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Review Report

Identifying shopping trends using data analysis

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ABSTRACT

This project, "Identifying Shopping Trends using Data Analysis," aims to uncover patterns in customer purchasing behaviors to provide actionable insights that inform business decision-making. The analysis explores key factors such as the influence of discounts on spending, regional variations in purchasing habits, and preferences for shipping methods across different product categories. Using Python, the project leverages data analysis libraries such as pandas, matplotlib, and seaborn for data preprocessing, exploratory analysis, and visualization. The dataset includes customer demographics, product categories, purchase amounts, and shipping preferences. The data preprocessing phase involved cleaning and organizing the dataset to ensure accuracy and consistency. Key findings reveal significant regional differences in spending, with certain areas exhibiting higher purchase volumes. Additionally, the analysis showed that discounts strongly influenced purchase amounts, while shipping preferences varied by product category. A further examination of product color preferences provided valuable insights into inventory management. Visualizations, including pie charts, bar charts, and histograms, effectively conveyed these findings, such as regional purchase patterns and distribution of shipping preferences. These insights have practical applications for businesses, enabling them to optimize operations, improve customer satisfaction, and devise targeted marketing strategies. The project highlights the importance of data-driven decision-making in understanding consumer behavior and suggests future integration of machine learning models to predict customer preferences and seasonal trends.

Keywords: Pandas, Matplotlib, Seaborn for data preprocessing, exploratory analysis, Visualization.

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