

Power BI Sales Data Analysis Report

Step 1: Data Understanding and Preparation

Understanding the Data and Columns

- Thoroughly explored the dataset to understand its structure and the significance of each column.
- Validated the data to ensure consistency, accuracy, and completeness.
- Identified key metrics and dimensions required for analysis.

Data Validation and Cleaning

- Removed duplicates and handled missing or null values.
- Standardized formats for dates, product categories, and regions.
- Ensured all numerical columns, such as sales amounts and shipping times, were appropriately formatted and without outliers.

Calculated Columns and Measures

- Created calculated columns for date hierarchy by splitting the date into Day, Month, and Year.
- Added hierarchies:
 1. **Product Hierarchy:** Product Category > Product Subcategory > Product.
 2. **Territory Hierarchy:** Territory Group > Territory.
- Measures added:
 - Sum of Line Total.
 - Sum of Due Total.
 - Average of Unit Price.
 - Average Shipping Time.

Step 2: Designing and Structuring the Dashboards

Color Palette and Visual Design

- Selected a cohesive and professional color palette to ensure visual consistency across the dashboards.
- Used contrasting colors to highlight key metrics and improve readability.

Interactive Elements

- Included slicers for filtering by date, product categories, regions, and salespersons.

- Added a timeline slicer to allow dynamic period selection.

Step 3: Visualizing Data

Page 1: Sales Overview by Location

- **Visualizations:**
 - Map visual to display sales by geographical regions.
 - Stacked bar chart to compare sales volumes across territories.
 - Pie chart showing the revenue distribution by territory groups.
- **Insights:**
 - Identified high-performing regions and underperforming ones.
 - Highlighted revenue contributions from different territories.

Page 2: Sales by Products and Categories

- **Visualizations:**
 - Tree map to show the hierarchy of product categories and their contribution to sales.
 - Funnel chart to illustrate the sales pipeline from categories to specific products.
 - Donut chart for comparing revenue distribution among product subcategories.
- **Insights:**
 - Determined which product categories drive the most sales.
 - Observed trends in subcategory performance.

Page 3: Sales Performance by Salesperson

- **Visualizations:**
 - Line chart showing trends in sales performance over time.
 - Decomposition tree to analyze individual salesperson contributions and explore factors influencing their sales performance.
 - Stacked bar chart to visualize sales volumes and revenue comparisons by salesperson.
- **Insights:**
 - Identified top-performing salespersons and those needing support.
 - Assessed temporal trends in salesperson performance.

Step 4: Key Findings and Insights

1. **Geographical Analysis:**

- Certain regions consistently outperform others in terms of revenue and sales volumes.
- Underperforming territories indicate potential areas for targeted strategies.

2. **Product Analysis:**

- Specific product categories and subcategories significantly contribute to total revenue.
- High-performing products were identified, enabling better inventory and marketing decisions.

3. **Salesperson Performance:**

- Top salespersons were highlighted for best practices sharing.
- Temporal analysis revealed seasonal trends in sales performance.

4. **Overall Trends:**

- Growth trends in revenue across multiple dimensions.
- Average shipping time and unit price insights support operational improvements.

Conclusion

This analysis provided actionable insights into sales performance, enabling management to make informed decisions regarding resource allocation, strategic planning, and operational efficiency. The interactive dashboards allow stakeholders to drill down into the data for a deeper understanding of the sales dynamics.