SUPER STORE DATA ANALYSIS

NAME : SRIRAM ARULMURUGAN

EMAIL: sriram080692@gmail.com

INTERN DOMAIN: DATA ANALYTICS

INTERN START DATE: 11 - MAY - 2024

INTERN END DATE: 04 - JUN - 2024

PROBLEM STATEMENT

- The primary objective of this analysis is to identify the key factors impacting sales and profitability in the Superstore business.
- We aim to uncover patterns, trends, and opportunities for improvement to optimize business strategies and maximize profitability.

PROJECT OVERVIEW

- Identifying the top performing categories, region or customer segments.
- Analyzing sales performance, profitability and factors impacting Business success.
- Importance of analyzing sales data for business growth and strategy development.
- Provide actionable insights to optimize business strategies and maximize profitability.

DATASET OVERVIEW

- The dataset used for this analysis is sourced from the superstore database.
- It contains comprehensive information about sales transactions, including sales category states, city, segments, regions, profit product categories, sales, etc..
- The dataset consists of 9977 rows and 13 columns.

OVERVIEW OF ANALYSIS PROCESS

- Data Exploration.
- Data Cleaning.
- Descriptive Statistics.
- Customer Segmentation.
- Product Analysis.
- Visualization.
- Actionable Recommendations.

DATA EXPLORATION

- Distribution of sales transactions across regions, countries and cities.
- Insights from various attributes such as ship mode, segment, category, and sub-category.

DATA CLEANING

- Checking for missing values, duplicates, and inconsistencies.
- Converting datatypes for some columns.
- Removing duplicated rows.

DESCRIPTIVE STATISTICS

- Central tendencies, variability, and distribution of sales,
- quantity, discount, and profit.
- Identification of outliers and trends in the data.
- Understanding the range and variability of sales, quantity, discount, and profit.

CUSTOMER SEGMENTATION

- Segmenting customers based on attributes such as segment, region, or category allows for targeting marketing strategies and personalized customer experiences.
- Analysing customer segments based on purchasing behaviour helps gain insights into customer characteristics.

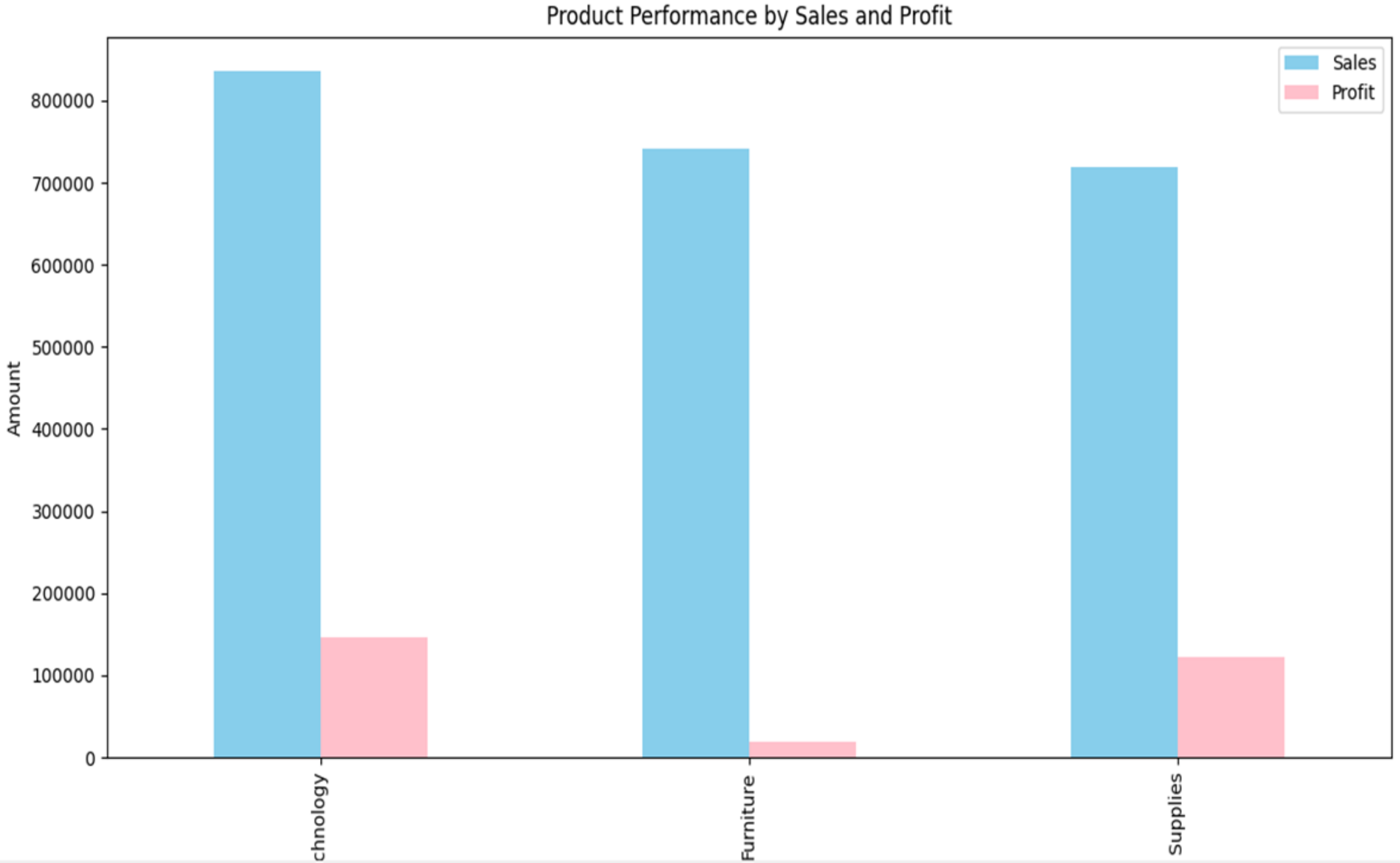
PRODUCT ANALYSIS

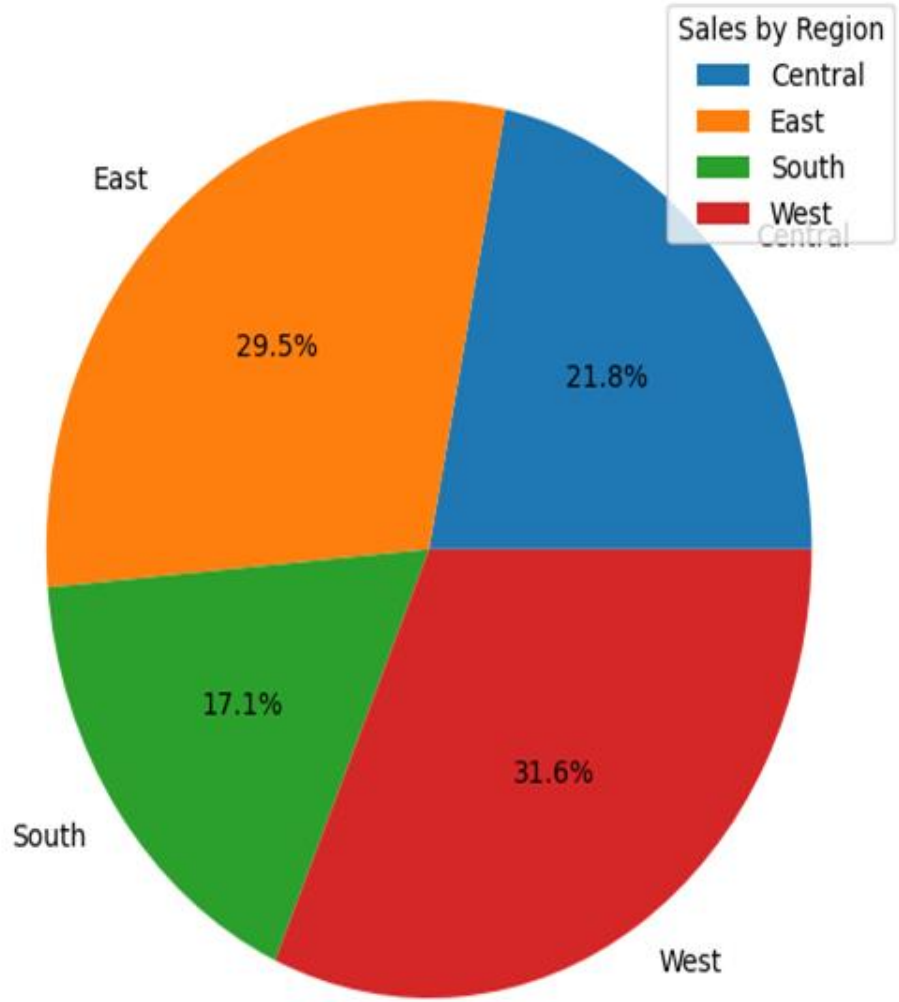
- Analysis of product categories and sub-categories.
- Identification of popular products, sales trends, and profitability.

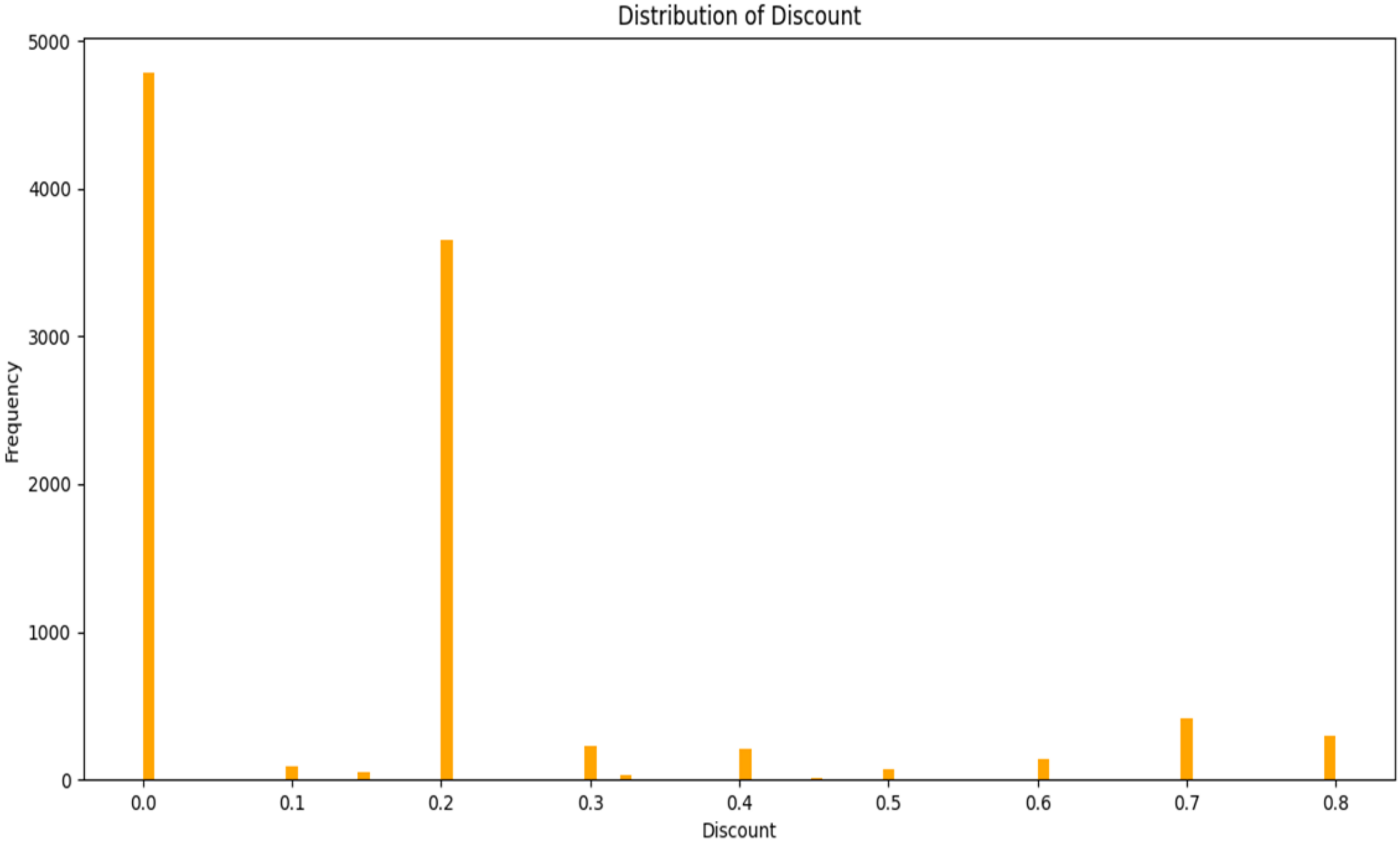
VISUALIZATION

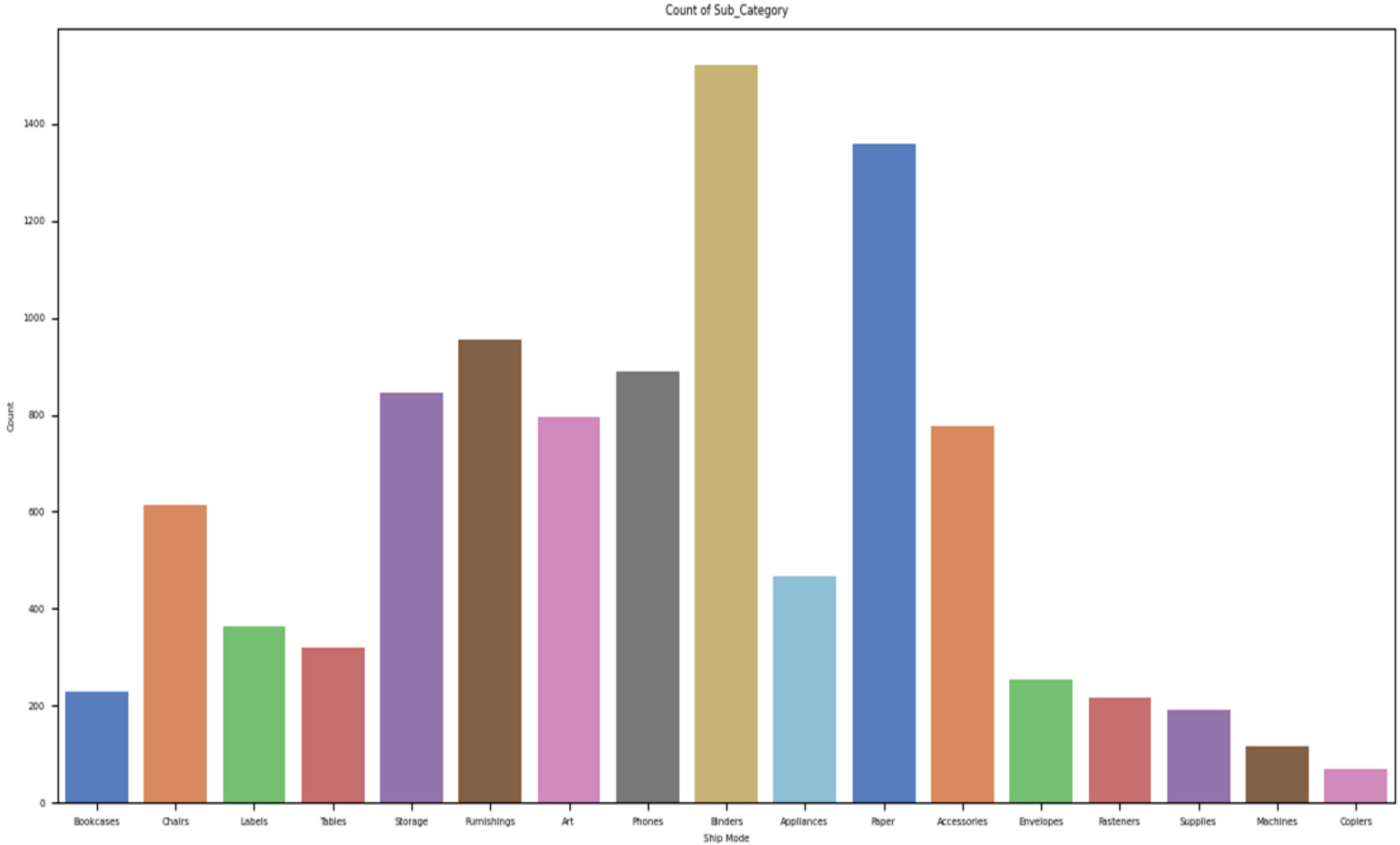
- Using scatter plots, bar charts, heatmaps, and pair plots.
- Communication of insights through visualizations for better understanding.

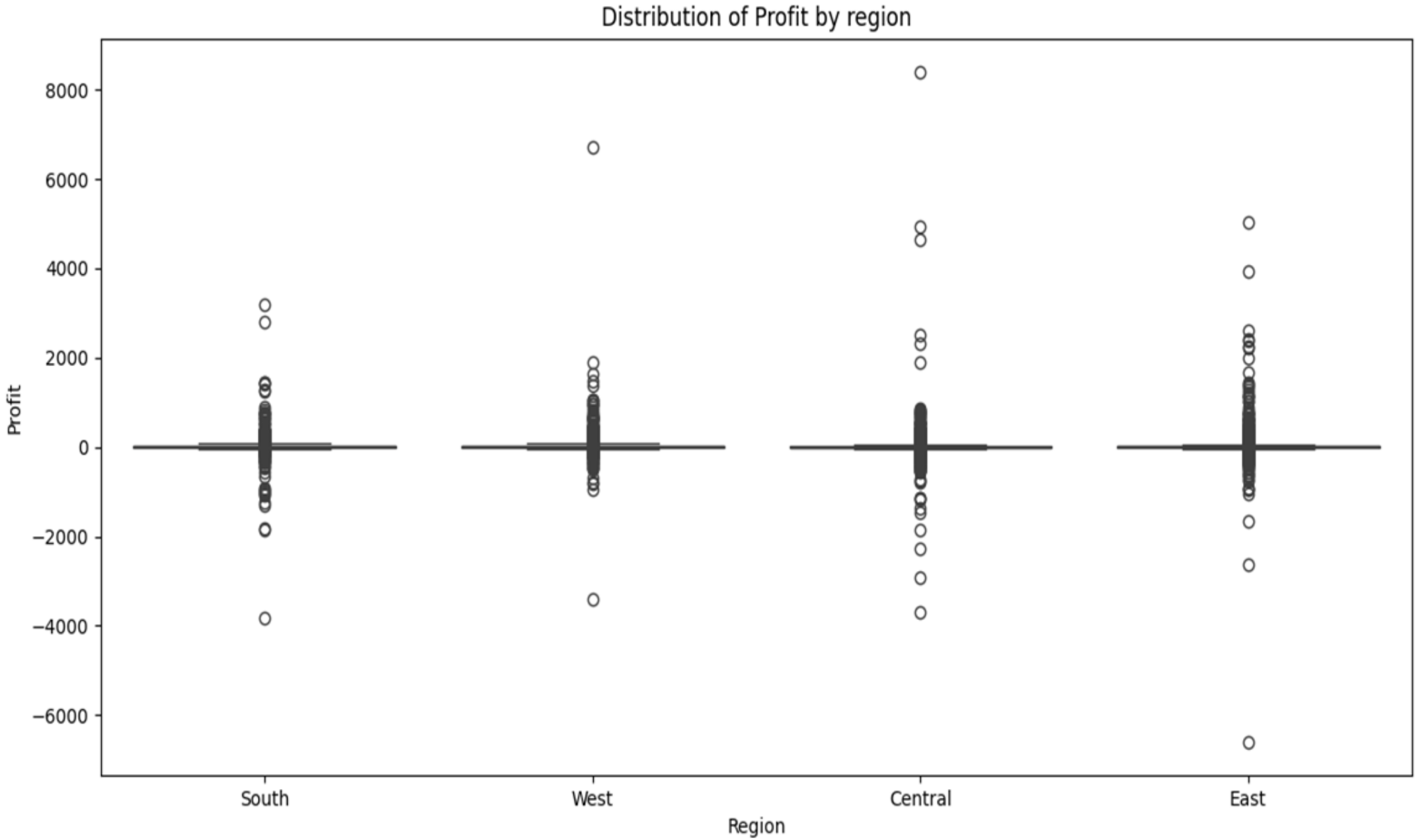
SOME VISUALIZATION OUTPUTS

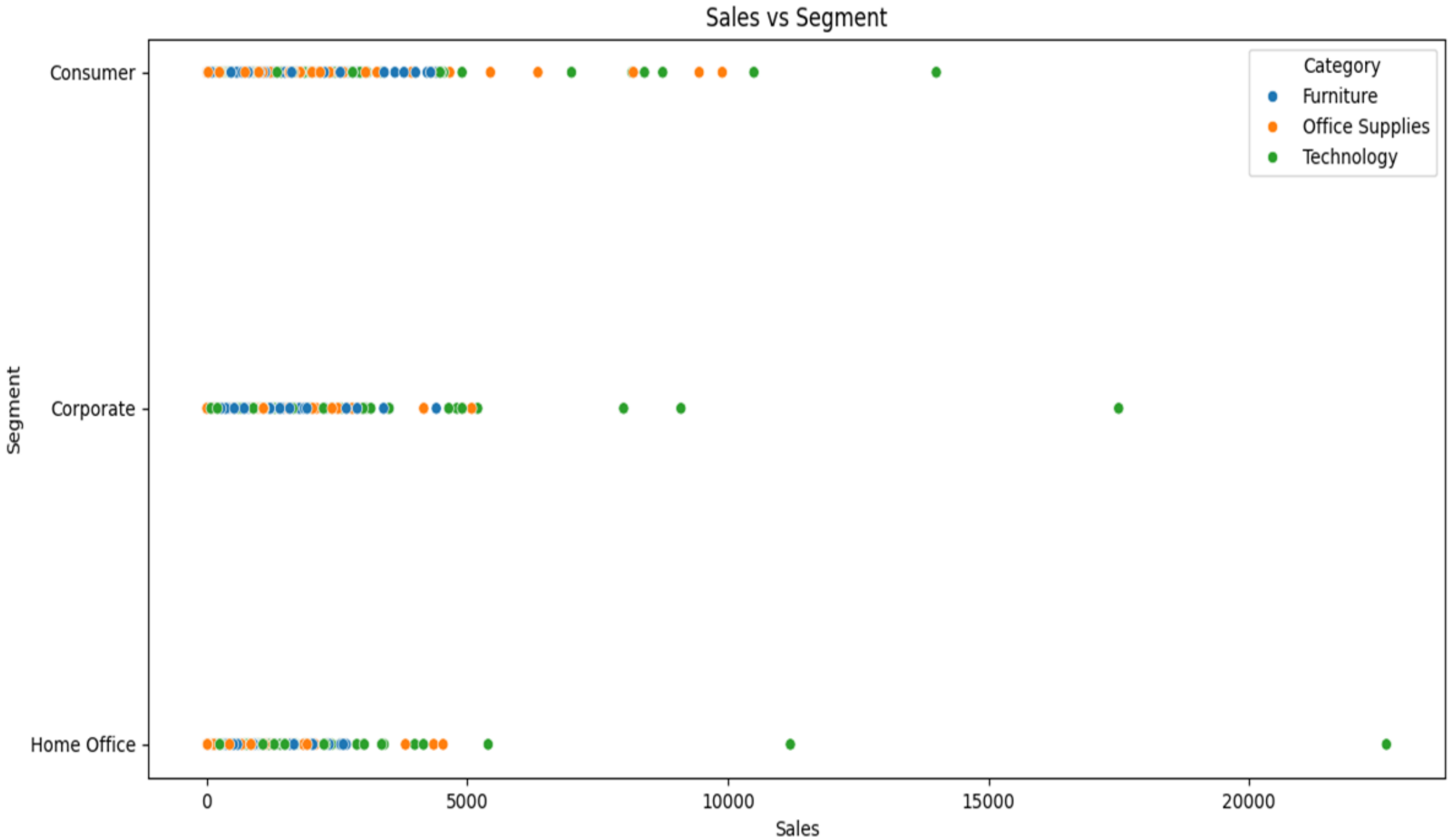

Product Performance by Sales and Profit
Sales
Profit
Amount
800000
700000
600000
500000
400000
300000
200000
100000
0
chnology
Furniture
Supplies

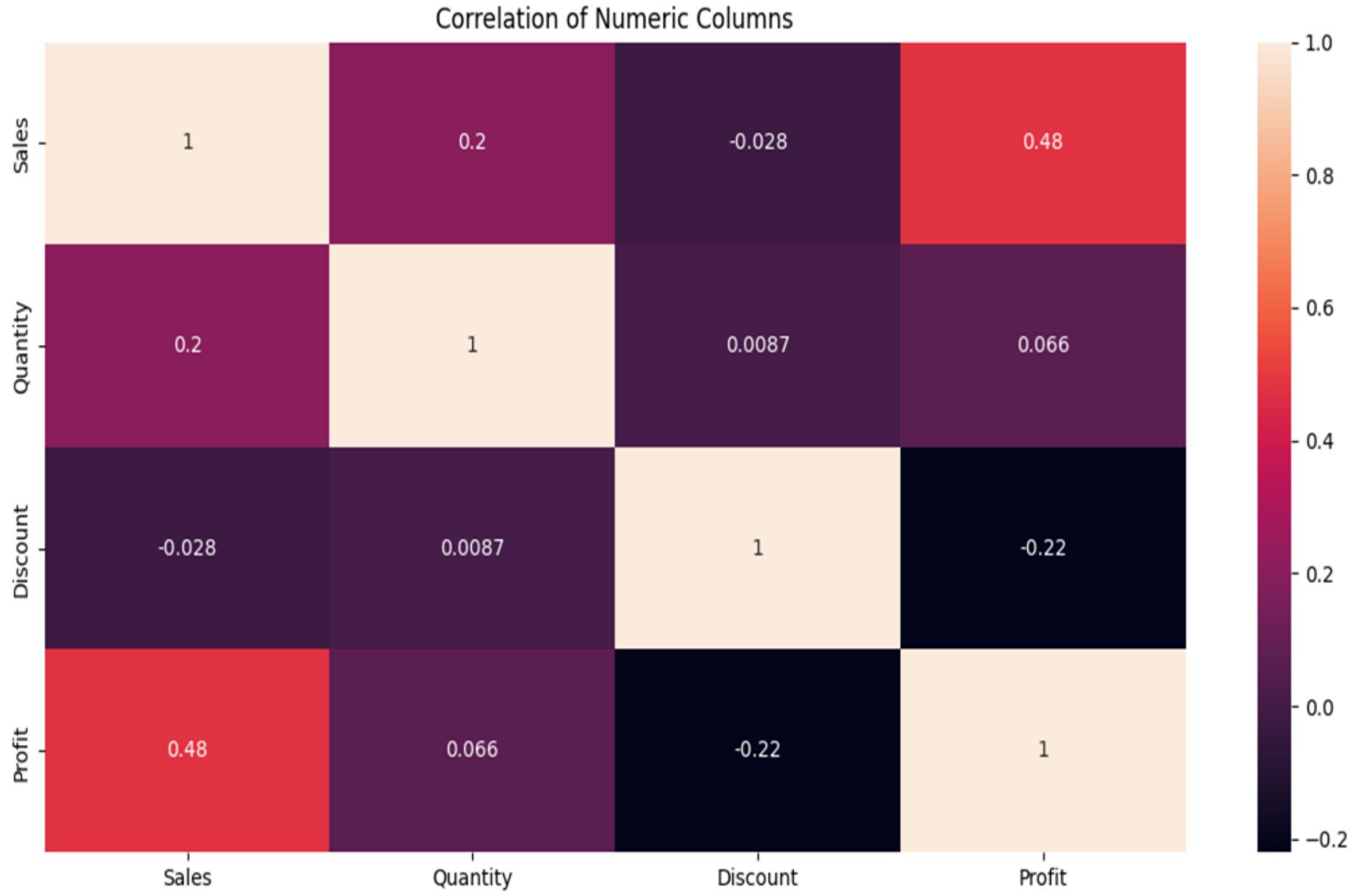

Sales by Region
Central
East
South
West
East
29.5%
21.8%
17.1%
31.6%
South
West

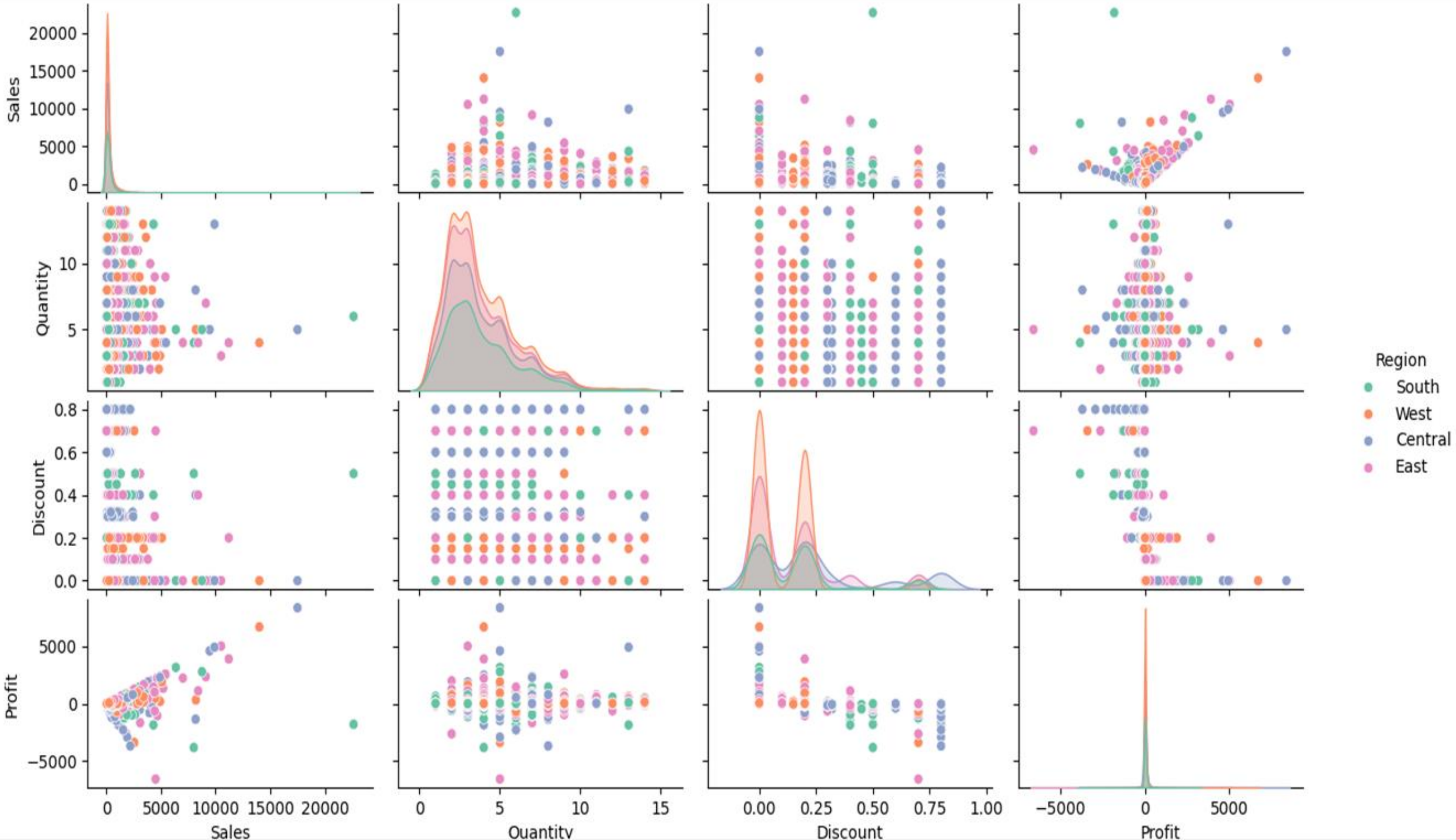

Distribution of Discount
5000
4000
3000
2000
1000
0
Frequency
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
Discount


Count of Sub_Category
Count
0
200
400
600
800
1000
1200
1400
Bookcases
Chairs
Labels
Tables
Storage
Furnishings
Art
Phones
Binders
Appliances
Paper
Accessories
Envelopes
Fasteners
Supplies
Machines
Copiers
Ship Mode


Distribution of Profit by region
Profit
8000
6000
4000
2000
0
−2000
−4000
−6000
South
West
Central
East
Region


Sales vs Segment
Consumer
Corporate
Home Office
Segment
0
5000
10000
15000
20000
Sales
Category
Furniture
Office Supplies
Technology


Correlation of Numeric Columns
Sales
Quantity
Discount
Profit
1
0.2
-0.028
0.48
0.2
1
0.0087
0.066
-0.028
0.0087
1
-0.22
0.48
0.066
-0.22
1
Sales
Quantity
Discount
Profit
1.0
0.8
0.6
0.4
0.2
0.0
−0.2


Sales
Quantity
Discount
Profit
Region
South
West
Central
East

ACTIONABLE RECOMMENDATIONS

- Cross selling and upselling.
- Market expansion.
- Advertising in fewer sales cities.
- Targeted marketing campaign.
- Give more discounts during festival seasons.

CONCLUSION

- Importance of implementing recommendations for business growth and success.

THANK YOU