**Solution to the questions**

Q1. Compare the sales and orders using single chart.

Observations:

1. General Trends:

- Orders and sales are generally correlated: As the number of orders increases, so does the sales revenue.

- There's no significant seasonal dip or spike across months; the values are relatively stable with minor fluctuations.

2. Specific Months:

- Highest orders and sales: November shows the highest sales revenue and a relatively high number of orders (148 orders, approx. 76,544 in revenue).

- Lowest sales and orders: February has the lowest orders (114) and revenue (approx. 57,189).

3. Outliers/Patterns:

- August has a higher-than-average sales amount compared to its relatively low order count, indicating possible high-value orders that month.

- December has a steady number of orders but a noticeable drop in sales revenue compared to November.

Potential Insights:

- Marketing Opportunities: Focus on replicating November’s success. Look into what drove sales that month (promotions, holidays, etc.).

- High-value Products: August indicates fewer orders but higher revenue. Investigate which products contributed to this trend and consider promoting those.

Q2. Which month got the highest sales and orders?

- Month with the highest sales:

November (₹76,544.45 in sales).

- Month with the highest orders:

November (148 orders).

November stands out as the peak month for both orders and sales.

Q3. Who purchased more-men or women in 2022?

- Male purchases: ₹250,783.8

- Female purchases: ₹250,944.45

Observation:

Women slightly outperformed men in purchases, with a small difference of ₹160.65 in total sales.

However, the "Other" category had the highest purchases, amounting to ₹256,902.72.

Q4. What is different order status in 2022?

Even Distribution: The order statuses are fairly evenly distributed, with each category making up around a quarter of the total.

High Cancellation Rate: The "Cancelled" orders constitute 26% of the total, which might indicate some issues that need addressing to reduce cancellations.

Returned Orders: With 24% of orders being returned, this could highlight potential quality issues or customer dissatisfaction that warrants further investigation.

Efficient Processing: "Processing" and "Shipped" statuses are almost evenly matched, showing a balanced workflow from order placement to fulfillment.

Q5. List top 4 states contributing to the sales?

California 133767.4

Illinois 147556.37

New York 126039.22

Pennsylvania 117395.9

Q6. Relation between age and gender based on numbers?

Gender Representation:

Females: Higher percentages in the Adult category (13.12%) compared to Seniors (11.06%) and Teenagers (8.90%).

Males: Lead in the Adult category (15.00%) with a noticeable drop in Seniors (8.95%) and a slight increase in Teenagers (9.11%).

Others: Show the highest percentage in the Adult category (15.56%) and a relatively balanced distribution across Seniors (11.54%) and Teenagers (6.76%).

Age Group Insights:

The Adult category consistently shows the highest percentages across all gender labels.

Teenagers tend to have the lowest percentage contribution compared to Adults and Seniors.

Q7. Which channel is contributing to maximum sales?

Online Dominance: The online channel has a slight edge, accounting for 51% of the orders. This suggests a growing trend towards online shopping, possibly driven by convenience and accessibility.

Balanced Distribution: Despite the online channel leading, the offline channel remains strong, representing 49% of the orders. This indicates a significant customer base still prefers traditional in-store shopping.

Strategic Insights: Understanding this distribution can help businesses allocate resources effectively. They might invest more in their online infrastructure to capitalize on the trend while maintaining offline stores to cater to loyal in-store customers.

Q8. Highest selling category?

the highest selling category is Fashion with a sum of amount equal to ₹137,515.85.

Here's the breakdown of the categories and their amounts:

Beauty: ₹127,807.08

Books: ₹131,214.79

Electronics: ₹100,327.62

Fashion: ₹137,515.85

Home: ₹132,631.41

Sports: ₹129,134.2