Summary Report on Shopping Trends Analysis

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Dataset Link: https://www.kaggle.com/datasets/bhadramohit/customer-shopping-latest-trends-dataset

GitHub Link: https://github.com/avirni5259/Final-Visualisation-Report.git

Brief Description of the Data

The dataset under analysis captures shopping behaviour across various dimensions, including customer demographics, purchase patterns, and seasonal preferences. Key attributes include age, gender, product categories, seasons, purchase amounts, and review ratings. Two tables summarize detailed statistics by category and season, while the visualizations provide insights into spending patterns, distribution of purchases, and customer segmentation.

Category	Season	mean	median	count
Accessories	Fall	61.33951	62	324
Accessories	Spring	56.50166	56	301
Accessories	Summer	60.98718	63	312
Accessories	Winter	60.36634	60	303
Clothing	Fall	61.40515	61	427
Clothing	Spring	60.99559	62	454
Clothing	Summer	56.56373	55	408
Clothing	Winter	60.87946	63	448
Footwear	Fall	63.71324	64	136
Footwear	Spring	58.61963	58	163
Footwear	Summer	58.70625	59	160
Footwear	Winter	60.57143	63	140
Outerwear	Fall	59.76136	58.5	88
Outerwear	Spring	54.62963	53	81
Outerwear	Summer	57.04	51	75
Outerwear	Winter	57.025	53.5	80

Table 1: Statistics of Purchase Amounts by Category and Season

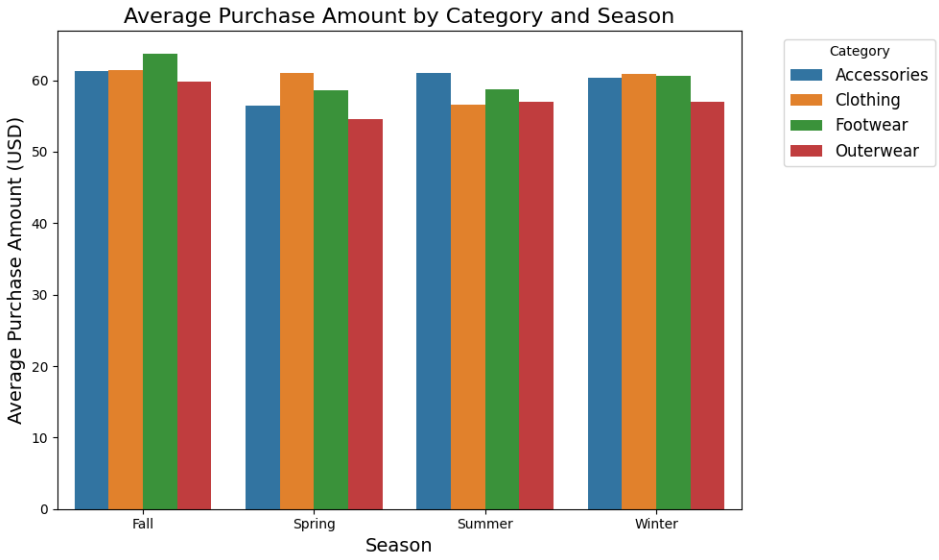
Table 1 provides summary statistics for purchase amounts by category and season, including the mean, median, and transaction count. For instance, the "Clothing" category sees consistent average spending across seasons, with the highest mean purchase amount in Fall. Similarly, "Accessories" exhibit significant seasonal variations, with Winter dominating in total transactions.

Age Group	mean	median	count
Under 18	59.98551	62	69
18-30	60.38636	61	880
31-45	59.40256	59	1093
46-60	59.65727	59	1135

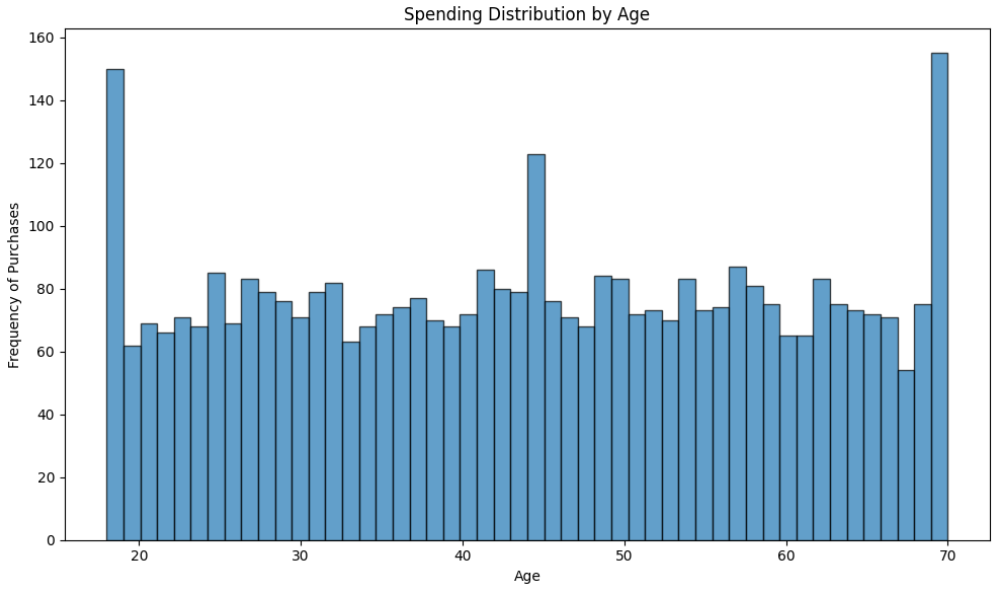
Above 60	59.70124	59	723

Table 2: Summary of Purchase Amounts by Age Group

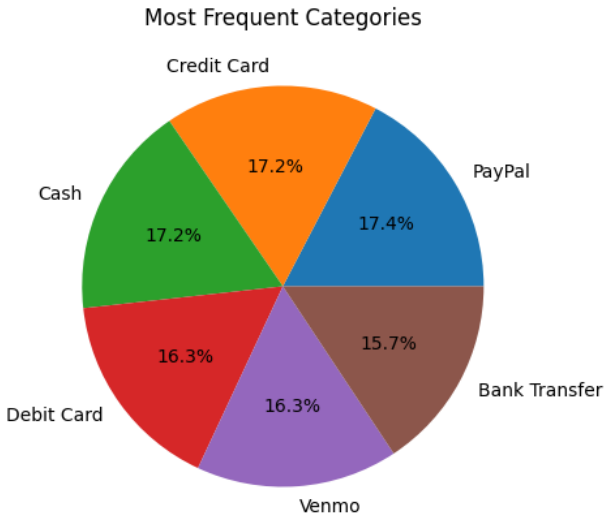
Table 2 details normalized data for purchase amounts segmented by age groups and seasons. This highlights how younger age groups (10–19) exhibit a higher proportion of spending in Winter, while older groups (40–49) contribute more consistently across seasons.



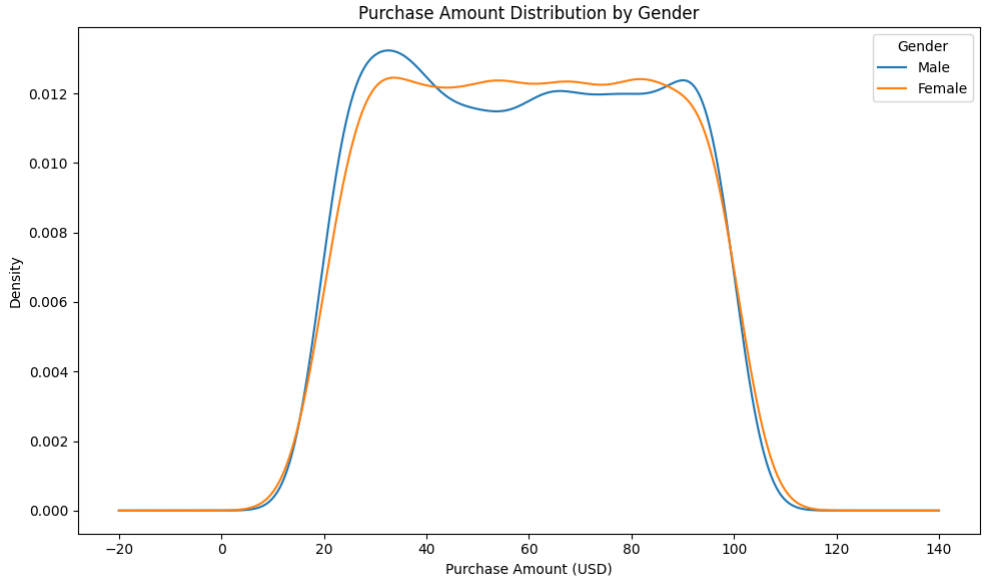
This visualization highlights consistent spending across all categories, with subtle variations between seasons. Winter emerges as a peak shopping season, particularly for "Accessories" and "Clothing" categories. This is supported by higher transaction counts and mean purchase amounts in the tables and bar chart.



The distribution reveals spikes in spending frequency for younger (10–19) and older (70+) age groups, indicating potential peaks in shopping behaviours at these life stages. Spending trends indicate that both younger and older demographics are significant contributors to shopping activity, as evident in the histogram. This suggests targeted marketing opportunities for these age groups.



The pie chart underscores the need for retailers to support multiple payment methods to cater to a broad customer base. Payment methods are evenly distributed among key options like PayPal, Cash, and Credit Cards, with no single method dominating, showcasing diverse payment preferences.



The density plot suggests minimal gender-based differences in purchase amounts, pointing to a generally uniform approach to customer engagement strategies. Male and female purchase patterns are largely overlapping, suggesting similar spending habits between genders, though slight differences in peak spending are observed.

The data tells a compelling story of a retail environment that thrives on seasonality and diverse customer demographics. Retailers can leverage these insights to optimize inventory during peak seasons like Winter and tailor promotions to younger and older age groups. Additionally, the uniformity in payment preferences and gender spending highlights the importance of inclusive policies and diverse offerings. In conclusion, the analysis provides actionable insights into shopping

behaviours, enabling retailers to better align strategies with customer needs and maximize market opportunities.