Business Insights from the EDA

1. **Regional Customer Distribution:**

The bar chart shows significant variations in the number of customers across regions. This highlights potential high-demand regions where marketing efforts can be increased and low-demand regions that may need attention to improve engagement.

2. **Signup Trends Over Time:**

The line plot reveals that customer signups have fluctuated yearly, with notable spikes or declines. Peaks in specific years could align with successful campaigns or market trends, providing opportunities to replicate these strategies.

3. **High-Value Products:**

The most expensive products are limited in number, indicating potential high-margin items. These products can be highlighted in premium marketing campaigns to target customers with higher spending capacity.

4. **Category-wise Sales Distribution:**

The pie chart of product categories reveals the dominance of specific categories in the inventory. Business can focus on expanding underrepresented categories to cater to diverse customer preferences.

5. **Top Spending Customers:**

A small percentage of customers account for a large portion of revenue. Implementing loyalty programs or exclusive offers for these customers could boost retention and further increase sales.

6. **Sales Trends Over Time:**

The monthly sales trends show seasonal fluctuations or growth patterns. Identifying peak sales periods can help optimize inventory, staffing, and promotional activities, ensuring maximum profitability during high-demand months.

7. **Regional Purchasing Behaviour:**

The scatterplot reveals variations in purchasing behaviour across regions. Certain regions exhibit higher transaction values for fewer quantities, suggesting a preference for premium products. Businesses can tailor regional strategies, such as promoting bulk discounts or high-value items, based on these preferences.