

Sales Performance Ad-hoc Analysis Report

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1. Executive Summary

This report provides an ad-hoc analysis of sales performance across product categories and regions for the given period. The focus is on identifying trends, revenue changes, and regions/products most impacted by performance dips.

Key findings highlight significant revenue and unit sales declines in **Electronics** and **Clothing** categories, with the **East** region being the most affected from **November to December**.

2. Data Overview

- **Source:** Internal Sales Dataset
- **Period Covered:** 01/10/2024 – 31/12/2024
- **Rows:** 7,360
- **Columns:** 6
- **Key Fields:**
 - Date – Transaction date
 - Region – Sales region
 - Product – Product category
 - Revenue – Sales revenue in USD
 - Units Sold – Number of units sold
 - SKU- Stock Keeping Unit

	Date	Region	SKU	Category	Units_Sold	Revenue
0	2024-10-01	North	SKU101	Groceries	57.0	4569.814831
1	2024-10-01	North	SKU102	Electronics	42.0	639.556054
2	2024-10-01	North	SKU103	Home Decor	46.0	3154.678278
3	2024-10-01	North	SKU104	Electronics	43.0	1139.775453
4	2024-10-01	North	SKU105	Home Decor	52.0	627.932149
...
7355	2024-12-31	West	SKU116	Clothing	46.0	3365.940079
7356	2024-12-31	West	SKU117	Electronics	41.0	1328.380397
7357	2024-12-31	West	SKU118	Groceries	38.0	3338.713150
7358	2024-12-31	West	SKU119	Groceries	43.0	3367.893629
7359	2024-12-31	West	SKU120	Electronics	47.0	4538.144423
7360 rows × 6 columns						

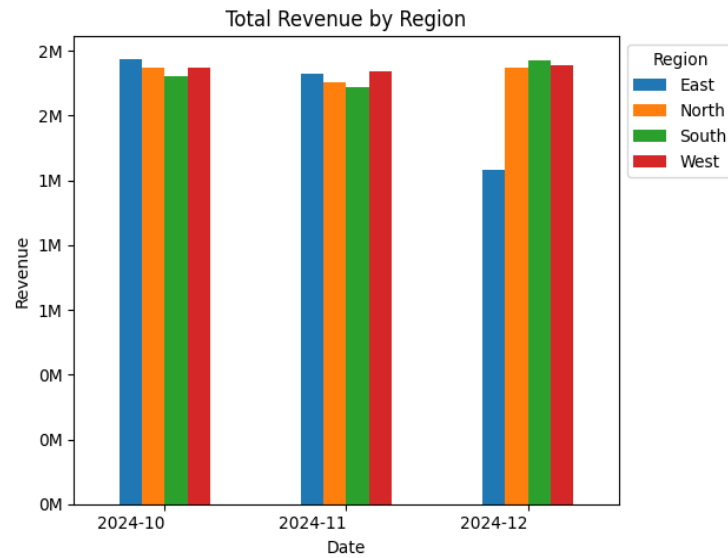
3. Methodology

1. Data Cleaning

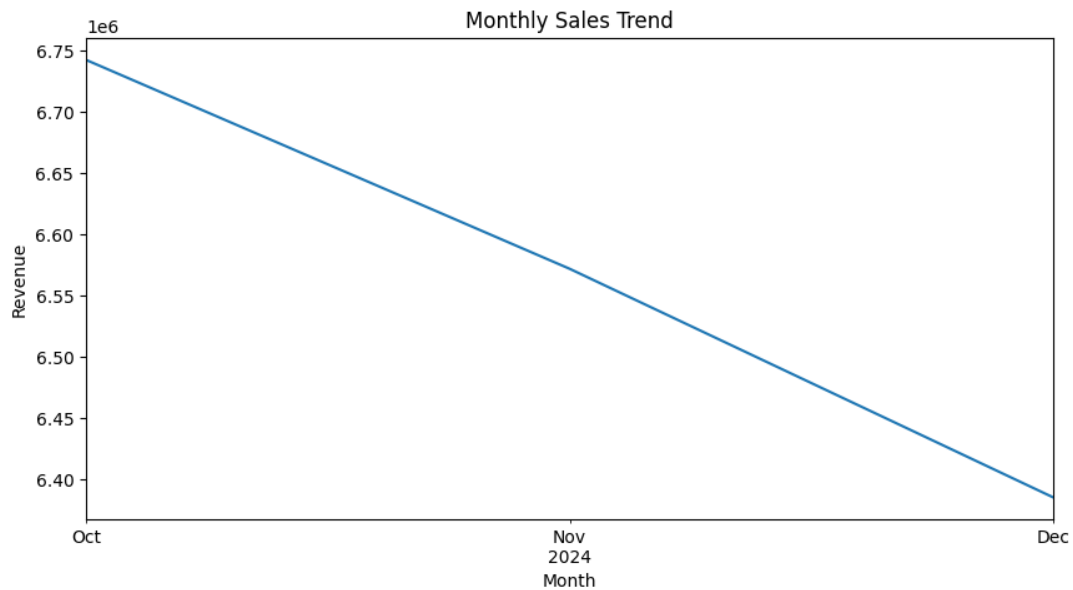
- Checked for missing values using `df.isnull().sum()`
- Checked for duplicate rows and found no duplicates

2. Exploratory Data Analysis (EDA)

- Grouped and aggregated data by time periods, products, and regions

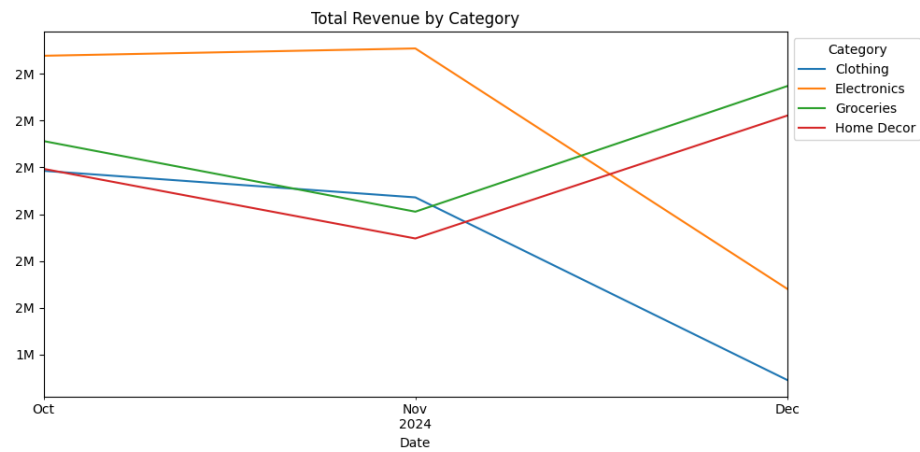


- Analyzed trends using line and bar charts

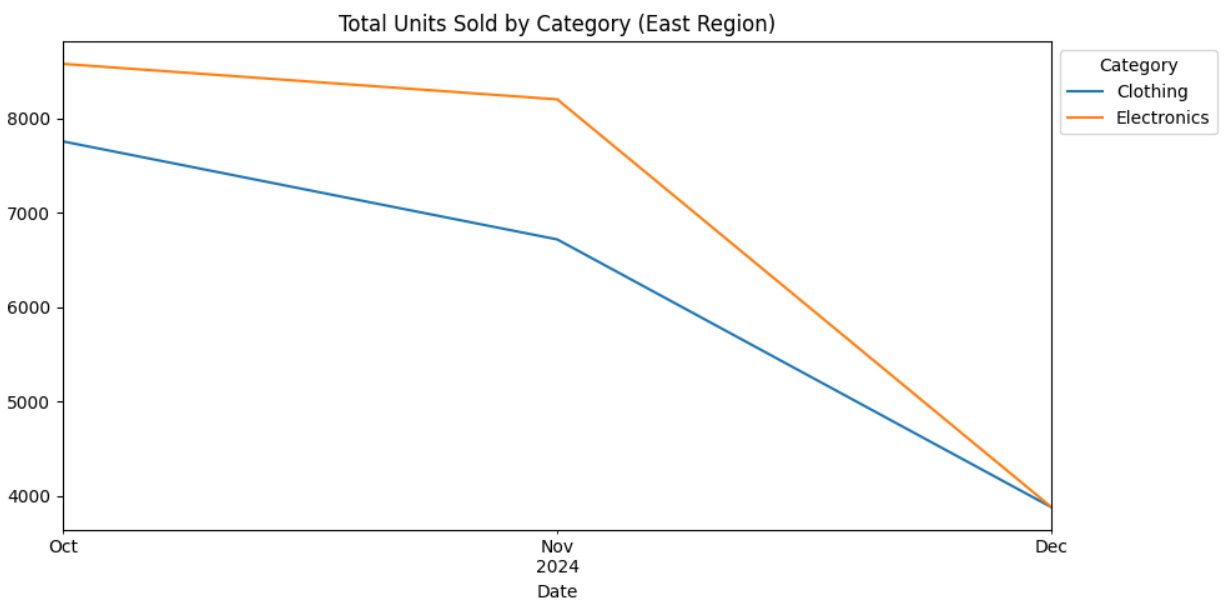


3. Filtering & Drill-Down

- Narrowed focus to Electronics and Clothing after identifying significant dips



- Isolated the East region for impact assessment



4. Visualization Tools

- Python (Pandas, Matplotlib)
- Charts generated for monthly trends and region-wise performance

4. Key Findings

- **Overall Trends**
 - Sharp decline in Electronics and Clothing revenue and units sold in December
- **Regional Impact**
 - East region experienced the largest decline for the affected products
 - Other regions showed smaller or negligible drops
- **Possible Factors** (*hypothetical since external data not available*)
 - Seasonal demand shift
 - Stock or supply chain issues
 - Competitive market changes

6. Recommendations

- Investigate supply chain and distribution issues in the East region.
- Conduct customer feedback surveys for Electronics and Clothing.
- Monitor January–March data to check if the decline continues.
- Plan targeted promotions or stock adjustments for East region.

7. Conclusion

The ad-hoc analysis successfully identified the products and region most affected by performance drops. The East region's Electronics and Clothing categories require immediate attention. Further data from the upcoming months will help validate the cause and refine the strategy.