TABLEAU DATA ANALYSIS

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BUSINESS SCENARIO

You are the Head of Sales for a retail products company.

The company wants to increase its business across regions, and you are responsible for analyzing performance to identify growth opportunities.

PROBLEM STATEMENT

To analyze and visualize the Superstore dataset using Tableau, demonstrating your ability to create meaningful insights and interactive dashboards.

OBJECTIVE

Compare statistics across different regions to support strategic sales decisions and find areas to improve on

PROBLEM

DATASET OVERVIEW

3 Datasets

- Orders – 9994 records of orders with 21 fields from all regions containing products and sales info.

- People – 4 records with 2 fields containing people from 4 different regions.

- Returns – 296 records with 2 fields containing if the order is returned and its return ID.

Data Types for Orders dataset

String – Orders, Ship Mode, Customer ID and Name, Segment, Country, City, State, Postal Code, Region, Product ID, Category, Sub-Category and Product Name

Date (DD-MM-YYYY) - Order and Ship Date

Float – Sales, Discount, Profit

Integers - Quantity

Key Fields for Orders dataset

- Region

- Profit

- Product

There are other important fields such as sales and customers but these 3 key fields are key in identifying most trends.
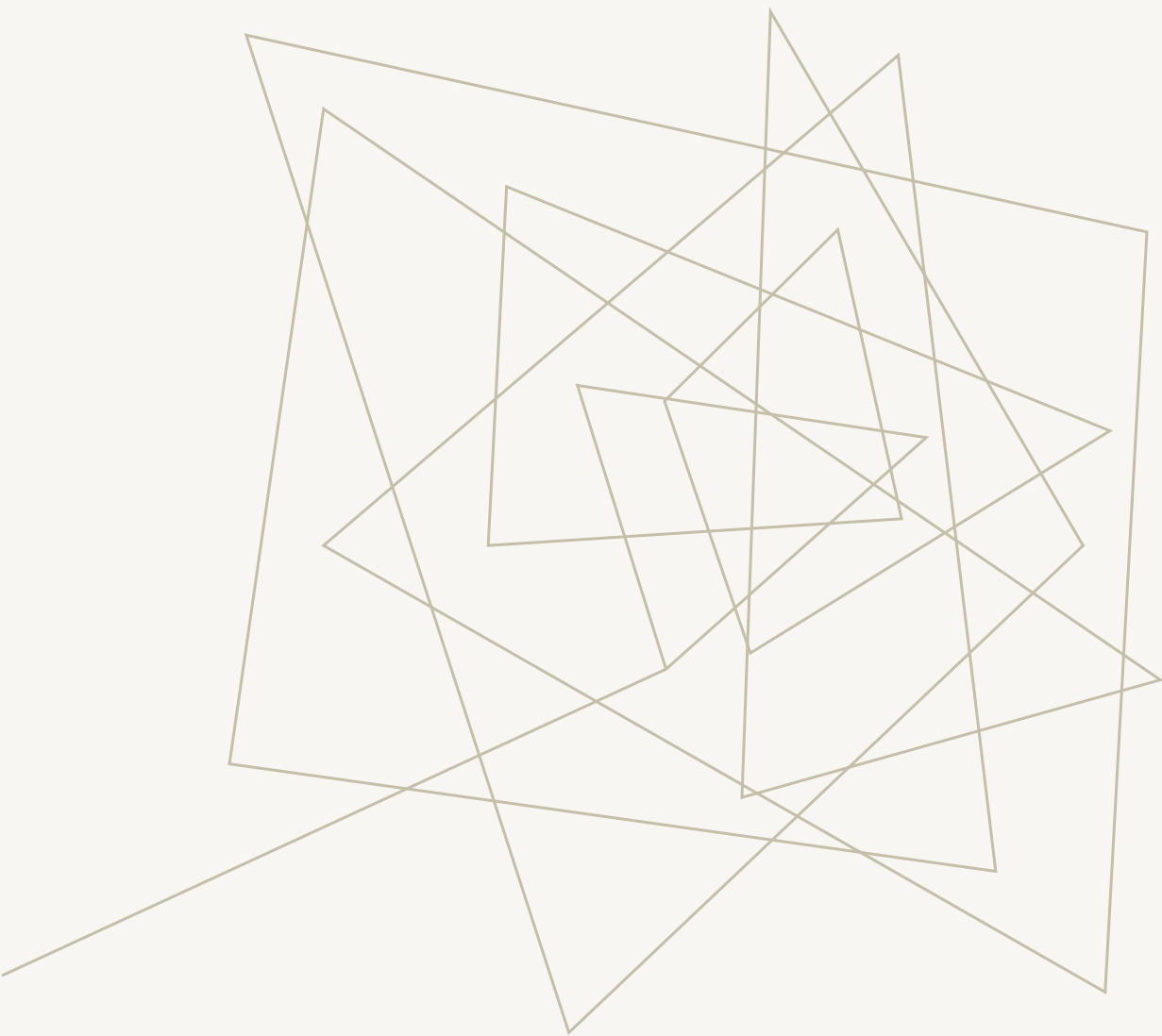
DATA CLEANING

All data types are correct.

Remove commas in sales and profit fields.

Handled missing/null/special values.
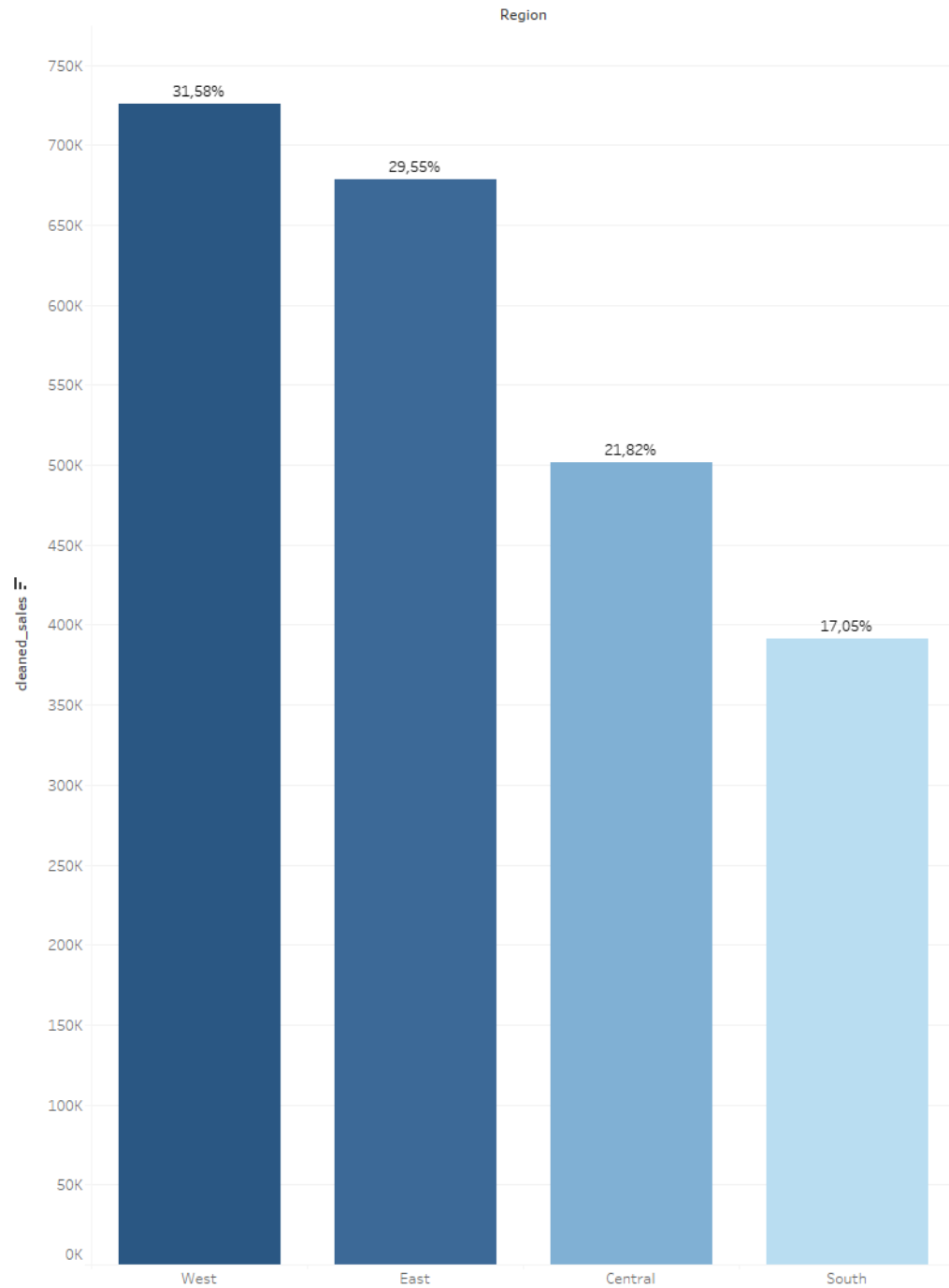
Sales has an outlier of $22.638 which is the max sale.

Profit has 2 distinct outliers: $8400 and -$6600.
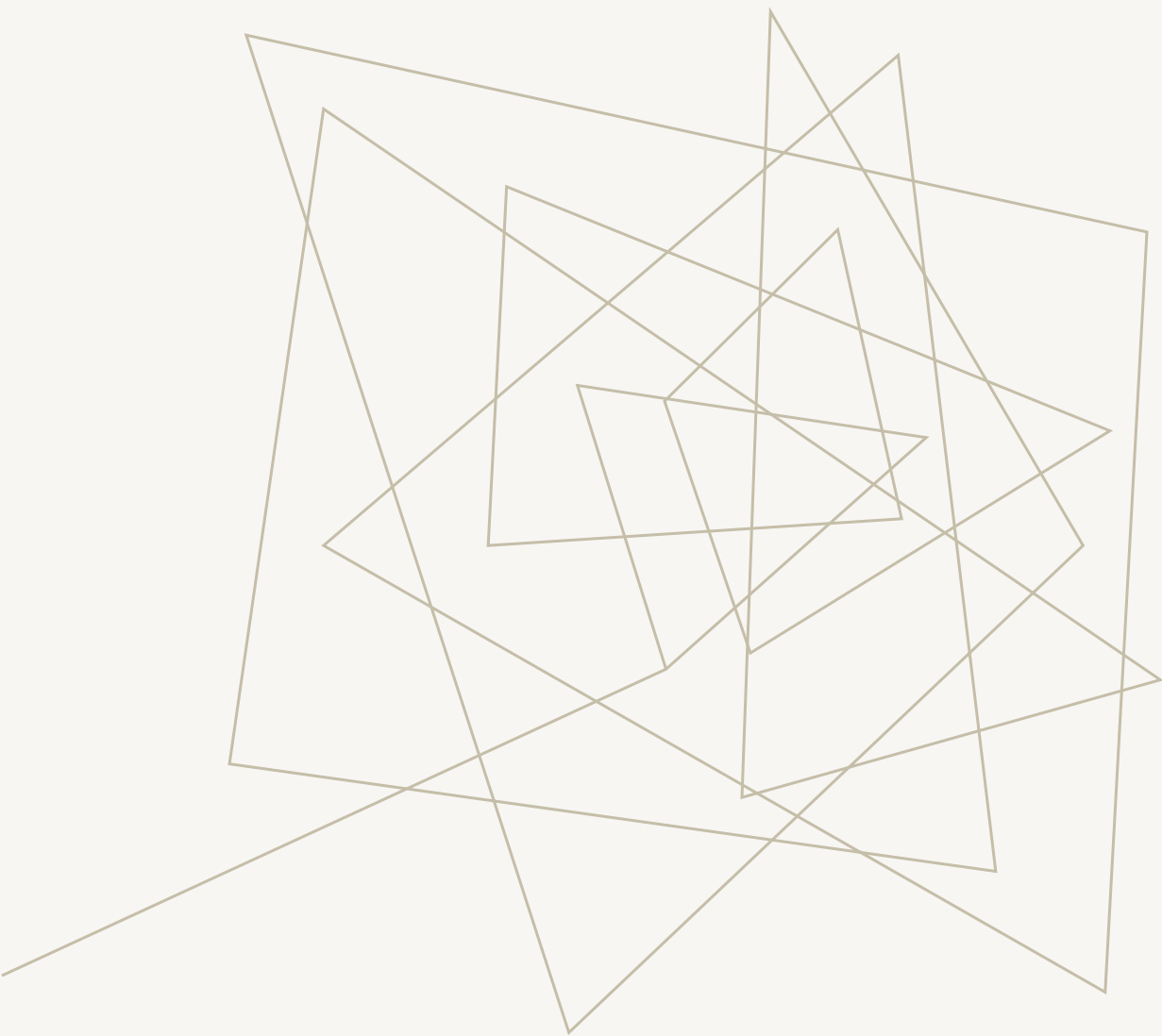
VISUALIZING TRENDS

SALES BY REGION

Sales by Region

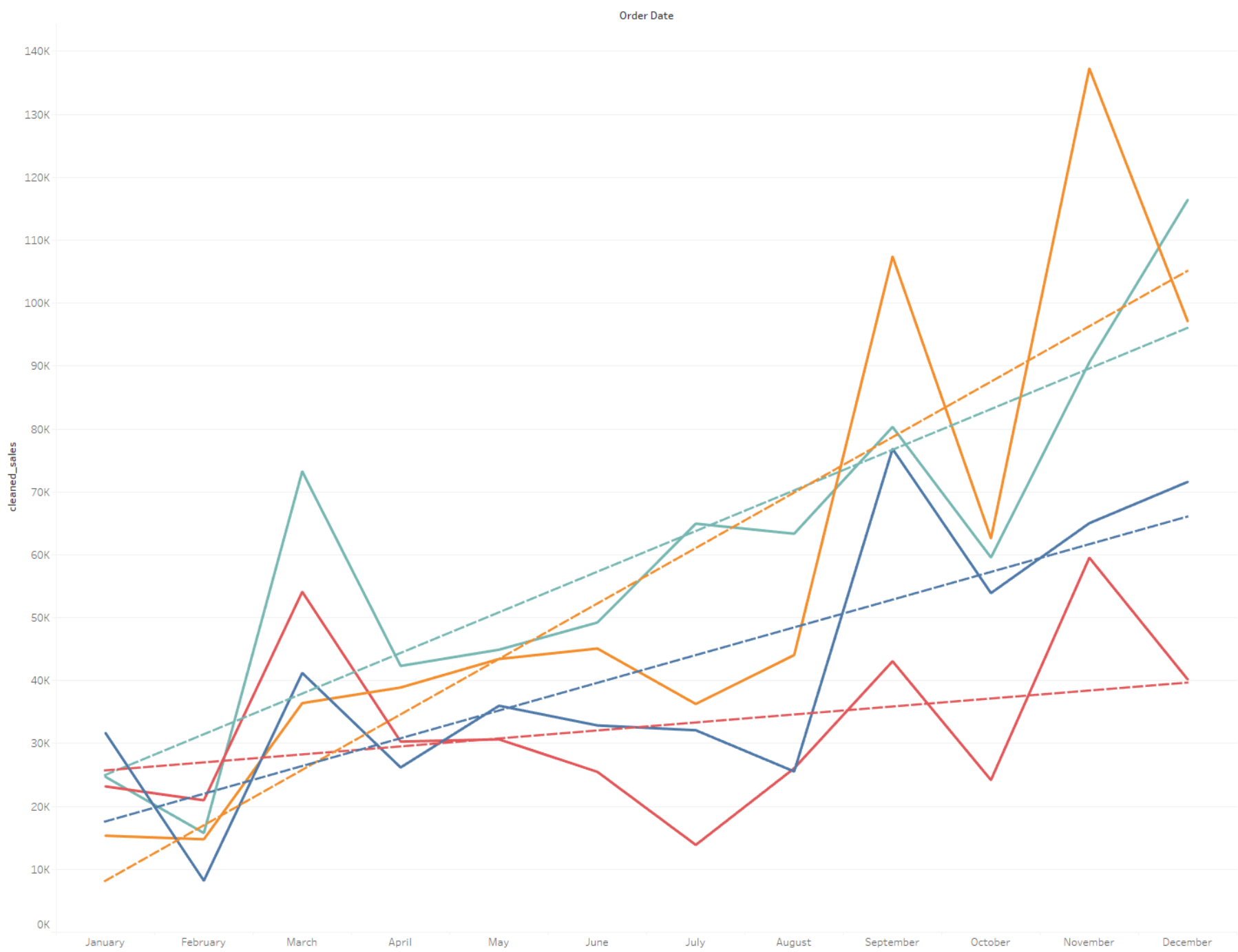
Region

West has the most sales with 31.58% and 725k.

Followed by East 29.5% then Central 21.8% and last South with only 17%.

South has to improve their sales marketing strategy to have higher conversion rates to increase the number of orders.

MONTHLY SALES
TREND

Monthly Sales Trend

Sales steadily increase over the year, with notable peaks in October and December—likely due to seasonal promotions or holidays.
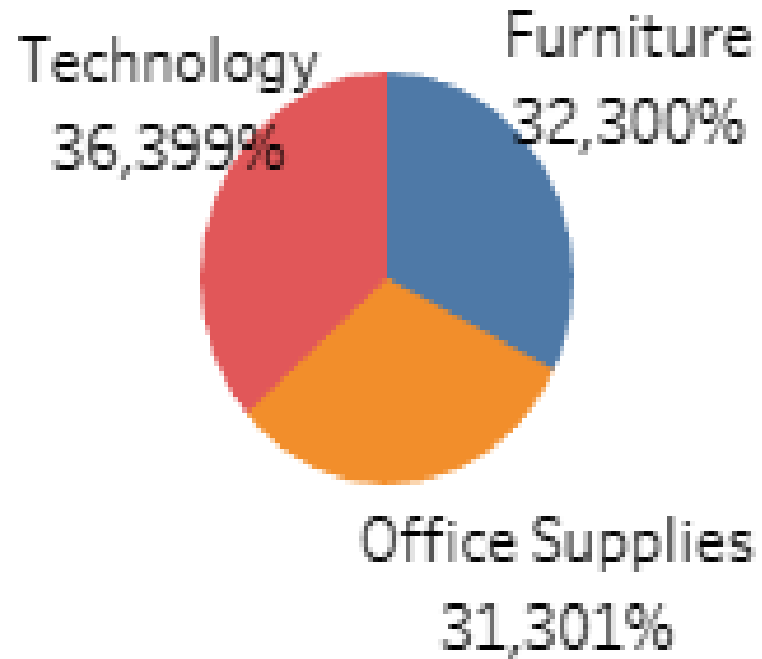
The orange line (likely West or Technology) shows the most aggressive growth.

One segment (red line) remains relatively flat, suggesting limited growth or underperformance—potential for targeted improvements.
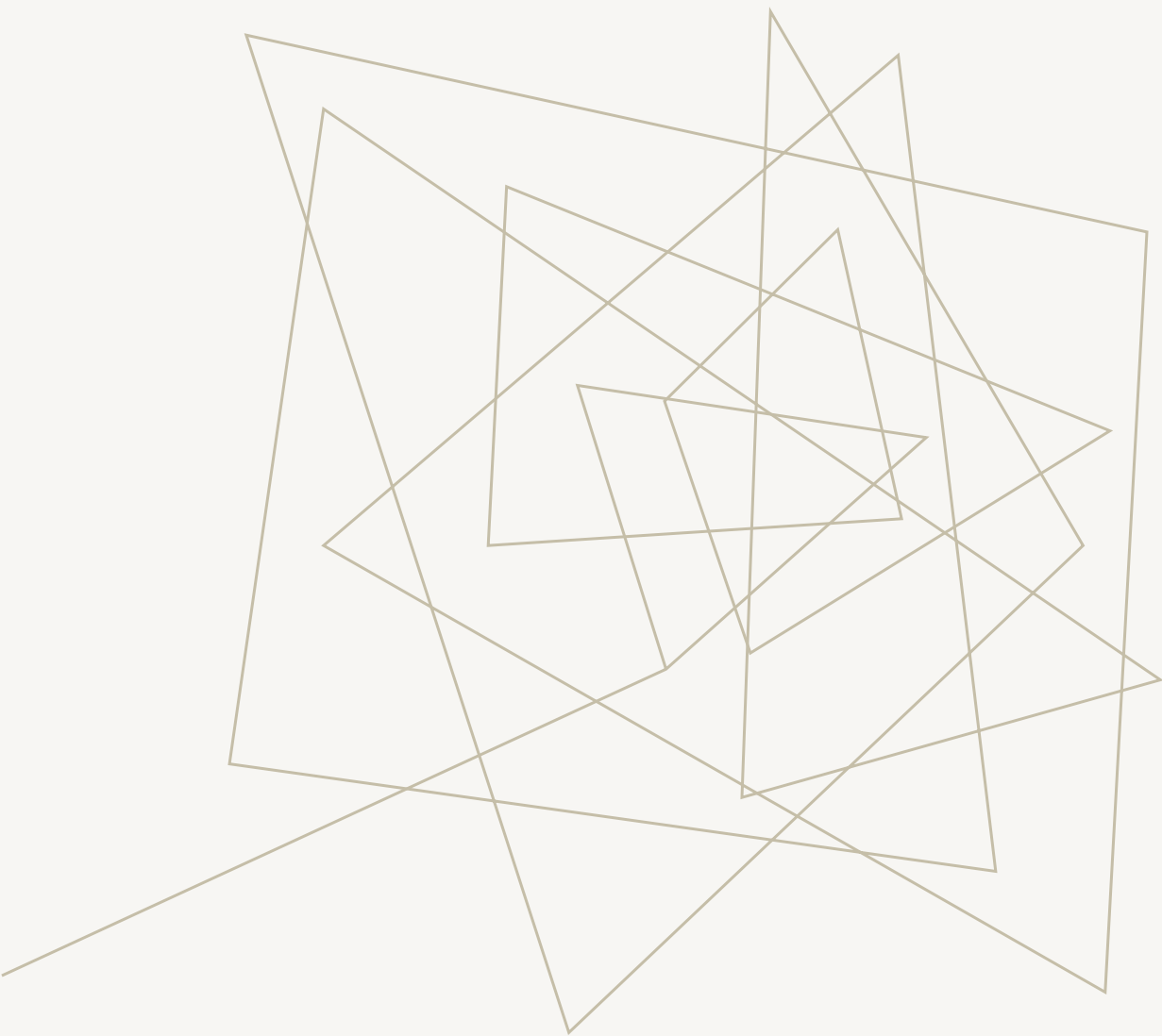
SALES BY
PRODUCT
CATEGORY

Sales by Product Category

Technology
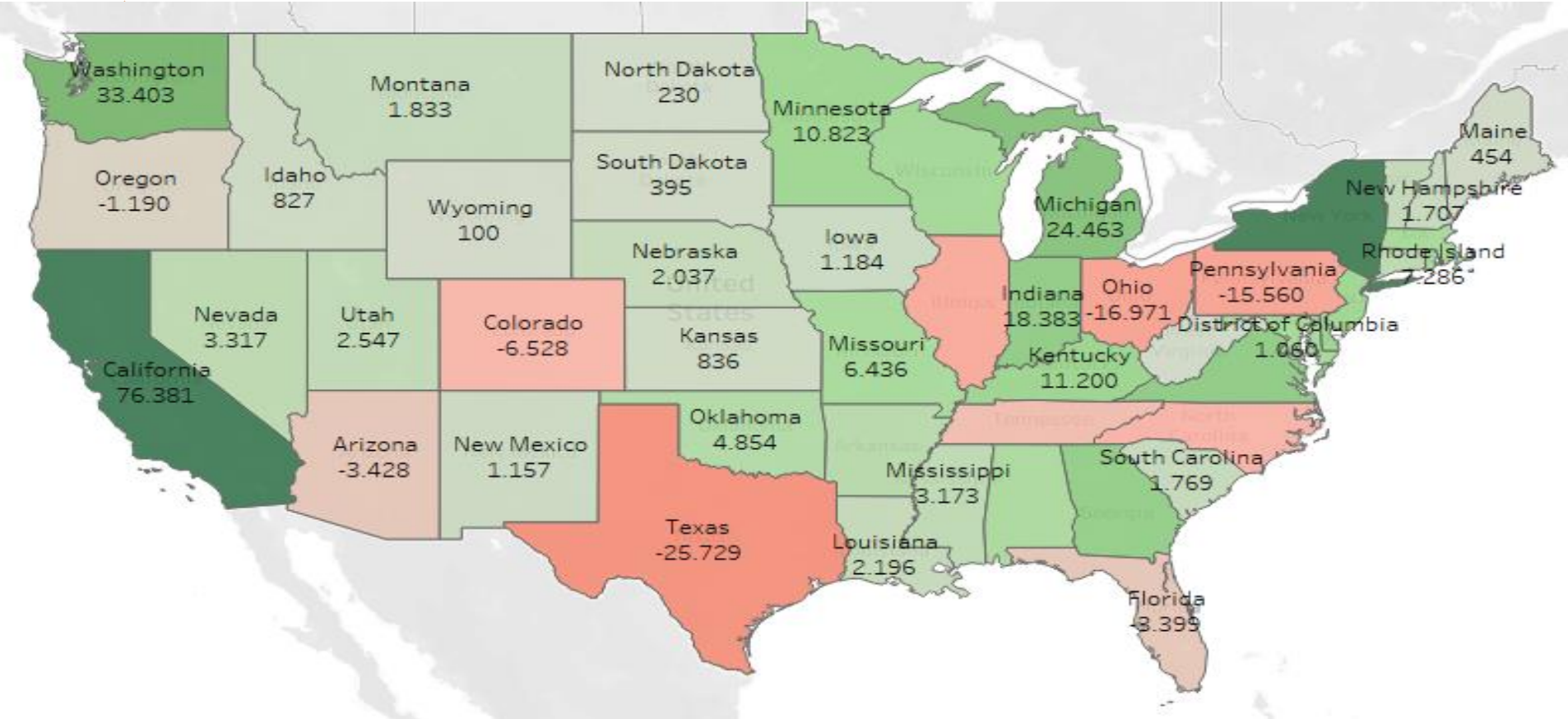36,399%

Furniture
32,300%

Office Supplies
31,301%

Technology leads in sales (36.4%), indicating strong market demand or pricing.

Furniture (32.3%) and Office Supplies (31.3%) are nearly equal.

The relatively balanced distribution means all categories are important, but Technology could be prioritized in promotions or stock planning.
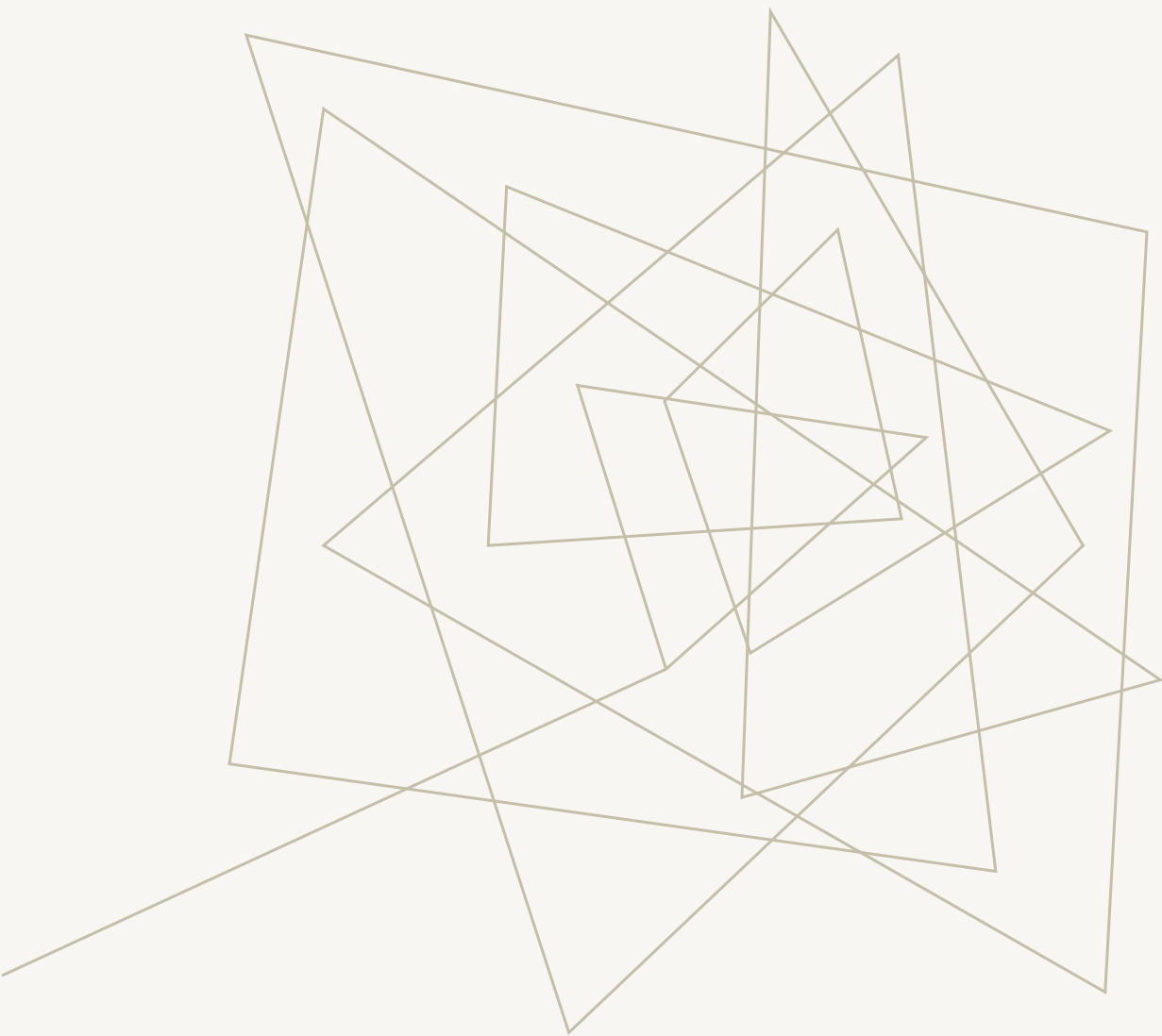
PROFIT BY STATE

California and New York are the most profitable states, both exceeding $70K in profit.

Texas, Ohio, Pennsylvania, and Illinois show large negative profits, highlighting major loss zones.
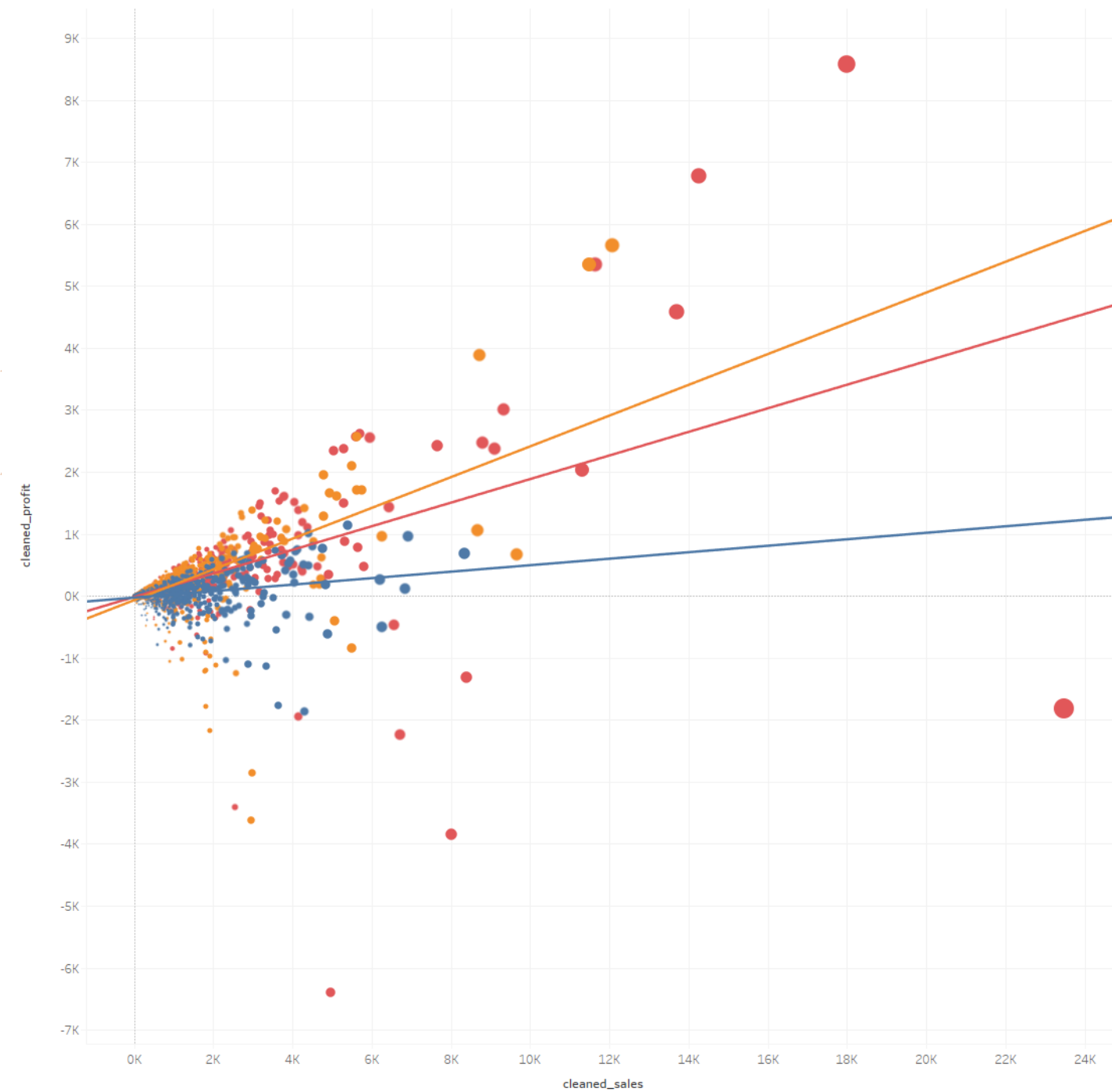
These losses may stem from high return rates, deep discounts, or inefficient logistics —worth deeper investigation.

The West Coast overall performs well, while the Midwest and some parts of the South struggle with profit.
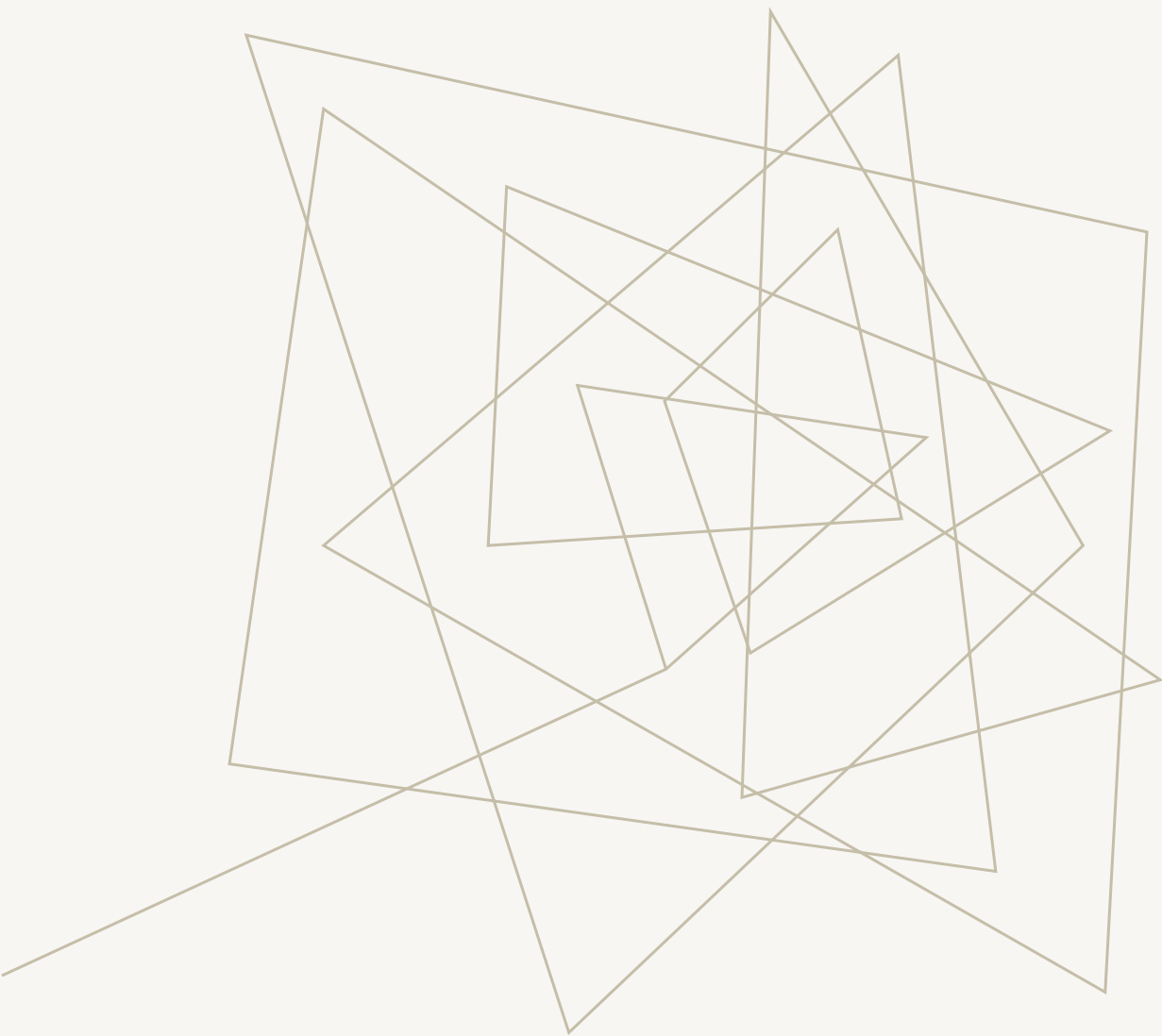
SALES VS. PROFIT

Sales vs Profit

- A dense cluster appears in the **low sales–low profit** range (< $5K sales, <$1K profit), suggesting most transactions are small.

- A few large sales transactions (far right) show **very low or even negative profit**, indicating discounting, high cost, or return issues.

- healthy revenue-profit relationship overall.

- **Technology** has steepest line and most high profit outliers, consider scaling them more.

- **Office Supplies** show moderate positive correlation and its good for volume-based strategies like frequent buyers

- Investigate **Furniture's large-sale, low-profit orders** — they may be causing net loss and could benefit from tighter discounting rules or cost reduction.

- Consider **upselling high-profit items** or bundling low-profit items with higher ones.

CUSTOMER
SEGMENT
ANALYSIS

Customer Segment Analysis

Segment

Consumer
1.161.401

Corporate
706.146

Home Office
429.653
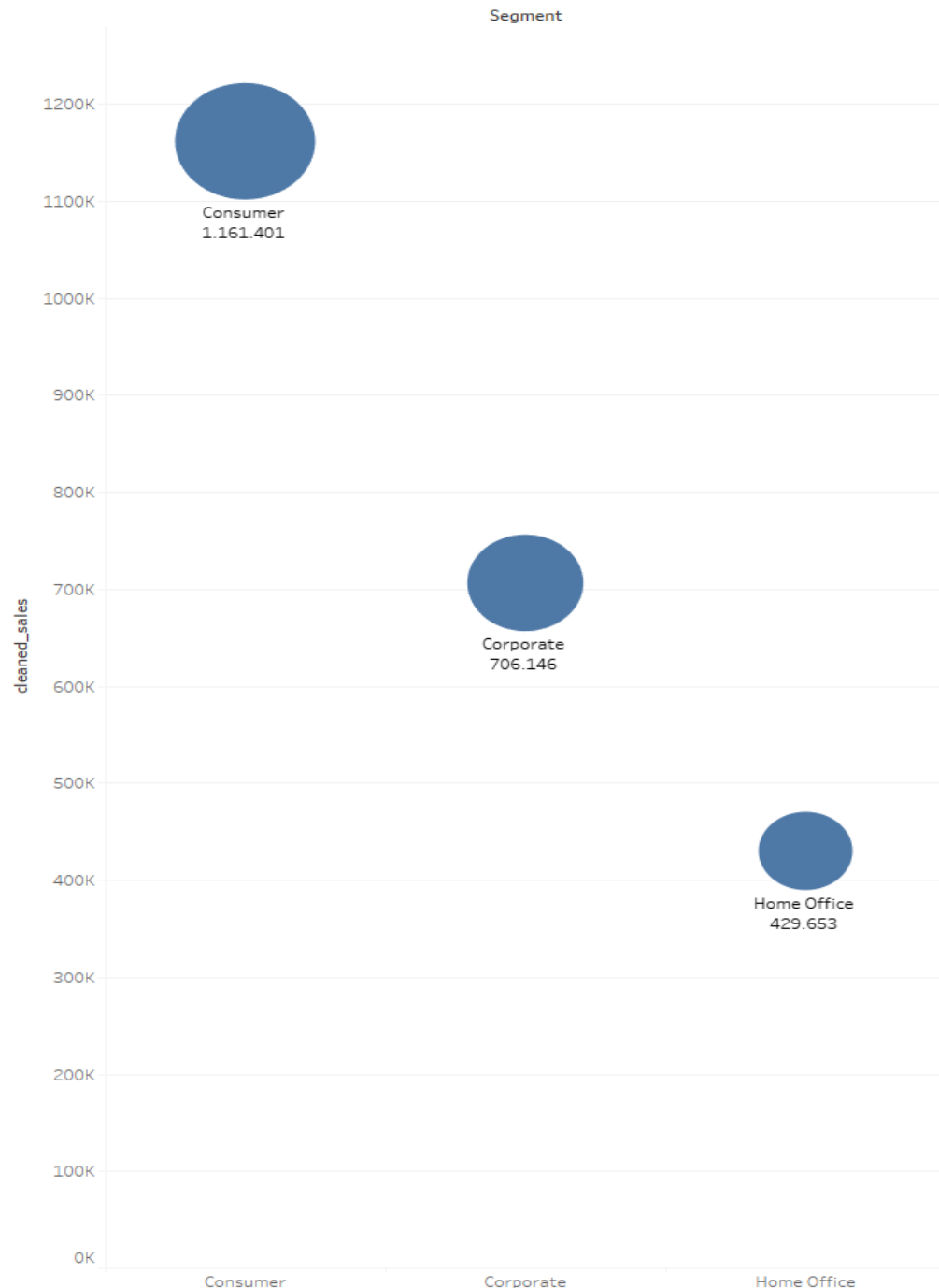
Highest Sales Volume:

Consumer segment leads with **1,161,401** in total sales.

It's the **top-selling segment** by a wide margin.
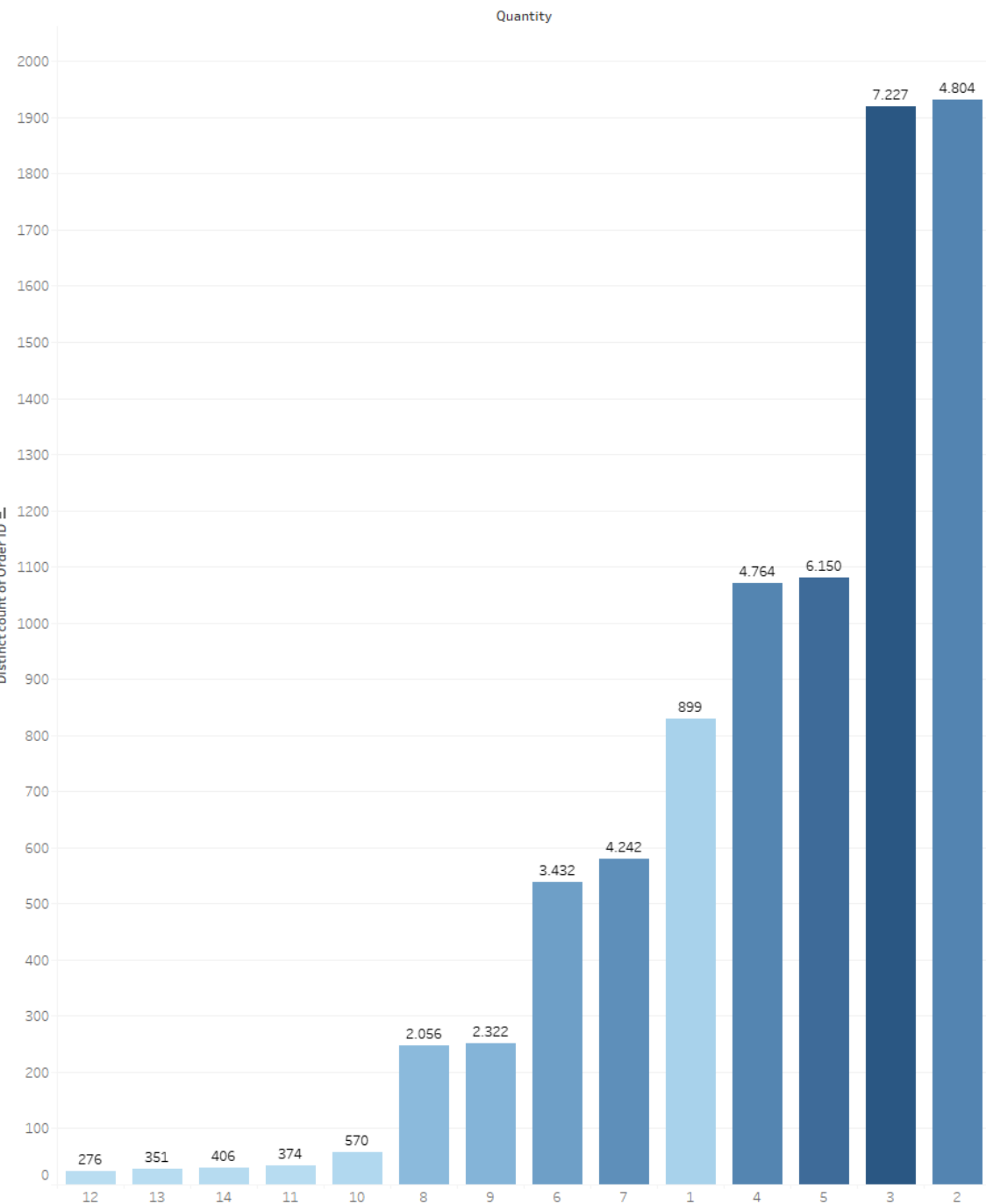
Most Profitable Segment:

From the **bubble size**, **Consumer** also has the **largest bubble**, indicating it is the **most profitable** as well.

Consumer is both the **most profitable** and has the **highest sales volume**.

Corporate and **Home Office** trail behind, with **Home Office** contributing the least in both sales and likely profit.
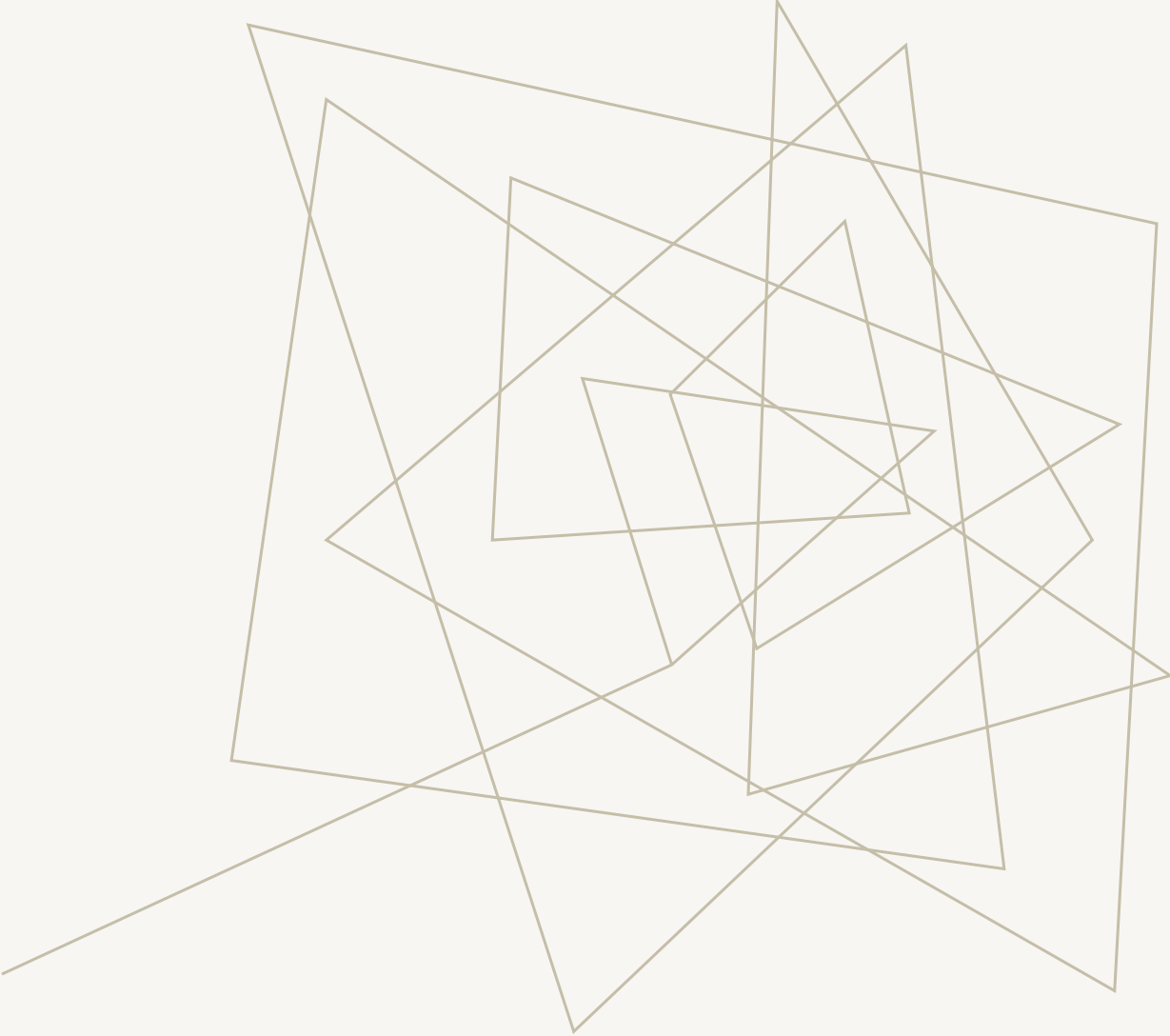
ORDER QUANTITY DISTRIBUTION

Quantity

The values shown on the bars from left to right: 276, 351, 406, 374, 570, 2.056, 2.322, 3.432, 4.242, 899, 4.764, 6.150, 7.227, 4.804

X-axis categories left to right: 12, 13, 14, 11, 10, 8, 9, 6, 7, 1, 4, 5, 3, 2

- The chart shows a **right-skewed distribution** (long-tail distribution).

- The **most common order quantities** are 2, 3, 4.

- Very few orders exceed **8 units**, and quantities **12–14** are extremely rare.

Implications for Inventory Management:

- Since most orders are for **2–4 units**, inventory should prioritize **high turnover of small batches**.

- Helps reduce storage costs and prevent overstocking.

- Quantities above 10 are very rare.

- Avoid over-purchasing or warehousing for large volume buyers unless it's strategic.

- Replenishment models should be based on the **high frequency of small orders**, not bulk demand.

- Consider **bundle promotions** to increase average order quantity.
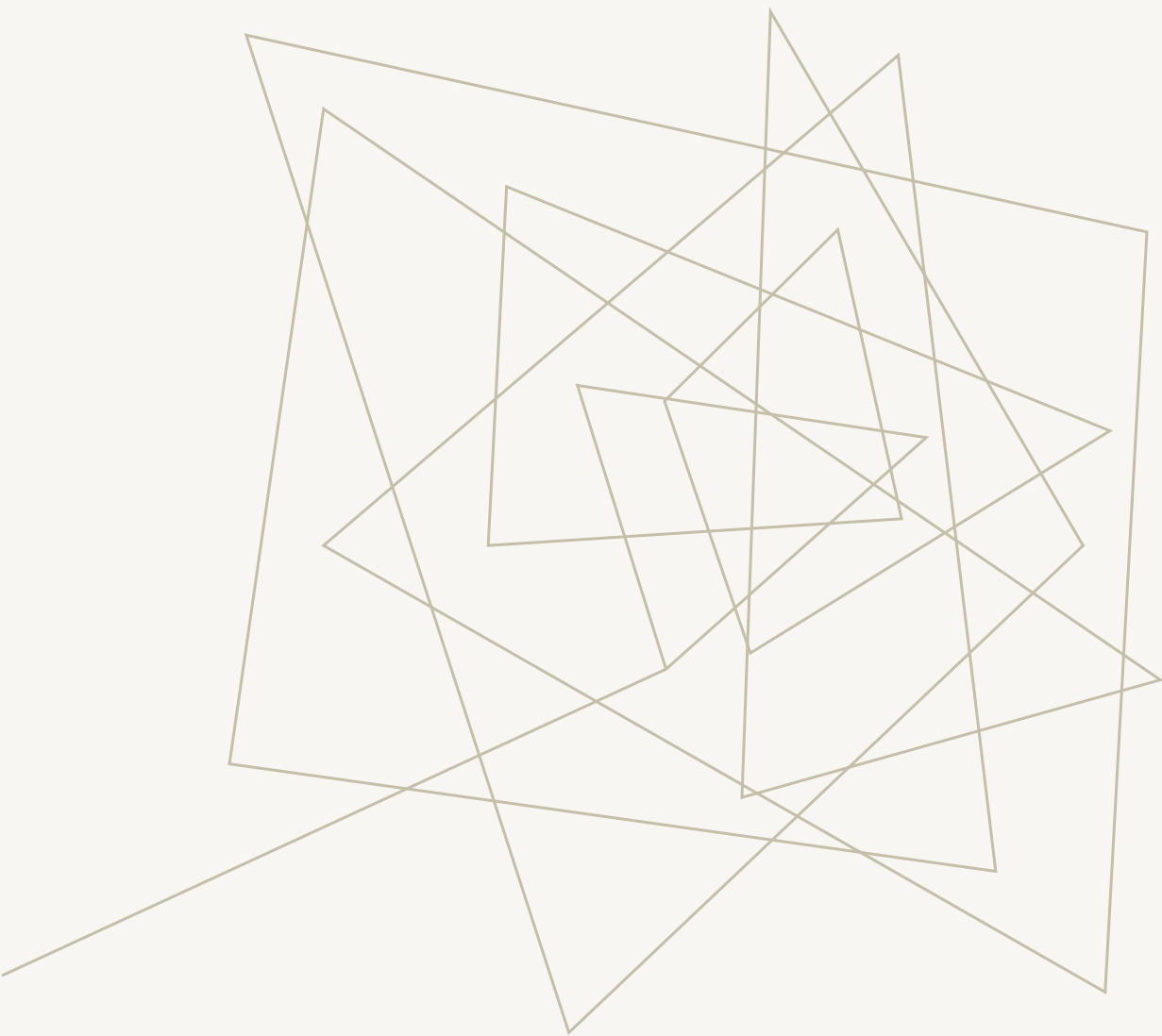
20

CUSTOMER
STATISTICS

Customer statistics
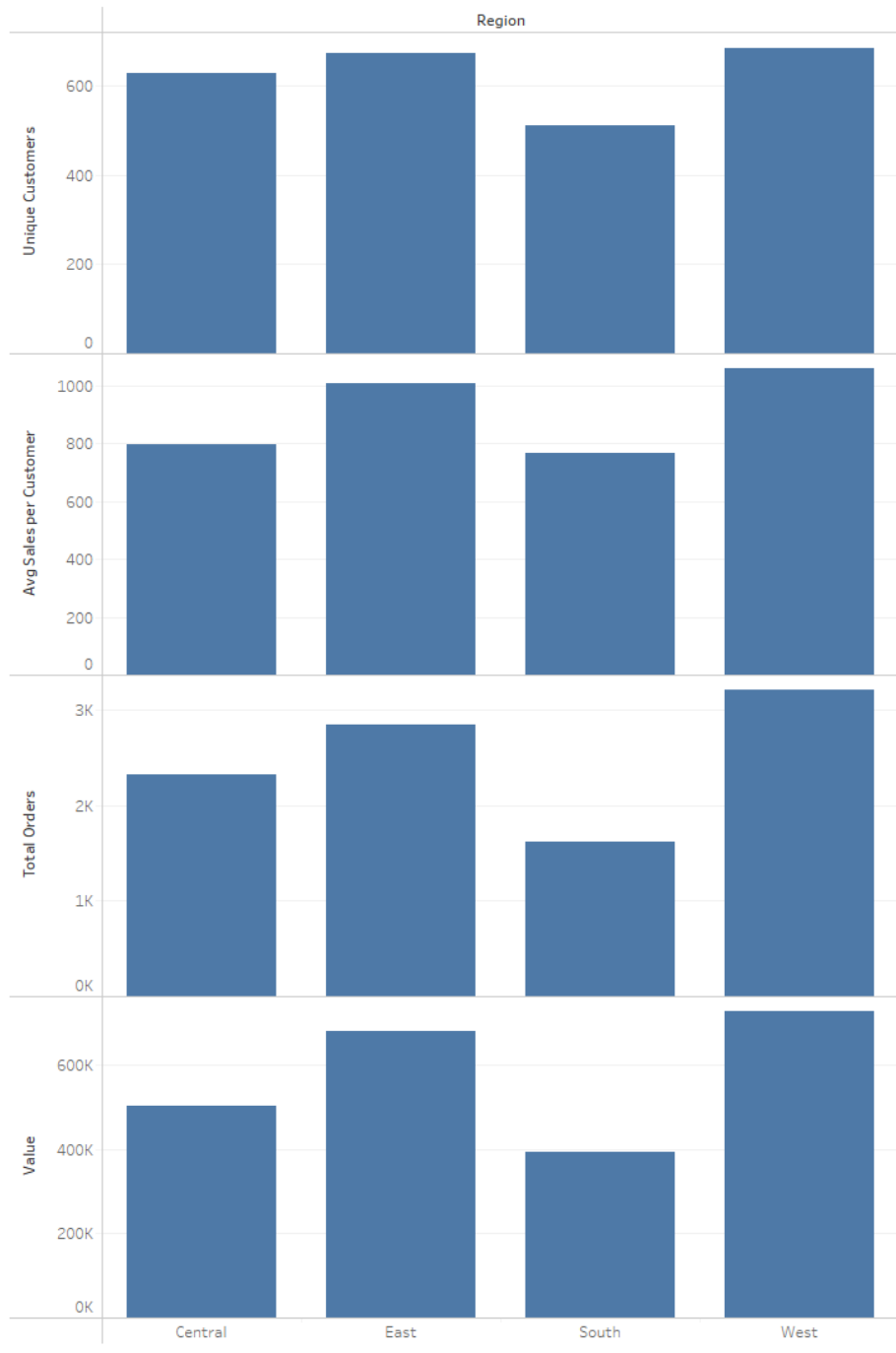
West has **high unique customers, total orders, and sales**, indicating it's the strongest region overall.

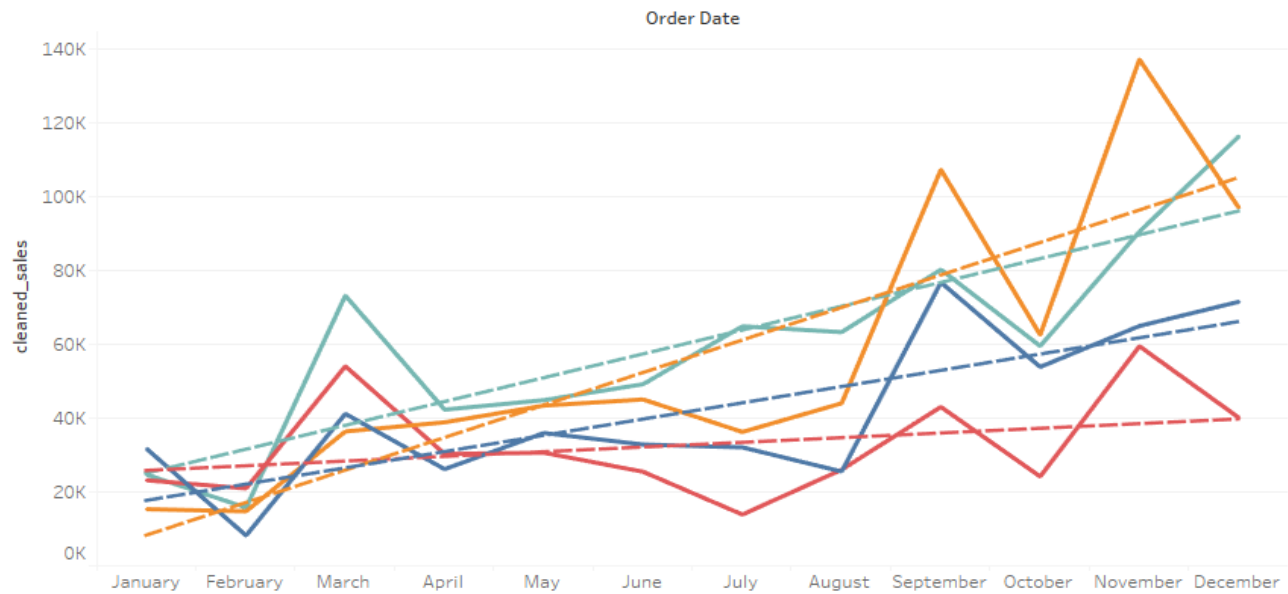**East** performs well across all KPIs too.

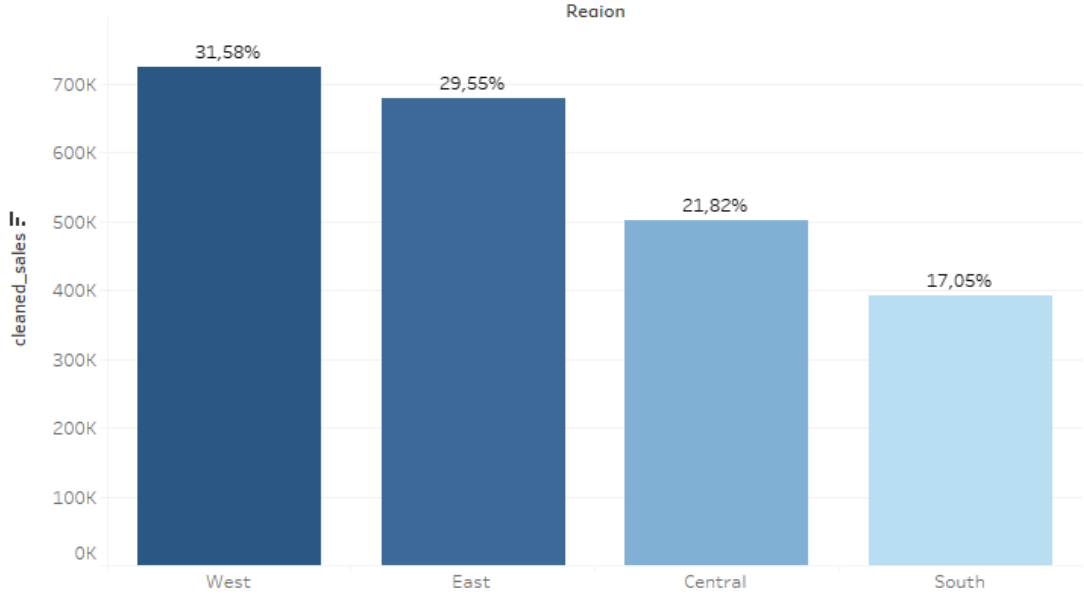**South** lags behind in all four areas — this region may need targeted marketing or service improvements.

INTERACTIVE
DASHBOARD

Interactive Dashboard

Monthly Sales Trend

Order Date

Sales by Region

Region

Sales vs Profit
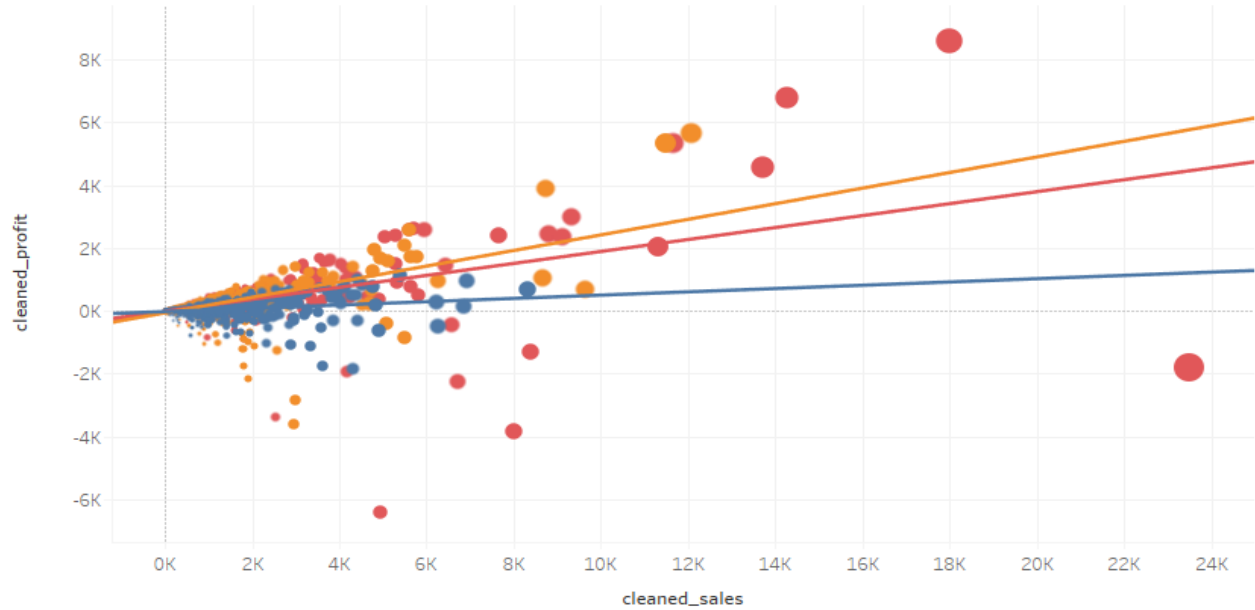
Region
- Central
- East
- South
- West

Category
- Furniture
- Office Supplies
- Technology

cleaned_sales
- · 1
- ○ 5.000
- ○ 10.000
- ○ 15.000
- ○ 20.000
- ○ 23.482

cleaned_sales
391.722 — 725.458

Region
- ☑ (All)
- ☑ Central
- ☑ East
- ☑ South
- ☑ West

% of Total cleaned_sales
17,05% — 57,52%

Category
- ☑ (All)
- ☑ Furniture
- ☑ Office Supplies
- ☑ Technology

Month of Order Date
- ☑ (All)
- ☑ January
- ☑ February
- ☑ March
- ☑ April
- ☑ May
- ☑ June
- ☑ July
- ☑ August

SALES PERFORMANCE KPI DASHBOARD

Sales Performance KPI Dashboard

Total Sales
$2,297,200.86

Total Profit
$286,397.02

Avg Order Value
$2,896.85

Region
- ☑ (All)
- ☑ Central
- ☑ East
- ☑ South
- ☑ West

cleaned_sales
391.722 ▭▭▭▭▭ 725.458

cleaned_profit
- 60.299
- 80.000
- 100.000
- 120.000
- 134.119

Category
- ☑ (All)
- ☑ Furniture
- ☑ Office Supplies
- ☑ Technology

Month of Order Date
- ☑ (All)
- ☑ January
- ☑ February
- ☑ March
- ☑ April
- ☑ May
- ☑ June

Region
- Central
- East
- South
- West

Category
- Furniture
- Office Supplies
- Technology
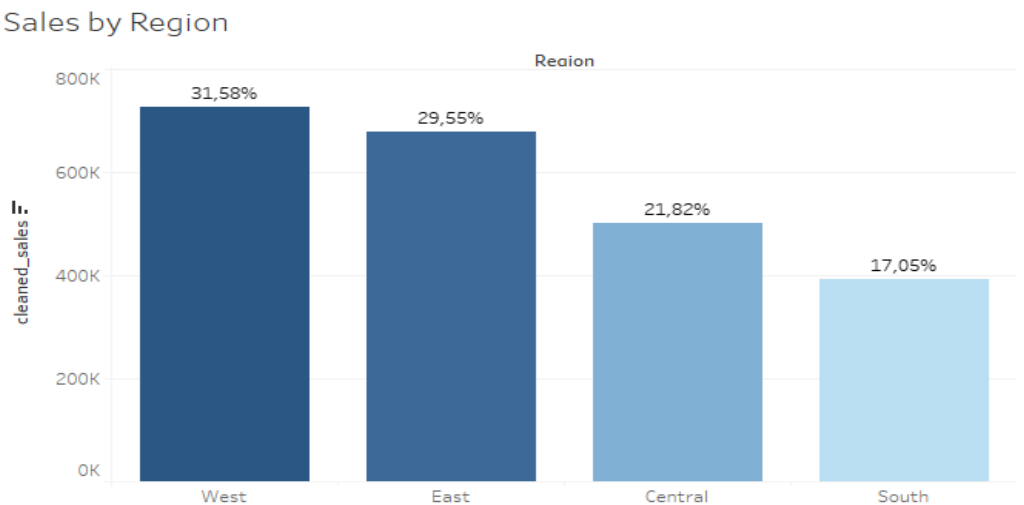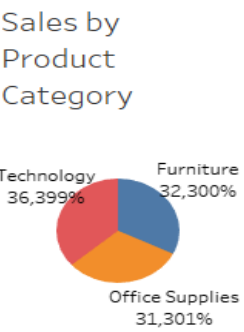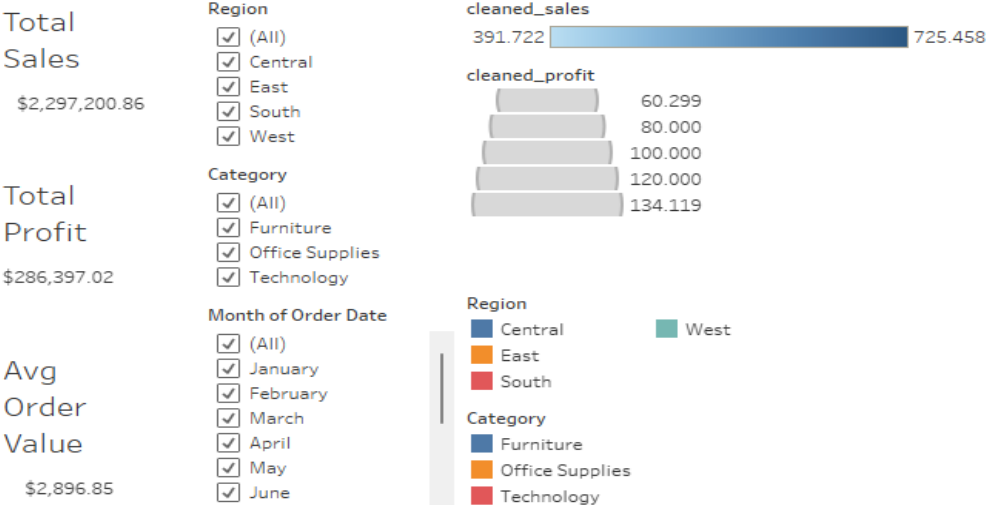
Sales by Product Category

Technology 36,399%
Furniture 32,300%
Office Supplies 31,301%

Sales by Region

West 31,58%
East 29,55%
Central 21,82%
South 17,05%

Monthly Sales Trend

Customer Segment Analysis

Consumer 1.161.401
Corporate 706.146
Home Office 429.653

Summary of Business Insights

Total Sales reached over **$2.29 million**, with a **Total Profit** of **$286,397 and average order value is $2,896.**

Sales by Region shows the **West and East regions** dominate, contributing over 60% of total sales combined.
The **South region** underperforms with just 17% — a clear opportunity for regional improvement.

Sales by Product Category reveals that **Technology** leads in revenue, followed by Furniture and Office Supplies. This suggests strong demand for tech products, warranting inventory and promotional focus.

Customer Segment Analysis shows:
Consumers drive the majority of sales, **Corporate** and **Home Office** are much smaller in contribution
This suggests prioritizing Consumer-focused marketing while nurturing corporate clients for growth.

The **Monthly Sales Trend** indicates strong sales peaks in **October–December**, likely due to seasonal buying (e.g., holiday period), and a general upward trend.

HOW THIS DASHBOARD SUPPORTS STRATEGIC BUSINESS DECISIONS

Performance Monitoring: Tracks top-line revenue, profit, and average sale trends in real-time.

Segment & Regional Strategy: Identifies underperforming regions (South) and segments (Home Office) for targeted outreach or investment.

Product Planning: Helps inventory and sales teams focus on high-performing categories (Technology).

Seasonal Forecasting: Trendline insights help anticipate high-sales periods for staffing and stock planning.

Executive Summaries: Provides quick, digestible metrics for leadership to make informed budget, marketing, and resource allocation decisions.

INSIGHTS

MAIN TRENDS & PATTERNS

- **West and East regions** lead in total sales, while **South significantly underperforms**.

- **Technology** is the top-performing product category.

- **Consumer segment** drives the highest sales volume and profit.

- **Sales steadily increase over the year,** peaking in **October to December** (seasonal trend).

- **Average order value** is strong, and most orders involve small quantities (2–4 items).

AREAS OF CONCERN / GROWTH OPPORTUNITIES

- The **South region** lags behind in both sales and customer engagement.

- **Furniture** shows low profit relative to sales possibly due to high costs or returns.

- **Corporate and Home Office segments** offer growth potential but are underutilized.

RECOMMENDATIONS

- Focus marketing and expansion efforts in the **South region**.

- Re-evaluate **pricing and cost structures** for Furniture to improve margins.

- Invest in **customer acquisition** for Corporate and Home Office segments.

- Plan **inventory and staffing** ahead of the Q4 sales surge.

- Increase promotions on high-margin Technology products as they give us the highest profit/sale gradient.

VALUE OF THESE VISUALIZATIONS

The value it brings

It brings a clear understanding of sales performance across all sectors.

Identifying important areas, revenue sources and seasonal patterns for businesses to utilize their resources and time marketing strategies better.

Impact on Business Decisions

Businesses can leverage them to identify areas for improvement like underperforming regions and optimizing product focus on higher profit margins like tech.

These faster strategic decisions would further help drive KPI to new heights quicker.

THANK YOU

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