Power Bi Project : Amazon Sales Report

Objective Questions:

1. In analyzing the dataset with Power BI, ensure data cleaning to address inconsistencies and missing values before further analysis.

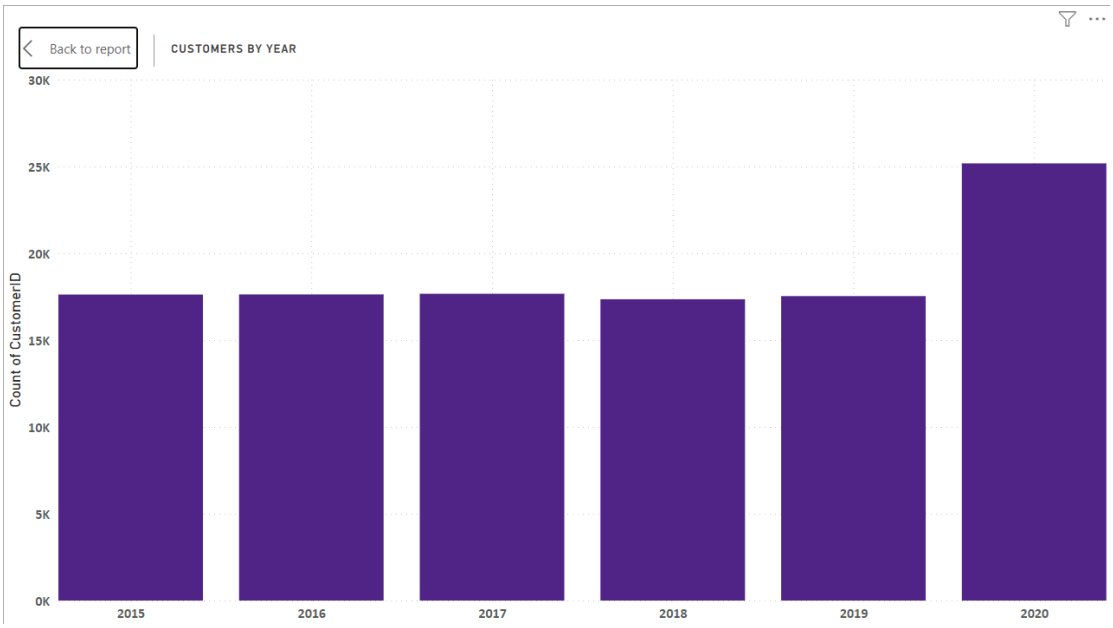
   - In data cleaning, I first changed the data type for order date and delivery date then I looked for null values and removed them from columns: customer age, customer gender, product category and unit price.
   - I also removed duplicates from Order ID, as Order ID is supposed to be unique.

2. How can we calculate the total revenue generated by all the sales?

   - I created a measure named Revenue to show total sales. I created a card chart for this.

3. What is the total number of unique customers who made purchases in each year? Is there any increase in the number over the years?

   - The total no of unique customers are 112.99K and for No. of customers by tear, I have made a chart for that



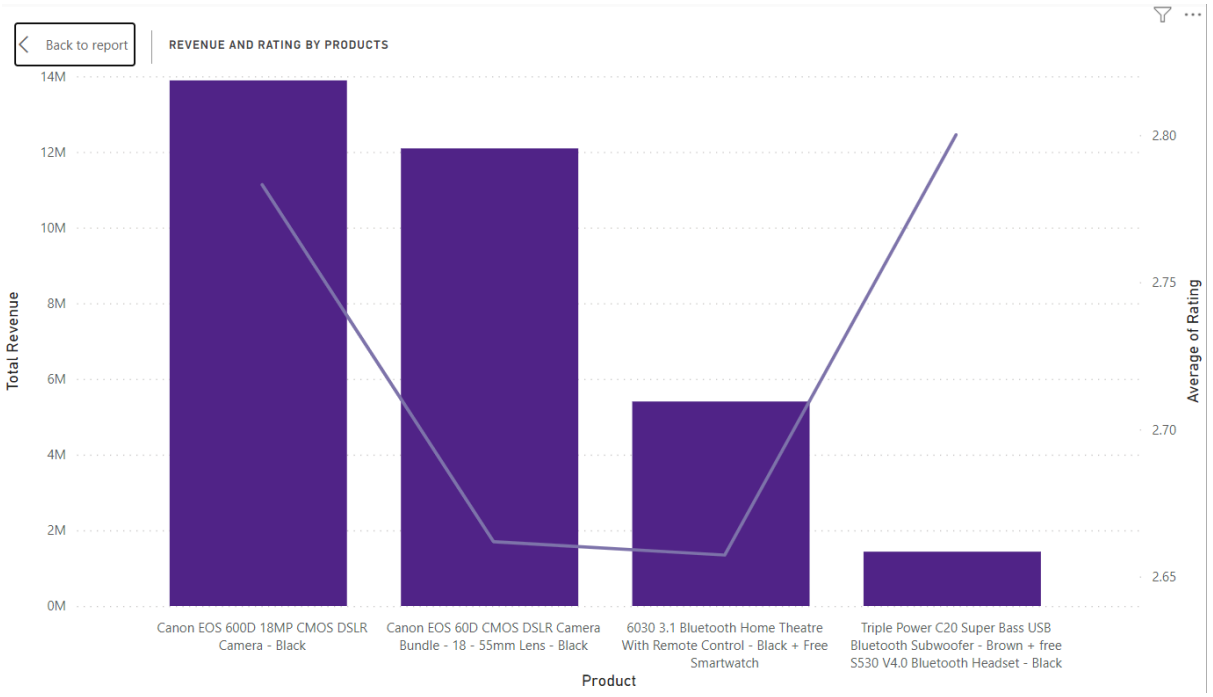
4. How can we determine the total number of unique products available in the company?

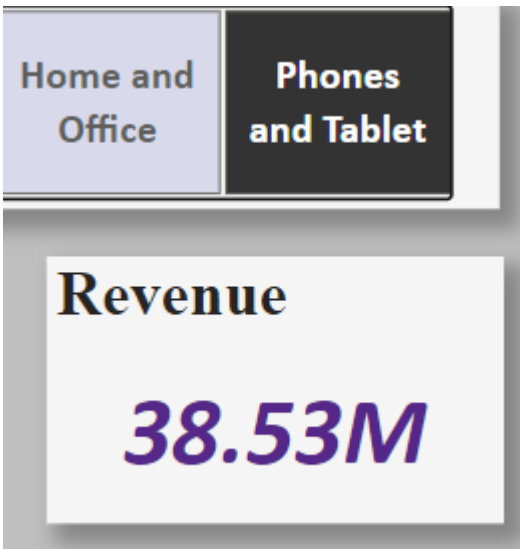
- There are total 44 unique products in the company, and I have created a Card chart to show this.

5. What is the average number of days it takes for products to be delivered, get the metric for only the delivered orders?

- I created a measure for Average Delivery Days for products which had status ad delivered. The average days for delivery is 9.41

6. Which products, categories, and subcategories are the most popular?





From above given charts and card we can find insights on most popular product, sub category and product category.

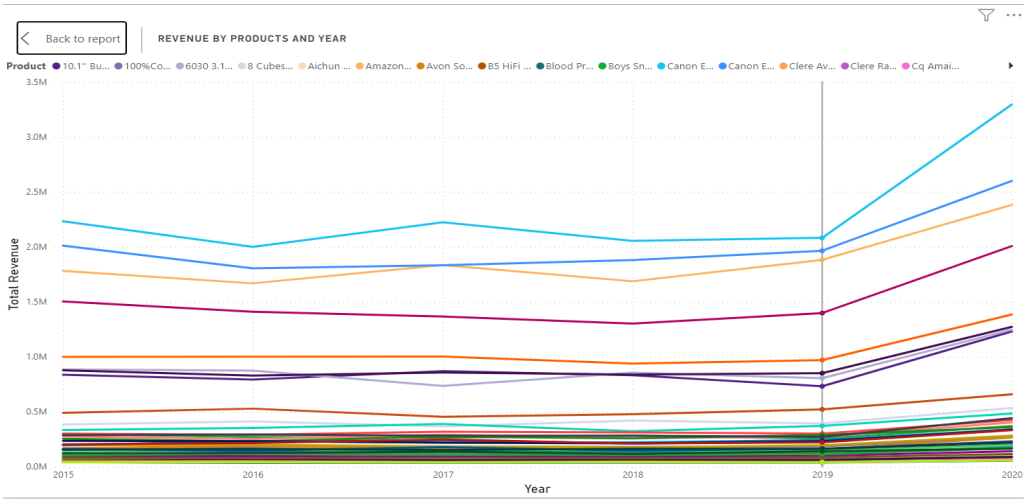
- Most Popular Product: Canon EOS 600D 18MP CMOS DSLR Camera - Black

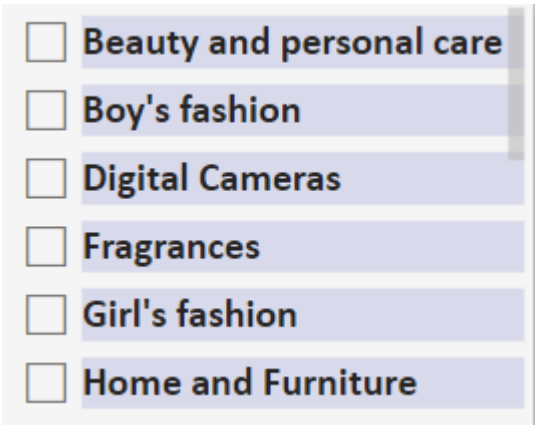
  Most Popular Sub category: Digital Cameras

  Most Popular Product Category: Phones and Tablets

7. Which products have seen an increase or decrease in sales over the year?

-

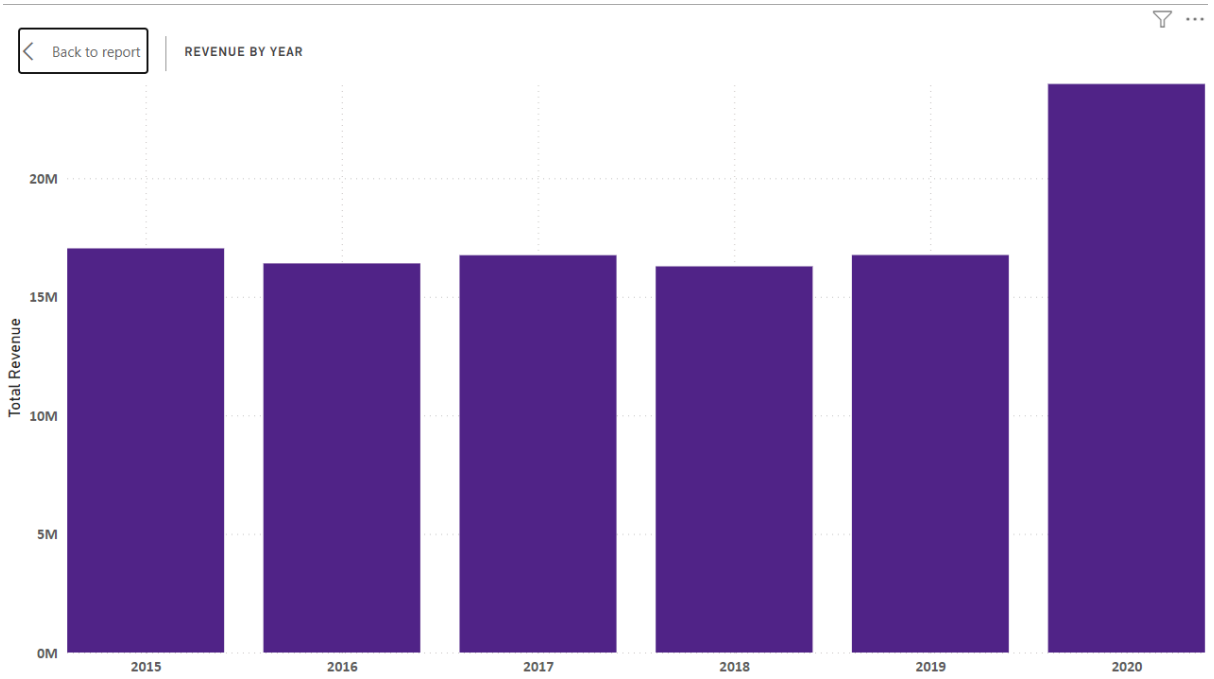


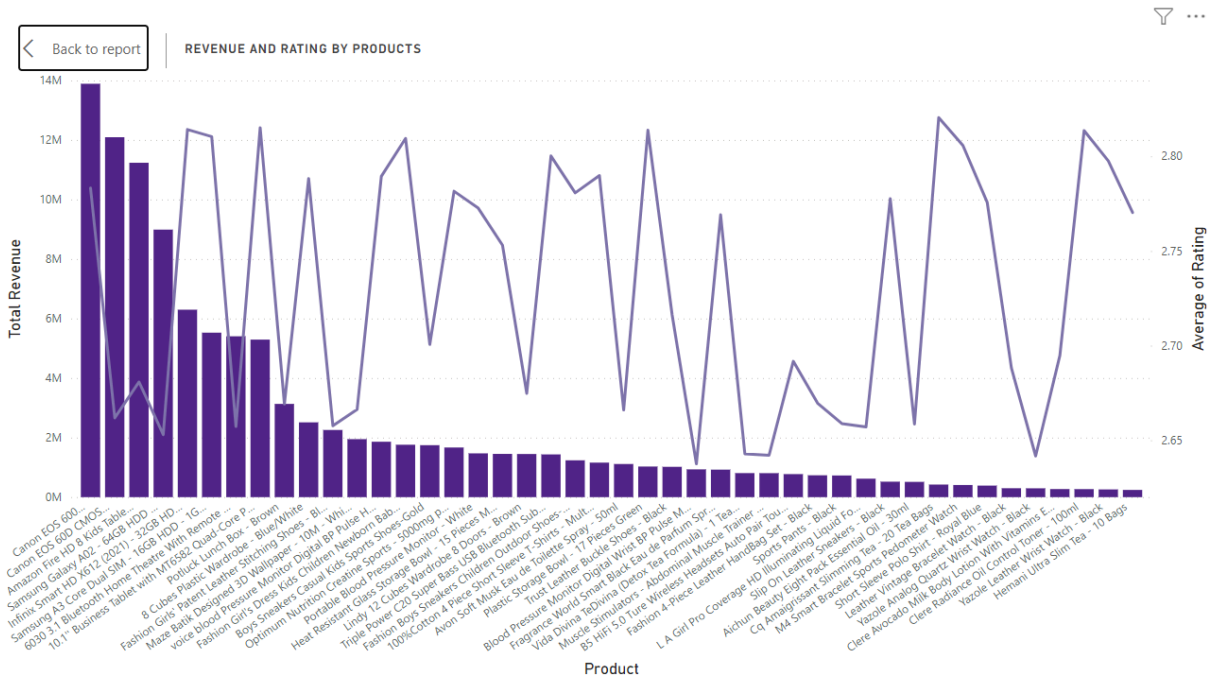
- 

- We can use this line chart and this slicer to see product sales over the years and can identify products with decrease in sales over years.

Subjective Question:

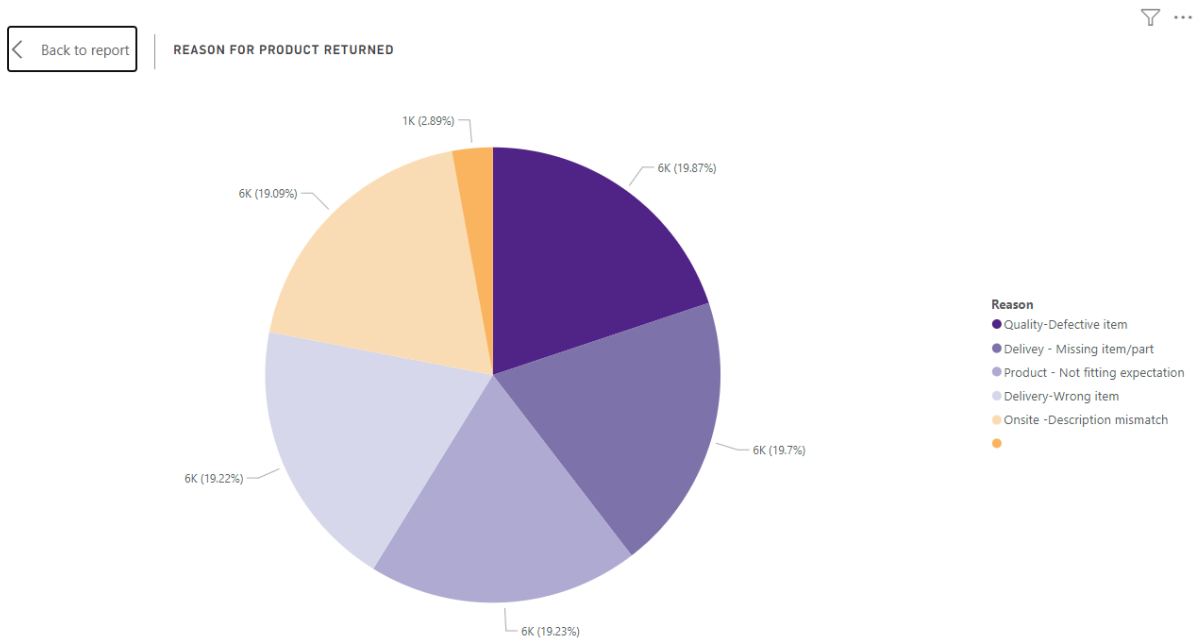
1. How does revenue break down by year and by-product? Evaluate how different products contribute to annual revenue and come up with suggestions to increase the sales of the low-selling items.

- 



- The above charts show Revenue by Years and Revenue by Products.
  (1) For Revenue by Year: we can see that we have done good business for the year 2020, We had stagnant sales for previous few years and we were able to make good progress by increasing our revenue from around 16.7 million in 2019 to around 24 million in 2020.
  (2) For Revenue by Products: Canon EOS 600D 18MP COMS DSLR camera - Black has been the best seller, making revenue around 13.8 million.
  (3) For products which are doing low sales, we can come up with new marketing strategies like Targeting right customers by checking product-selling relation with different factors like age groups, Genders. We can also look for new incentive/discount skims for these products.

2. How many products were returned? Examine the possible reasons for returns and consider how this metric could inform improvements in product descriptions or quality control.



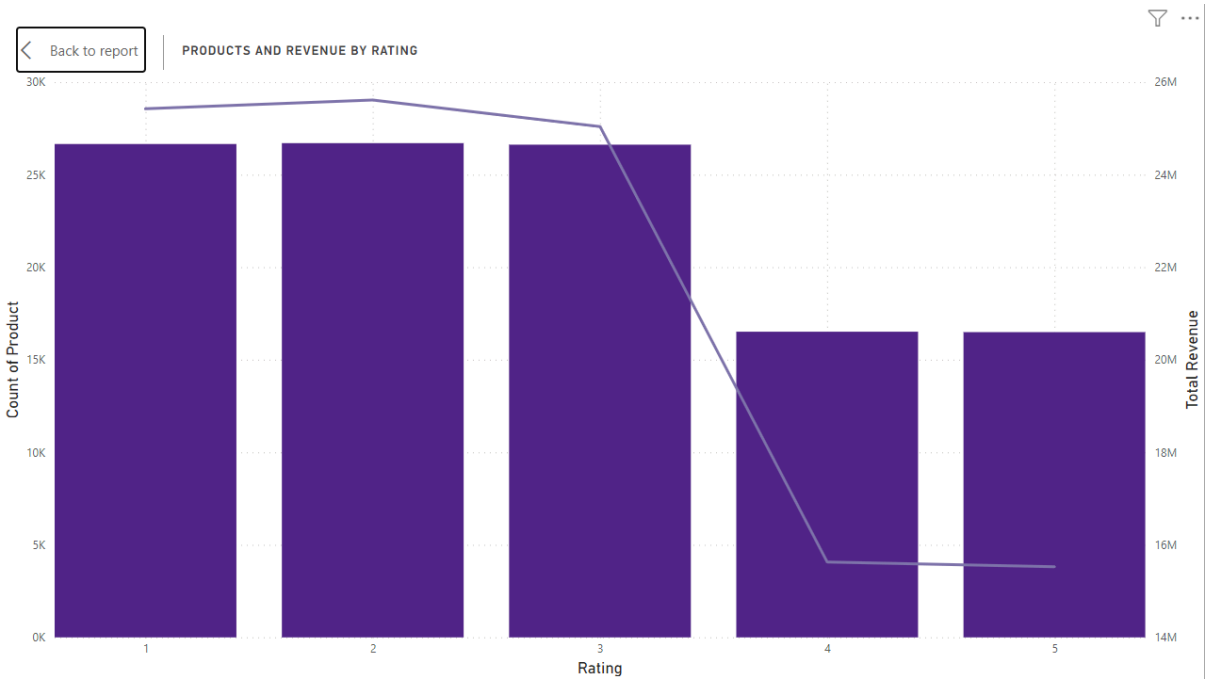
-

-

- Total of 31K products were returned, out of this the distribution of reasons is shown in the chart above, from the chart we can see that almost all the reasons had around the same weightage, there are few orders for which reason is not mentioned, but rest all 5 reasons are around 19%. For reasons like defective items, wrong items and missing items, we can take some steps to make sure that sellers will provide good products and services. We can rate sellers, based on their products return ratios to see which seller lacks the quality.
- For Reason like size mismatch, we can provide better size guides than the ones we currently have. We can categorise the sizes as per brand or we can provide insights while the customer is ordering like “ This brand's sizes run generally higher so please select one size smaller “.

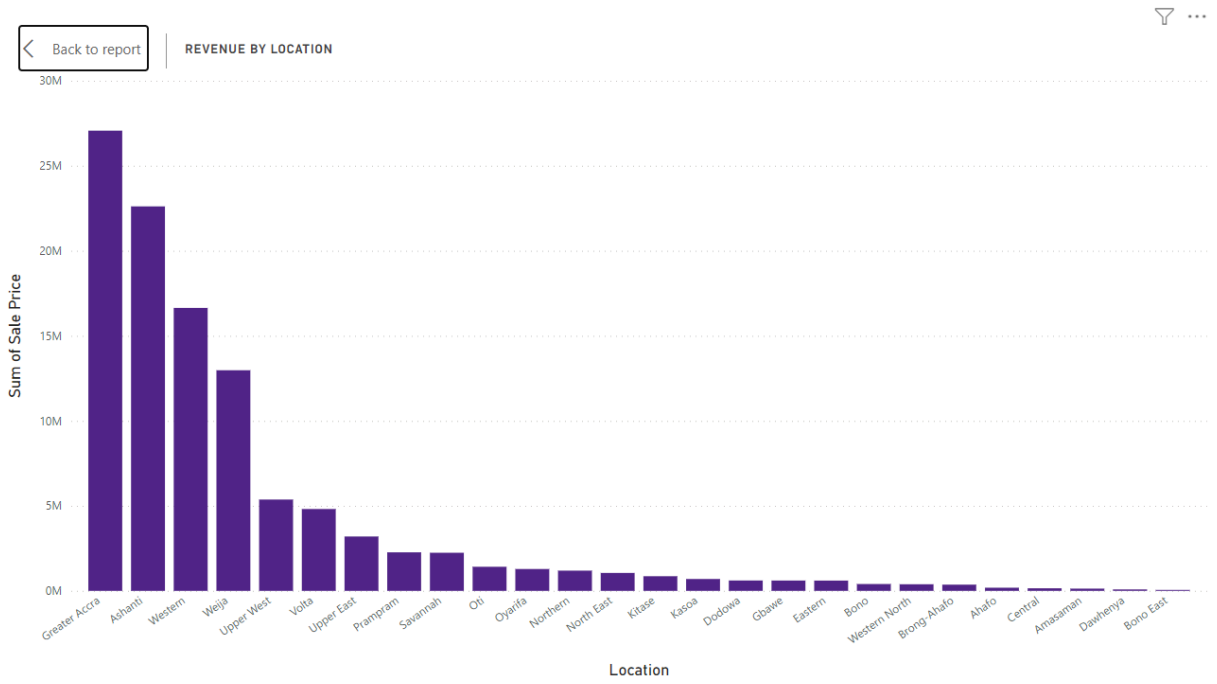
3. Whenever a customer goes to Amazon, they’ll filter the most rated products in order to buy the better category. Can you verify this using any visualization or

table that the ratings of products impact their sales value?



- This chart shows there were more no. of products in ratings 1, 2, 3 and similarly revenue was also higher, so from this visual we can say, products which were rated most, were in first priority of customers.

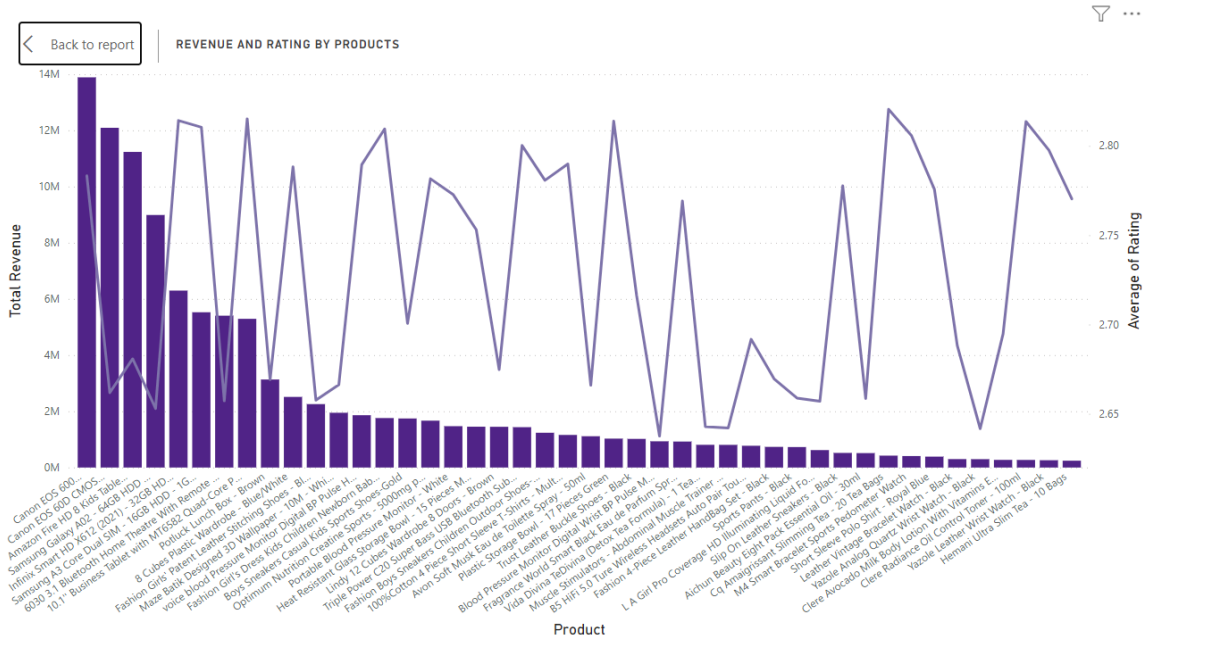
4. Investigate how revenue distribution varies across different locations. Explore which geographical areas contribute most to sales and consider the strategic implications for regional marketing and distribution efforts. How might location-based trends inform the company's approach to market segmentation and resource allocation?



-

- From this chart we can see that maximum sales came from greater accra, ashanti, western, weija. For locations where revenue was less, we can provide better discounts, we can concentrate more on marketing in that specific locations. We can find products which are not performing well for respective locations and can provide targeted discounts.

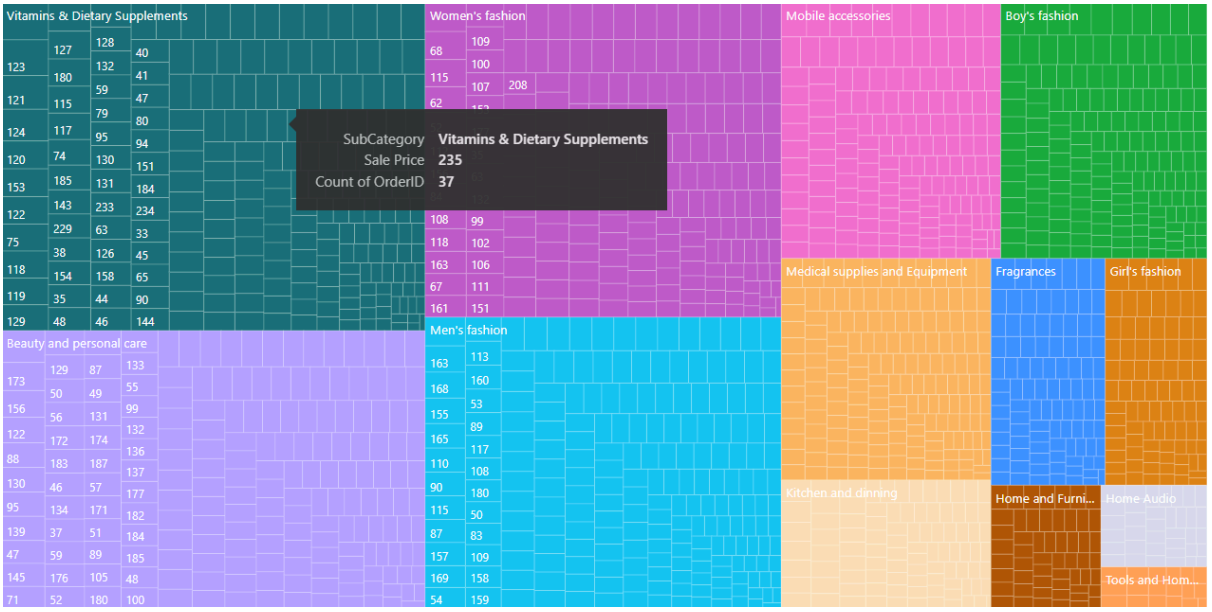
5. Determine which month could benefit from enhanced promotional offers to boost sales. Can you suggest some targeted marketing strategies here?



-

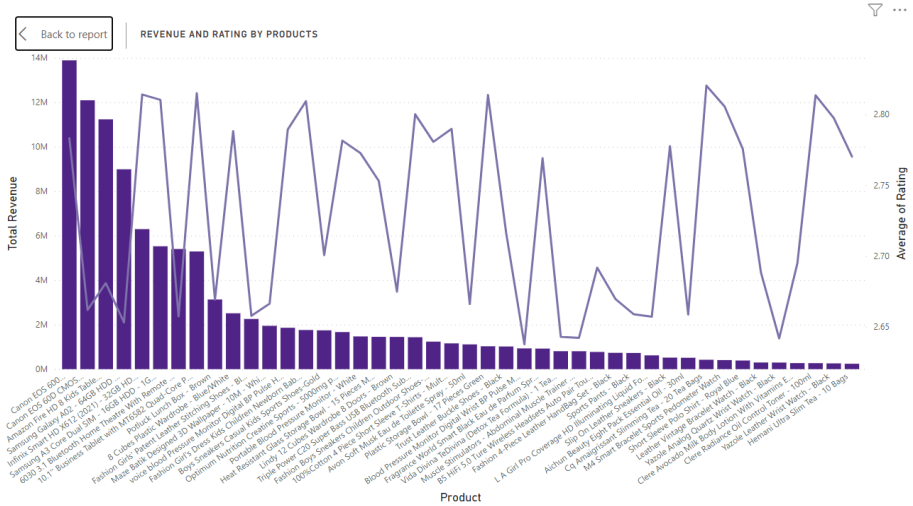
- We can use this chart and month slicer to see which months sales are low, and I found out strange figures here, revenue was comparatively less for months June to December. Even in December when the festive season is going on, revenue generation is less. This months could benefit from enhanced promotional offers to boost sales. We can come up with special discounts on festival time, we can also incentivise products based on seasons and regions for further market capture.

6. Identify which products may require increased marketing efforts. Which items have high prices yet underperform in sales?



- We can use this chart to identify different products with high sale prices and less orders.

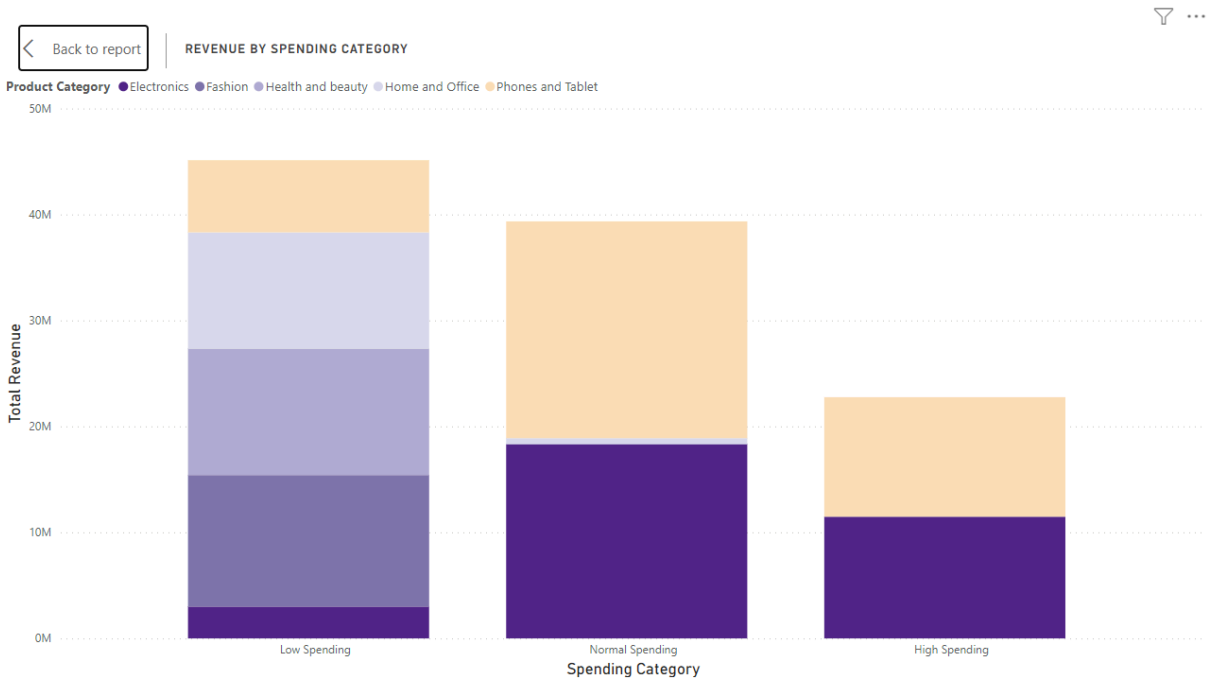
7. Assess which products should have discounts. How can targeted incentives drive sales and customer loyalty for specific products?



-

- We can find products from this chart which have less sales and make incentive driven strategies to give better offers for customers to increase traffic.
- For customer loyalty, we can provide certain perks like easy emis on certain products which use our credit cards or use our payment methods. We can incentivise them with few cashbacks for using our payments services.

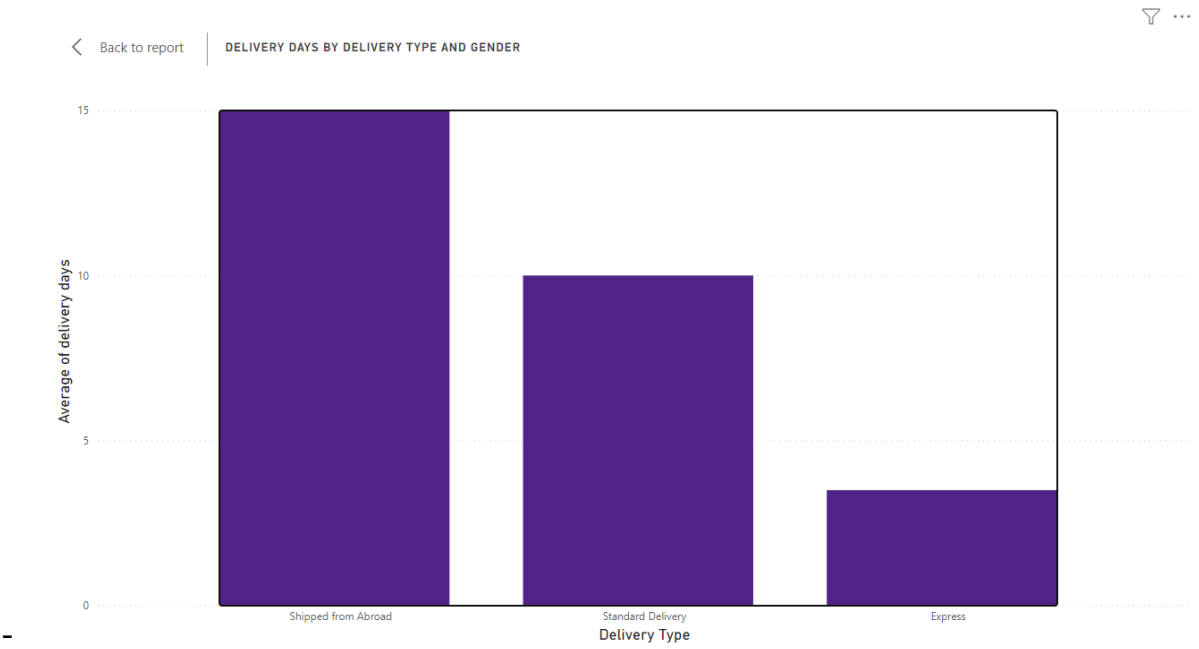
8. Come up with a loyalty program to benefit the company's customers. From the available lot of customers come up with strategies to bucket them and provide benefits under different loyalty programs.



- We can categorise customers on the basis of 3 categories, customers with less spendings, normal spendings and high spendings. For customers with less spendings we can give options like easy and no cost emis to make them bigger purchases. For Customers with normal spendings, we can provide them with certain discounts or cashbacks so that they order high quantities.

9. **Wait Times Correlated with Demographics and Care:** Explore how average wait times vary across different product categories to optimize scheduling and staffing.

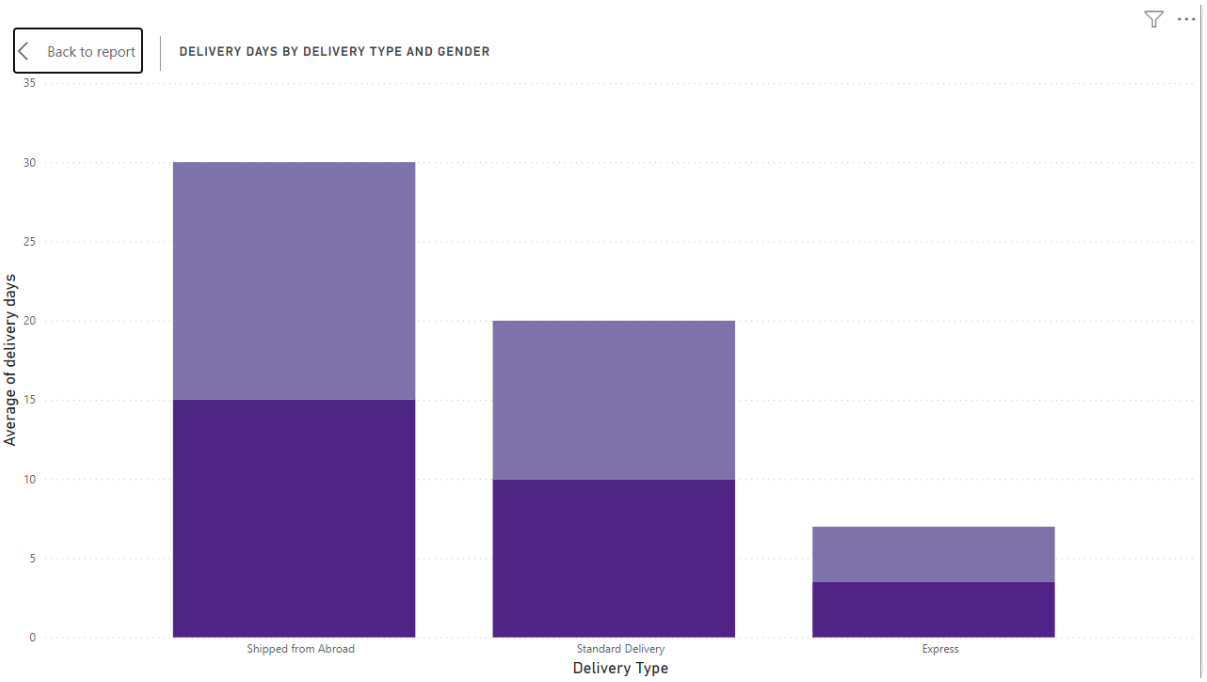
Electronics	Fashion	Health and beauty	Home and Office	Phones and Tablet



-

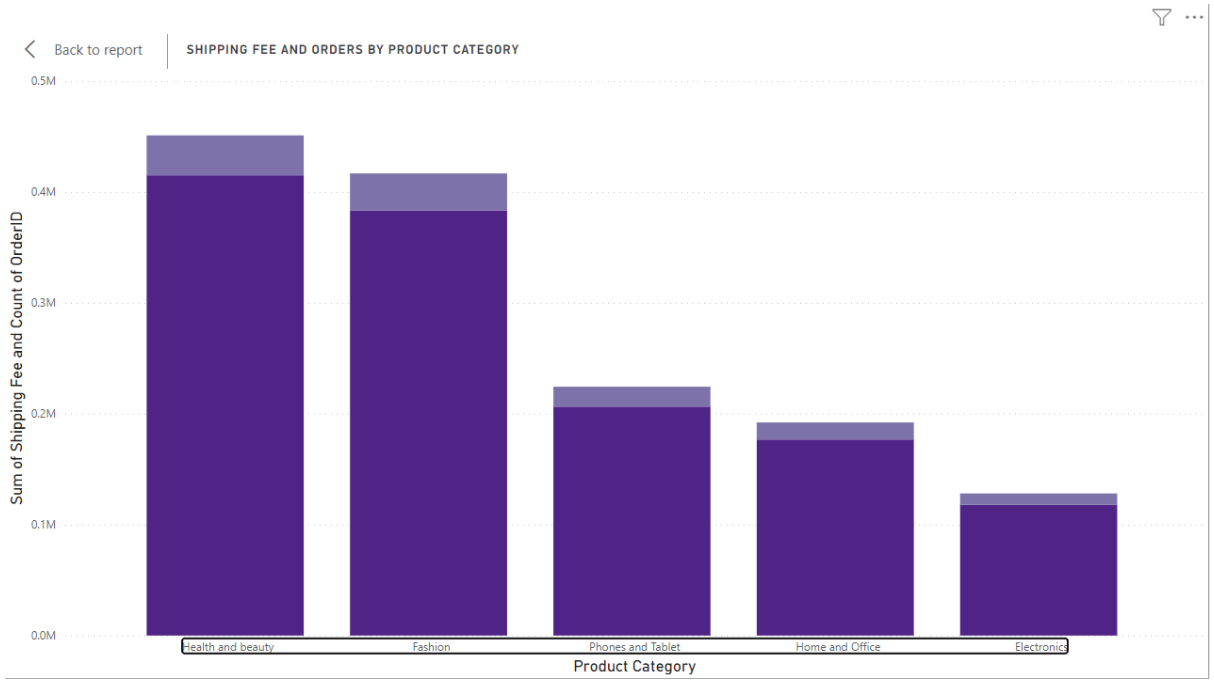
- We can use the above chart and slicer to find average delivery days for different product categories, we will also be able to categorise them based on type of shipments.
- We can analyse delivery days for different product categories and type of shipments, to optimise modes of shipments. We can look to open more warehouses at key locations to lower No. of delivery days.

10. Explore if there is any relationship between the Delivery type and waiting time between ordering and receiving an item.



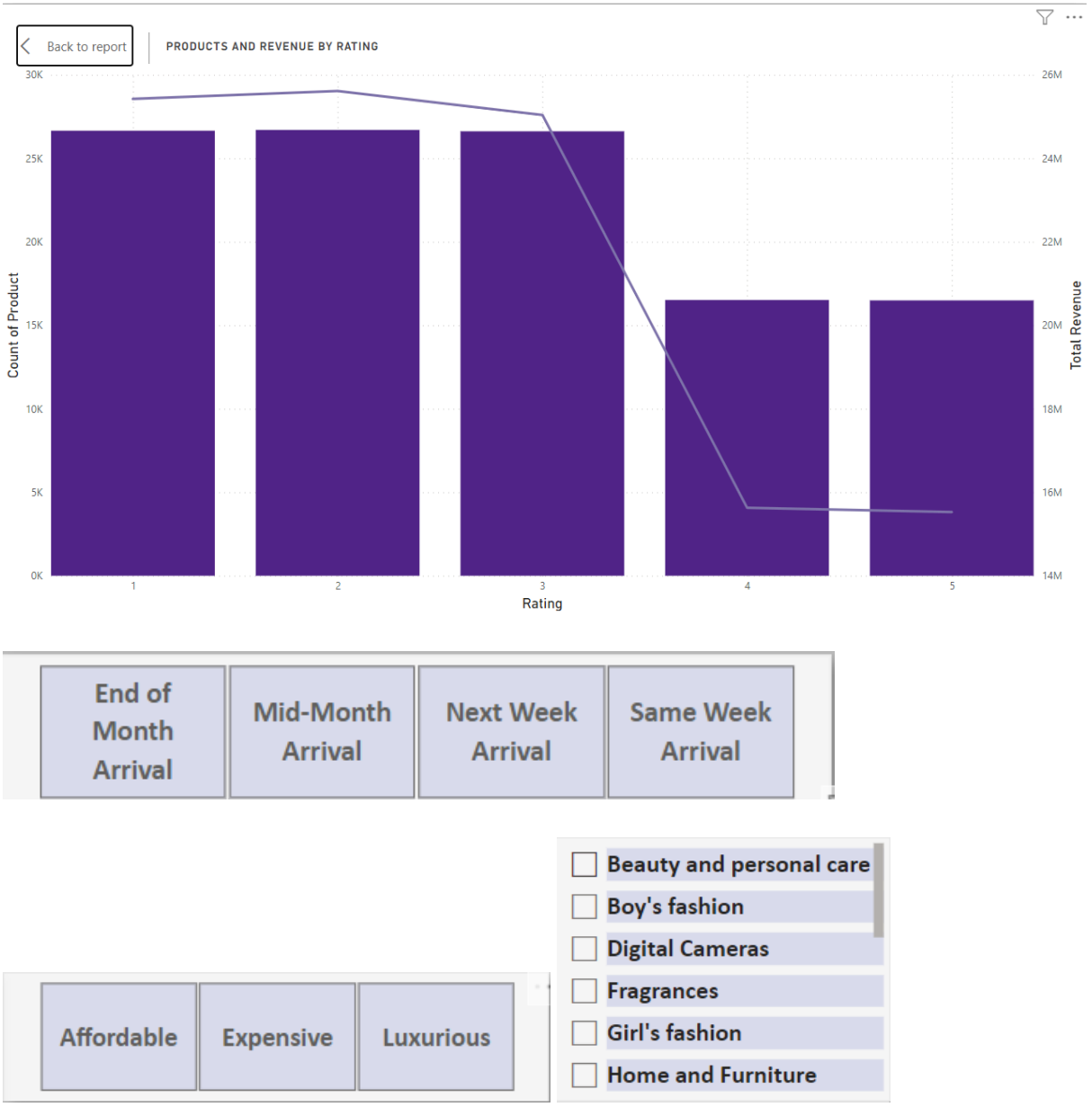
- We can use this same graph to get a relation between waiting days and type of delivery. We can see orders shipped from abroad took maximum days, while express delivery took least time.

11. Is there any relationship between shipping charges and product type?

- 

- We can see from above chart that shipping fees were high for product categories “Health and Beauty” and “Fashion” while it is less for “Phones and Tablet”, “Home and Office” and “Electronics”. And generally products in category electronics and phones and table have high unit prices, so sale price is higher and we see less shipping fees in such categories.

12. Come up with strategies to decrease the low rating orders after analyzing different factors like waiting time, shipping type, unit price, etc.



- We can use this chart with these 3 slicers for analysing low rating products based on waiting time and unit prices (here unit prices and waiting time are grouped into categories). There is also a slicer for different sub categories. (The waiting time was directly related to shipping type, so we can get similar ideas from both). We can analyse the rating of products under different scenarios to make accurate strategies.