



POWER BI

A BUSINESS INTELLIGENCE TOOL



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INTRODUCTION

Power BI is a Data Visualization and Business Intelligence tool that converts data from different data sources to interactive dashboards and BI reports.

Power BI is a collection of components:

- **Power Query For Cleaning the data**
- **Power Pivot creating relationship between multiple data sources**
- **Power View to create different type of charts**
- **Power BI Service to share**





WHY POWER BI

- *User-friendly.*
- *Connects to multiple data sources (Excel, SQL, cloud apps, etc.)*
- *Real-time insights for faster decision-making*

HOW POWER BI WORKS

- *Power BI Desktop used to create reports.*
- *Power BI Service used to publish the reports.*





POWER BI & TABLEAU

FEATURES

POWER BI

TABLEAU

Ease of Use

More beginner-friendly, integrates smoothly with Excel and Microsoft tools.

More advanced, better suited for complex analytics and visuals.

Data Handling

Works well with medium-sized datasets, optimized for Microsoft ecosystem.

Handles very large datasets more efficiently.

Cost

More affordable, especially for organizations already using Microsoft 365.

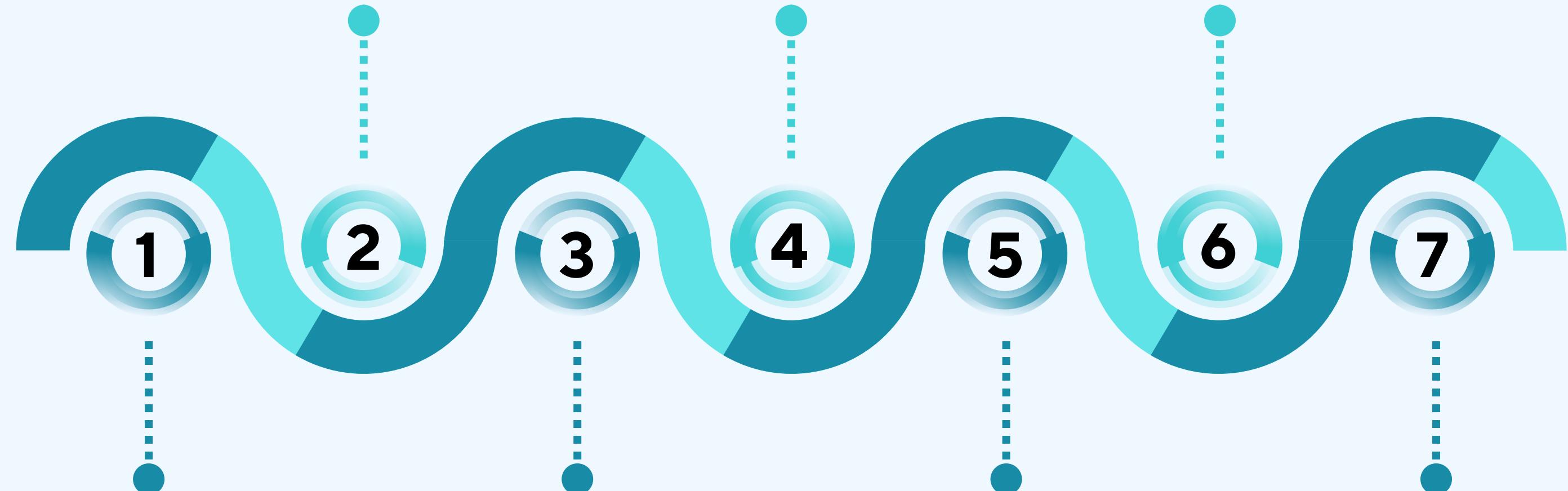
Higher cost but offers deeper analytical capabilities.



DATA JOURNEY IN POWER BI

Transformation & Cleaning

Power Query cleans data by removing errors, duplicates, and shaping it.



Data Source

Connects to Excel, SQL, CSV, cloud, or web data.

Data Modeling

Creates relationships between tables for accurate analysis.

Visualization

Turns data into charts, maps, and dashboards for insights.

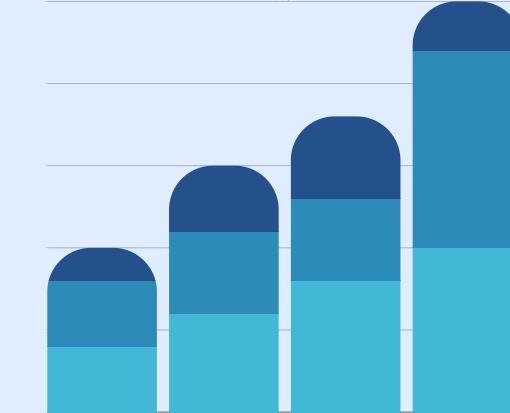
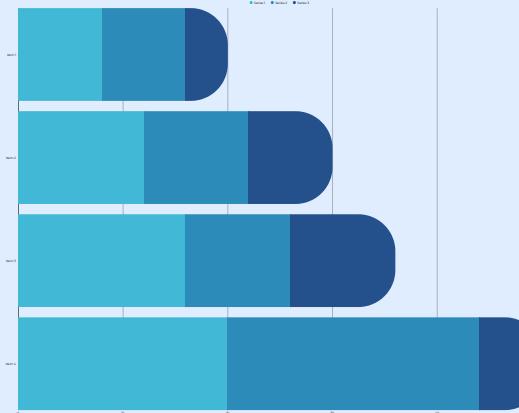
Refresh

Keeps reports updated with scheduled or manual data refresh.

Sharing

Dashboards can be published and shared via Power BI Service.

CHARTS IN POWER BI



01

Stacked bar chart
A bar chart where different categories are stacked horizontally on top of each other. It shows both total values and the contribution of each sub-category.

02

Stacked column chart
Similar to stacked bar, but the bars are vertical. It represents data in columns divided into sub-categories stacked over one another.

03

Cluster bar chart
A horizontal bar chart where categories are shown side by side. It allows easy comparison across multiple categories.

04

Cluster column chart
Vertical version of clustered bar chart. Multiple columns are placed next to each other for direct comparison between categories.

05

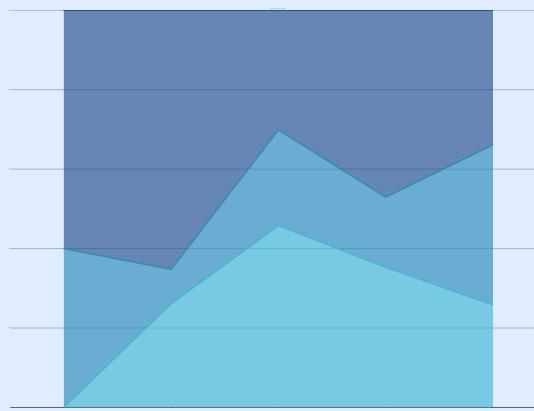
Line chart
A chart where data points are connected with a line. Best suited for showing trends over time like monthly sales or yearly growth.

06

Area chart
Similar to a line chart but the area under the line is filled with color, highlighting both the trend and the magnitude of values.

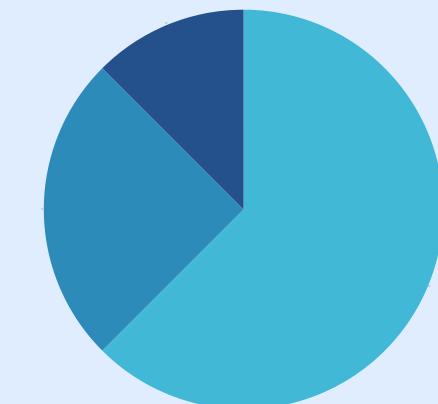


CHARTS IN POWER BI



07

Stacked area chart



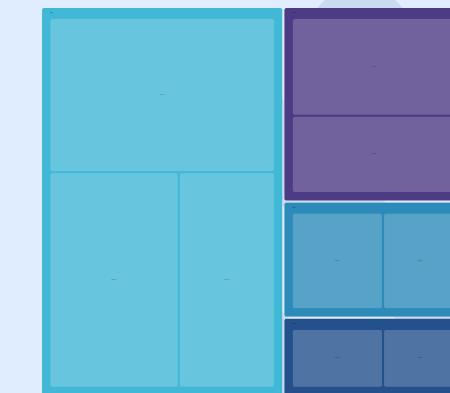
08

Pie chart



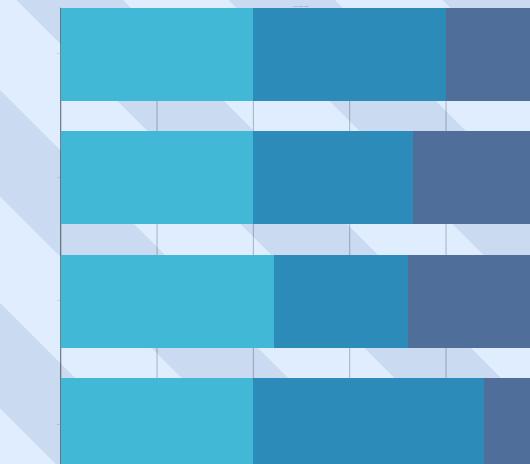
09

Donut chart



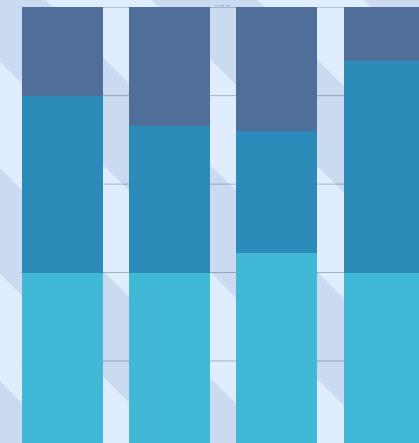
10

Treemap



11

100% Stacked bar chart



12

100% Stacked column chart

An area chart where multiple categories are stacked on top of each other. It shows cumulative values and trends for each category.

A circular chart divided into slices. Each slice represents a part-to-whole relationship, usually shown in percentages.

A variation of the pie chart with a hollow center. It looks modern and often used to show proportions with a central value displayed inside.

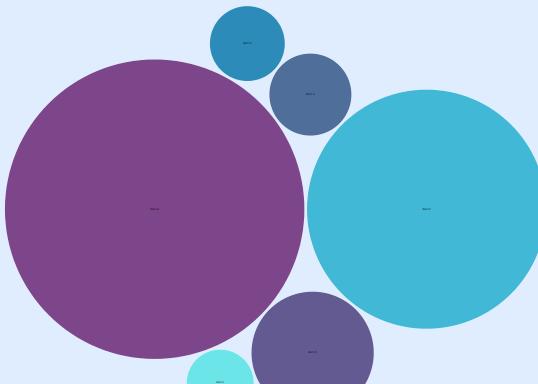
A hierarchical chart using nested rectangles. Each rectangle represents a category, and its size indicates the value. Useful for many categories.

A horizontal stacked bar chart where all values are normalized to 100%, showing only proportions rather than actual totals.

Vertical version of 100% stacked bar. It emphasizes percentage contribution of each category within the total.



CHARTS IN POWER BI



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Scatter chart

A chart that plots data points on an X and Y axis to show the relationship between two measures. Can also show size and category with bubble markers.



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Map

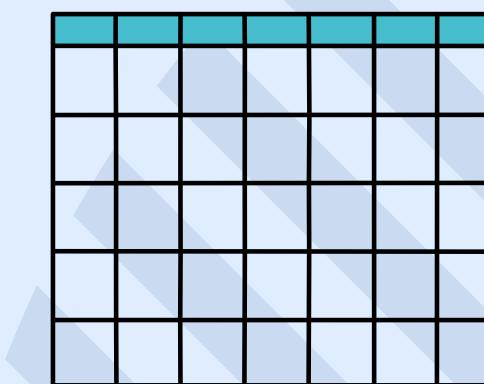
A visual that uses geographical coordinates (like city, state, country) to show values as points on a map.



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Filled map

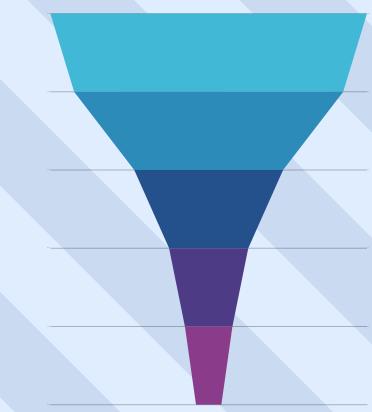
Similar to map, but instead of points, it fills the entire region (like country or state) with color intensity based on value.



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Table chart

Displays data in rows and columns like Excel. Best for showing detailed information in raw format.



17

Funnel chart

A chart shaped like a funnel, showing how values decrease across stages (e.g., leads → opportunities → sales).



18

Gauge chart

A circular dial that shows the current value against a target. Often used for KPIs (e.g., progress toward sales goal).

CASE STUDY

BUSINESS PROBLEM

The Superstore is facing challenges with uneven sales and profit distribution across regions and categories. Some sub-categories like Tables and Bookcases generate losses despite high sales, while discount strategies and shipping costs reduce overall profitability. Seasonal sales trends and dependency on certain customer segments also affect growth.

REQUIREMENT

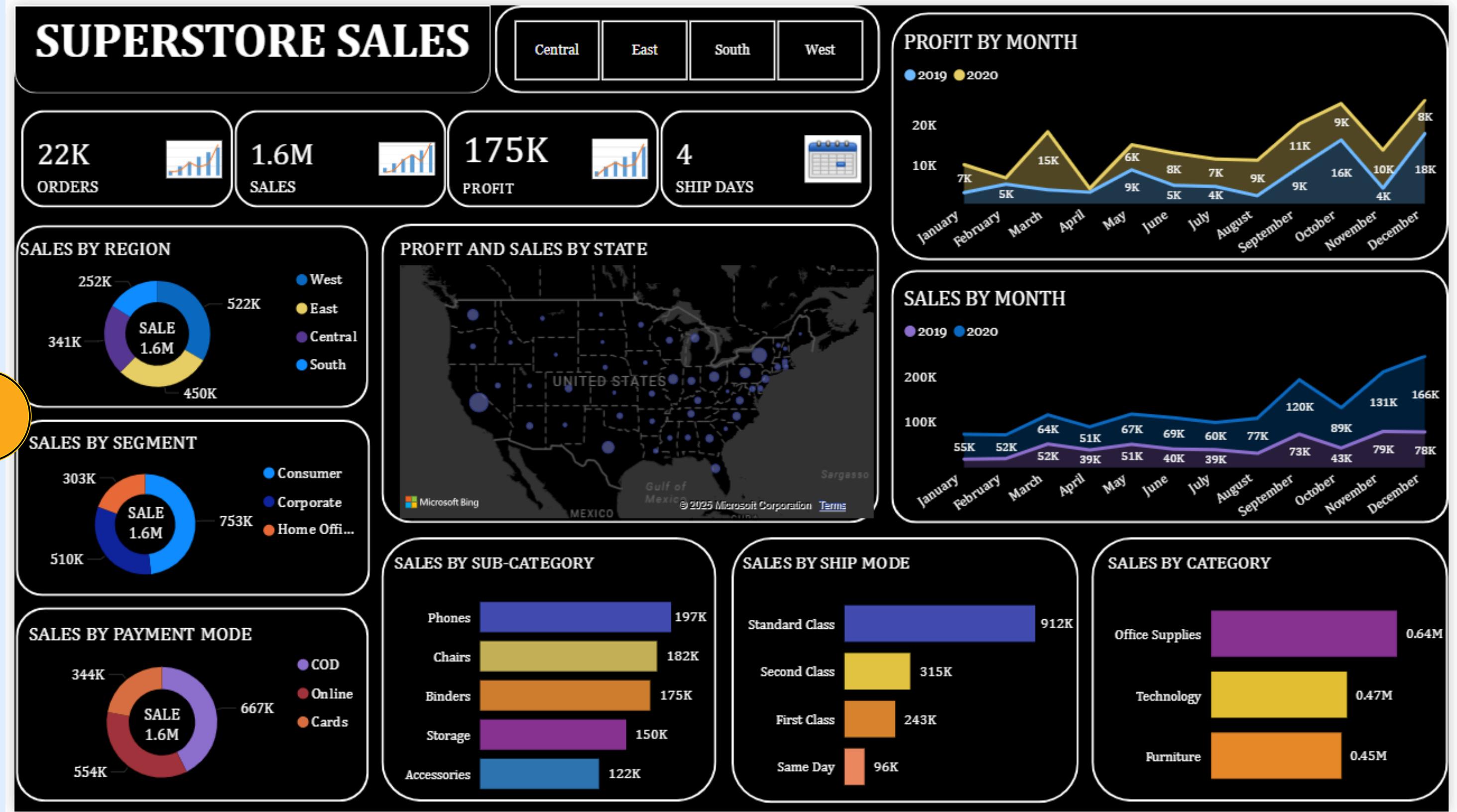
The management requires a Power BI dashboard that provides insights into:

- Sales and profit performance by region, category, and sub-category.
- Impact of discounts and shipping modes on profit.
- Customer segment and seasonal sales trends.
- Identification of top-performing and underperforming areas.





POWER BI DASHBOARD



CONCLUSION

Power BI enables businesses to transform raw data into meaningful insights through interactive dashboards and reports. By connecting multiple data sources, applying transformations, and using powerful visuals, organizations can identify trends, solve business problems, and make data-driven decisions with confidence.





THANK YOU

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