Introduction

This report presents a comprehensive analysis of the sales of electronic products and accessories during the year 2019. By compiling and analyzing data from multiple monthly CSV files, we have identified sales trends, top-selling products, and the dynamics of sales by time of day and geographic location.

1. Data Processing

Sales data was compiled from monthly files into a single Pandas DataFrame. The following data cleaning and preparation steps were performed: - Concatenation of multiple monthly files into a single DataFrame. - Removal of rows with missing or null data. - Conversion of data types for numerical and date fields.

2. Monthly Sales Analysis

The analysis revealed that December was the month with the highest sales, totaling $4,613,443.34, followed by October with $3,736,726.88. The lowest amount of sales was observed in February with $2,202,022.42.

3. Sales Analysis by City

San Francisco generated the highest amount of sales, totaling $8,262,203.91, indicating a strong market in this area. Los Angeles and New York City also showed significant sales, with $5,452,570.80 and $4,664,317.43 respectively.

4. Hourly Distribution of Sales

The majority of sales occurred at 7 PM, totaling $2,412,938.54, suggesting that promotions or sales strategies could be focused during this time to maximize effectiveness.

5. Commonly Bundled Products

The analysis of product combinations showed that the items most frequently bought together were the iPhone and the Lightning Charging Cable (2140 times), followed by the Google Phone and the USB-C Charging Cable (2116 times). This information can be useful for cross-selling strategies or promotions.

Conclusion

This analysis provides a detailed view of sales behavior, identifying key areas for performance improvement and the implementation of more targeted marketing strategies. It is recommended to focus marketing efforts during the months and hours with the highest sales activity and consider product bundles based on the most popular combinations to boost additional sales.