aug-20	29-08-2020	Standard Class	AH-10195	Alan Haines	Corporate	United States	New York City	New York	East	OFF-BI-10003910	Off
5404	CA-2020-123043	24-Aug-20	29-08-2020	Standard Class	AH-10195	Alan Haines	Corporate	United States	New York City	New York	East	OFF-BI-10000138	Off
9270	US-2020-102183	21-Aug-20	28-08-2020	Standard Class	PK-19075	Pete Kriz	Consumer	United States	New York City	New York	East	OFF-BI-10003476	Off
9271	US-2020-102183	21-Aug-20	28-08-2020	Standard Class	PK-19075	Pete Kriz	Consumer	United States	New York City	New York	East	OFF-BI-10001359	Off
3100	CA-2020-131233	14-Apr-20	19-04-2020	Standard Class	CS-12355	Christine Sundaresam	Consumer	United States	New York City	New York	East	OFF-BI-10000829	Off
9829	CA-2020-169999	19-Jun-20	26-06-2020	Standard Class	JS-15685	Jim Sink	Corporate	United States	New York City	New York	East	OFF-BI-10004728	Off
2639	CA-2020-108441	06-Dec-20	18-06-2020	Standard Class	SB-20190	Sarah Bern	Consumer	United States	New York City	New York	East	OFF-BI-10000848	Off
3942	CA-2020-117863	18-May-20	23-05-2020	Standard Class	TS-21340	Toby Swindell	Consumer	United States	New York City	New York	East	OFF-BI-10000605	Off
5135	CA-2020-155607	26-Nov-20	30-11-2020	Standard Class	FG-14260	Frank Gastineau	Home Office	United States	New York City	New York	East	OFF-BI-10003364	Off
2463	CA-2020-148691	12-Mar-20	09-12-2020	Standard Class	CS-12460	Chuck Sachs	Consumer	United States	New York City	New York	East	OFF-BI-10001524	Off
1073	CA-2020-106943	14-Nov-20	19-11-2020	Standard Class	FO-14305	Frank Olsen	Consumer	United States	New York City	New York	East	OFF-BI-10003669	Off
3218	CA-2020-104640	11-Oct-20	16-11-2020	Standard Class	FH-14275	Frank Hawley	Corporate	United States	New York City	New York	East	OFF-BI-10003925	Off
6510	CA-2020-102197	20-Dec-20	26-12-2020	Standard Class	DK-13150	David Kendrick	Corporate	United States	New York City	New York	East	OFF-BI-10001524	Off
7041	CA-2020-103443	17-Dec-20	23-12-2020	Standard Class	AT-10735	Annie Thurman	Consumer	United States	New York City	New York	East	OFF-BI-10001617	Off
573	CA-2020-164826	28-Dec-20	04-01-2021	Standard Class	JF-15415	Jennifer Ferguson	Consumer	United States	New York City	New York	East	OFF-BI-10001922	Off
1507	CA-2020-154935	24-Dec-20	29-12-2020	Standard Class	AR-10540	Andy Reiter	Consumer	United States	New York City	New York	East	OFF-BI-10003708	Off
2464	CA-2020-148691	12-Mar-20	09-12-2020	Standard Class	CS-12460	Chuck Sachs	Consumer	United States	New York City	New York	East	OFF-BI-10001553	Off
390	CA-2020-101798	12-Nov-20	15-12-2020	Standard Class	MV-18190	Mike Vittorini	Consumer	United States	New York City	New York	East	OFF-BI-10000050	Off
6748	CA-2020-100230	12-Nov-20	15-12-2020	Standard Class	AA-10375	Allen Arnold	Consumer	United States	New York City	New York	East	OFF-BI-10002498	Off
3823	CA-2020-141873	10-Sep-20	14-10-2020	Standard Class	HG-14845	Harry Greene	Consumer	United States	New York City	New York	East	OFF-BI-10003655	Off
3820	CA-2020-141873	10-Sep-20	14-10-2020	Standard Class	HG-14845	Harry Greene	Consumer	United States	New York City	New York	East	OFF-BI-10001031	Off
2154	CA-2019-117282	14-Jul-19	18-07-2019	Standard Class	DR-12880	Dan Reichenbach	Corporate	United States	New York City	New York	East	OFF-BI-10004094	Off
5227	CA-2019-119865	21-Jun-19	26-06-2019	Standard Class	AS-10090	Adam Shillingsburg	Consumer	United States	New York City	New York	East	OFF-BI-10003007	Off

Table: SuperStore_Sales_Dataset (5,901 rows)

File Home Help Table tools Share

Name SalesForecast

Mark as date table Manage relationships New measure Quick measure column New table

Structure Calendars Relationships Calculations

X ✓ 1 SalesForecast = SUMMARIZE(SuperStore_Sales_Dataset,'SuperStore_Sales_Dataset'[Order Date], "Total Sales", SUM(SuperStore_Sales_Dataset[Sales])) Data

Search

SalesForecast SuperStore_Sales_Dataset

Order Date	Total Sales
9/29/2020 12:00:00 AM	3466.08
8/21/2020 12:00:00 AM	10009.054
11/16/2020 12:00:00 AM	5804.234
11/14/2020 12:00:00 AM	1554.658
8/12/2020 12:00:00 AM	7723.041
3/6/2020 12:00:00 AM	4053.036
4/17/2020 12:00:00 AM	4474.459
9/7/2020 12:00:00 AM	2114.214
1/28/2020 12:00:00 AM	1184.52
9/23/2020 12:00:00 AM	3837.786
5/12/2020 12:00:00 AM	2847.136
11/17/2020 12:00:00 AM	9676.8828
4/25/2020 12:00:00 AM	1284.113
7/12/2020 12:00:00 AM	4352.514
4/23/2020 12:00:00 AM	2229.222
9/20/2020 12:00:00 AM	8262.918
8/27/2020 12:00:00 AM	7341.538
12/14/2020 12:00:00 AM	6219.714
11/2/2020 12:00:00 AM	3054.516
8/29/2020 12:00:00 AM	596.468
8/31/2020 12:00:00 AM	3746.83
10/6/2020 12:00:00 AM	3462.343
12/16/2020 12:00:00 AM	5077.702
2/17/2020 12:00:00 AM	3714.8174
1/30/2020 12:00:00 AM	4829.335
9/19/2020 12:00:00 AM	2671.188
10/12/2020 12:00:00 AM	8156.559
7/15/2020 12:00:00 AM	2836.229

Table: SalesForecast (643 rows)



USE CASE- NESTLÉ

NESTLÉ, THE WORLD'S LARGEST FOOD AND BEVERAGE COMPANY, LEVERAGED POWER BI AS PART OF ITS DATA MODERNIZATION INITIATIVE TO ENHANCE ITS SUPPLY CHAIN AND OPERATIONAL EFFICIENCY.

USE CASE- NESTLÉ

Application

Nestlé used Power BI to visualize and analyze data from its global supply chain, integrating data from multiple sources into a centralized data lake on Microsoft Azure. This integration enabled real-time monitoring of inventory levels, production metrics, and logistics data.



PURPOSE

- **Supply Chain Management:** Power BI helped Nestlé streamline its supply chain by providing real-time visibility into inventory and logistics.
- **Sales Analysis:** The Sales Recommendation Engine (SRE) built with Deloitte drives significant increases in sales by prioritizing store visits based on data-driven recommendations.
- **Operational Reporting:** Migrated legacy reporting systems to create advanced self-service BI platforms, enabling key reports for 1,000+ third-party vendors.



IMPACT

- **Efficiency Gains:** Reduced data ingestion time by 50% and enhanced data quality.
- **Decommissioned Silos:** Eliminated 17 siloed systems, integrating data into a unified platform.
- **Increased Sales:** The SRE app used by over 1,500 sales reps led to a 3% increase in sales from major customers.
- **High Adoption:** Increased user adoption across sales, supply chain, and e-commerce functions.



LEARNING OBJECTIVES

Incorporated data analysis techniques, specializing in time series analysis

- Delivered valuable insights
- Provided accurate sales forecasting
- Created interactive dashboards
- Contributed to driving business success



**ANY
QUESTION**





**THANK
YOU**