Introduction:

In this analysis, we aimed to build a predictive model to determine the probability of a customer purchasing a "printer-related product." By analyzing the provided dataset and leveraging machine learning techniques, we have gained valuable insights that can assist the marketing team in understanding customer behaviour and making informed business decisions. Here are the key findings:

Data Analysis and Insights:

Customer Demographics: The dataset includes information such as customer segment, city, state, and region. Exploratory analysis reveals the distribution of customers across segments, cities, and regions, providing valuable insights into the target audience.

We have extracted key insights related to printer-related products from the analysis of customer data**. These insights will help you focus your marketing efforts and optimize strategies for driving sales.**
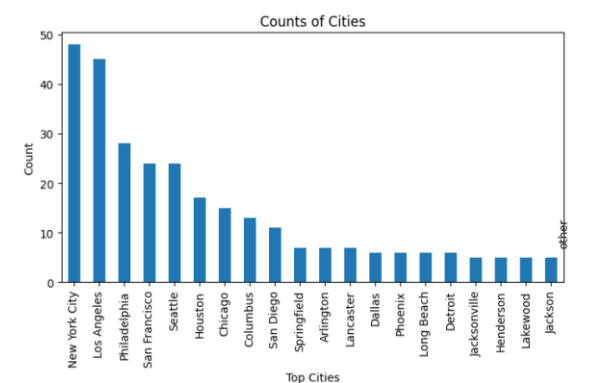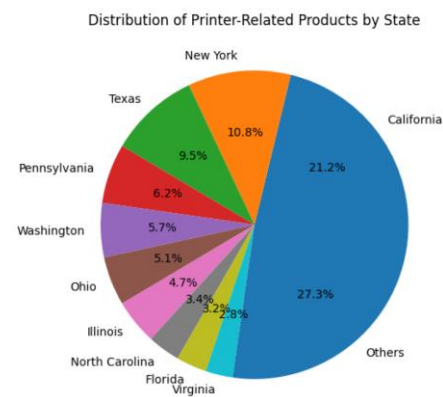
Here are the findings:

Top 5 Cities for Printer-Related Products:

New York City, Los Angeles, Philadelphia ,San Francisco ,Seattle

Top 5 States for Printer-Related Products:

California, New York , Texas, Washington, Pennsylvania
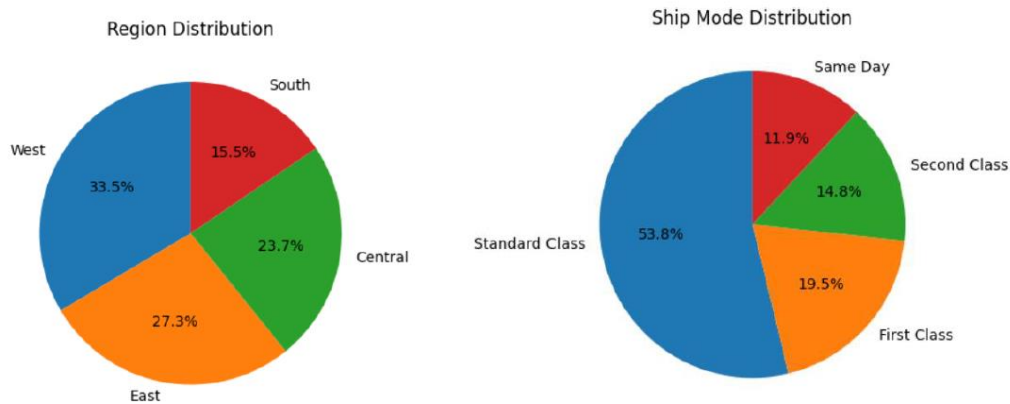

Printer related Products:

Distribution of Printer-Related Products by State

Counts of Cities

Category Distribution:

Technology: We found that printer-related products fall primarily under the technology category.

By focusing your marketing efforts on the top cities and states, along with the specific segments and ship modes, you can reach a broader audience and tailor your strategies accordingly.

Additionally, considering the major regions and the dominant presence of printer-related products in the technology category will enable you to optimize your marketing campaigns.

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Region Distribution — Ship Mode Distribution

Based on **the Ship mode distribution and the major regions**, we have the following recommendations to enhance your marketing strategies for printer-related products:

Targeted Promotions:

Leverage the popularity of the standard ship mode, which accounts for 53.8% of shipments. Offer special promotions or discounts for customers who choose the standard shipping option to incentivize their purchases.

Expedited Shipping Focus:

Although first class and second class ship modes have lower percentages (~20% and ~14% respectively), they still represent a significant portion of shipments. Consider highlighting the benefits of these expedited shipping options, such as faster delivery times and priority handling, to attract customers who value efficiency.

Same Day Delivery Service:

With approximately 11% of shipments using the same day ship mode, there is a demand for immediate product delivery. Consider offering same day delivery services in select cities or regions to cater to customers who prioritize speed and convenience.

Regional Marketing Strategies:

Since the East and West regions are major regions for printer-related product purchases, focus your marketing efforts on these areas. Tailor your campaigns to target specific customer demographics and preferences prevalent in these regions. This could include localized promotions, partnerships with local businesses, or region-specific advertising channels.

Personalized Marketing Strategies:

Leveraging the predictive model, the marketing team can personalize their strategies based on the probability of customers purchasing printer-related products. Targeted marketing campaigns and product recommendations can be tailored to customers with a higher probability of making such purchases.

Conclusion:

By leveraging machine learning techniques and analyzing the provided dataset, we have developed a predictive model to estimate the probability of a customer purchasing a printer-related product. The insights gained from this analysis can empower the marketing team to make data-driven decisions, optimize marketing efforts, and enhance customer engagement. Recommendations for addressing class imbalance and personalizing marketing strategies can further improve the effectiveness of marketing campaigns and drive sales of printer-related products.