

Analysis Report

1. Objective

To develop an interactive Power BI dashboard using the provided sample dataset that visualizes and analyzes key business metrics. The dashboard aims to provide insights into performance trends, geographic segmentation, and product-level analysis to support data-driven decision-making.

2. Key Metrics & Insights Implemented

A. 2017 Key Performance Indicators (KPIs)

- Total Sales: Displayed using a KPI visual for quick recognition.
- Total Number of Products: Tracked as a distinct count.
- Total Profit: Highlighted alongside sales for profitability comparison.

B. Dynamic CAGR (Compound Annual Growth Rate)

- A dynamic slicer allows users to select the start and end years.
- CAGR auto-calculates based on the selected time range and reflects on the dashboard as a KPI card.

C. Sales and Year-over-Year (YoY) Growth

- Column chart showing annual sales trends.
- Area chart with YoY growth percentage.

D. Regional Segmentation – US Map

- Interactive map with filters by:
 - Country, Region, State, and City.
- Regions color-coded:
 - High Profit (Sky Blue), Medium Profit (orange), Low Profit (Blue).

E. Treemap Visualization

- Combined Category and Sub-category hierarchy.

F. Best Month for Sales

- Bar chart showing monthly sales performance.

G. Return Rate Analysis

- Donut charts showing Return rates by subcategory and category.

3. Filters & Interactivity

Global Filters Applied:

- Date Range Selector
- Region & Country
- Product Category/Sub-category
- Profit
- Currency Converter:
 - Conversion logic using switch function based on selected Dollar, Euro, Pound, or Rupee.

4. Insights & Interpretations

◆ 1. West Region – Top Performer

- Best CAGR (19.15%)
- Q4 is extremely strong (December)
- Recovered swiftly after a minor 2015 dip.

Recommendation: Make West the pilot zone for premium products, bundles, and innovations. Push aggressive Q4 campaigns and use profits to reinvest in customer retention.

◆ 2. East Region – Stable Growth Engine

- Consistently growing with excellent CAGR (18.31%).
- November dominates—Black Friday, year-end spend likely driving this.

Recommendation: Increase investment and double down on East. Use it as a model for customer lifecycle strategies. Forecast 15–20% YoY and focus on tech and office bundles in Q4.

◆ 3. Central Region – One-Time Growth Spike

- Flat sales in 2014–2015 and again in 2016–2017.
- Only one year (2016) saw growth +43%.
- September leads in sales, likely driven by back-to-school or fiscal budgeting.

Recommendation: Investigate 2016's success and why it wasn't sustained. Introduce fresh campaigns in Q3 and regional bundles to revive momentum.

◆ 4. South Region – Recovery in Progress

- Volatile history: Huge decline in 2015, rebounded with 30%+ growth afterward.
- Lowest CAGR (5.78%) but promising momentum.
- Three active sales months: November, March, September.

Recommendation: Focus on stability and diversifying campaigns. Build resilience with quarterly growth targets and amplify March promotions (unique to South).

◆ Office Supplies

- Top CAGR (17.48%) - Strongest category growth.
- Growth matches overall company YoY trends (especially in East and Central).

Recommendations:

- Prioritize Office Supplies in B2B sales.
- Boost September & November promotions.
- Bundle supplies with tech or ergonomic furniture (productivity packs).

◆ Technology

- CAGR 15.74% - Close second in growth.
- Strongest impact during November & December (holiday sales, Q4 business budgets).
- Supported by national and West/East regional strength.

Recommendations:

- Invest in year-end marketing campaigns (Black Friday, Cyber Monday).

- Promote home office & remote work bundles (tech + furniture).
- Cross-sell accessories with big-ticket items.

◆ Furniture

- CAGR 11.07% - Slower than other categories.
- Possibly due to:
 - Larger, one-time purchases.
 - Budget-dependent (e.g., year-end upgrades).
 - Regional sensitivity (weaker in South/Central).

Recommendations:

- Push modular, ergonomic, or space-saving designs.
- Target December/January for furniture upgrades.
- Include furniture in “complete office” bundles with tech/supplies.

5. Conclusion

This Power BI dashboard consolidates critical metrics into an interactive, user-friendly platform. It facilitates deep dives into sales, growth, geography, and product performance with the tools to make strategic decisions with confidence.

Power BI Dashboard

