Store Performance Data Analysis

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Overview

We have Store data with information regarding Products, Orders, Customers, and Overall Sales Matrices. Our task is to analyze the data and gain insights about how the store has performed over the past 3 years to help the store make the business plan accordingly for upcoming years. We have divided the analysis into 3 parts.

- Order Trend Analysis
- Product Performance
- Customer Segmentation

We have also provided detailed information on key topics to get more insights if needed.

Order Trend Analysis

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Monthly Completed Orders

We have observed that the sales are gradually increasing every year and also observing a similar pattern in terms of orders trend. In January we had the lowest number of orders placed and gradually increased until June. Then observed a sudden drop in July and after increasing it dropped again in October. The number of completed orders is highest between November to December except in 2012 where it dropped after November.
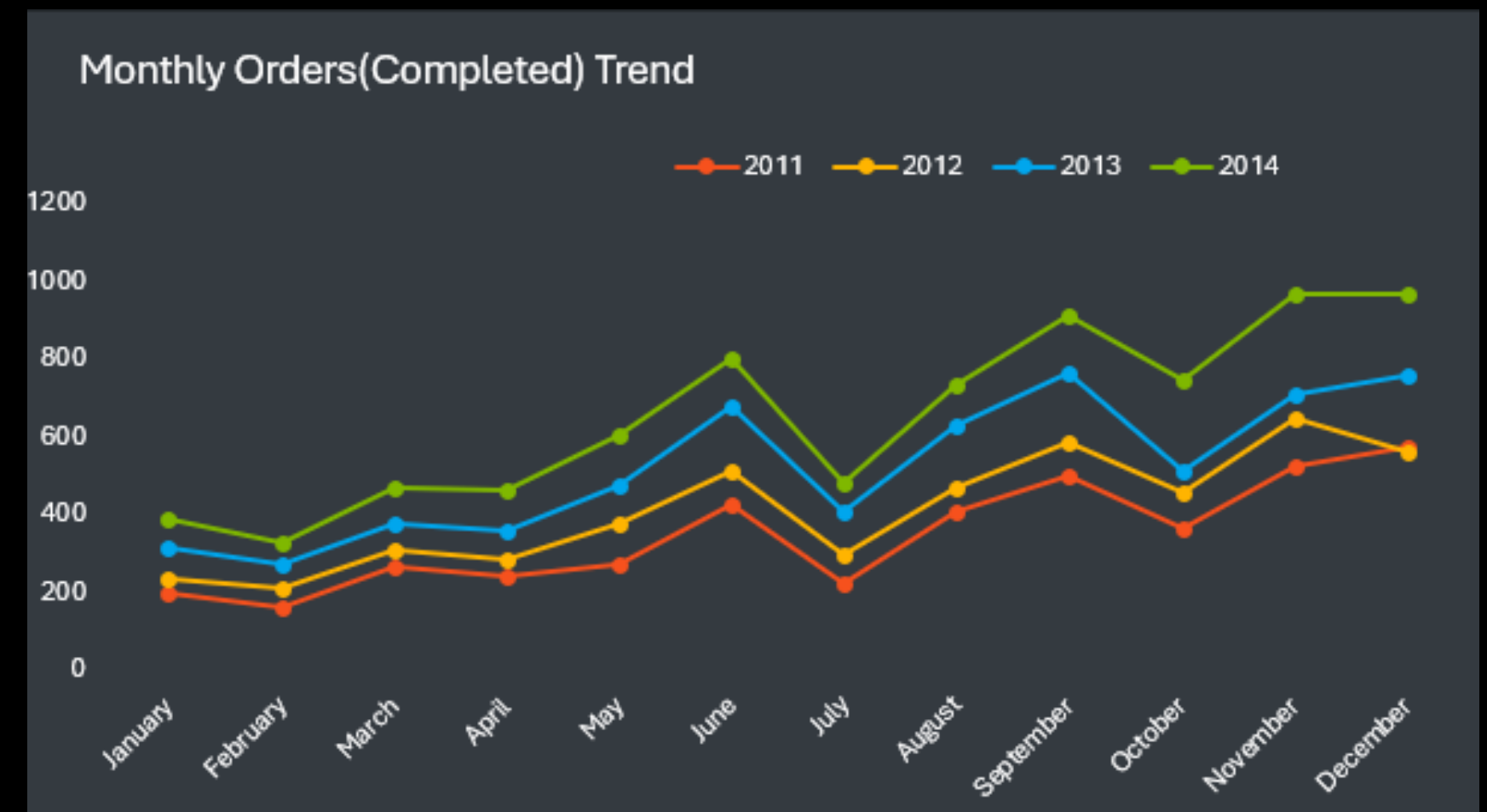
Continent wise Orders Trend

Continent wise Completed Orders vs Total Orders and Return %
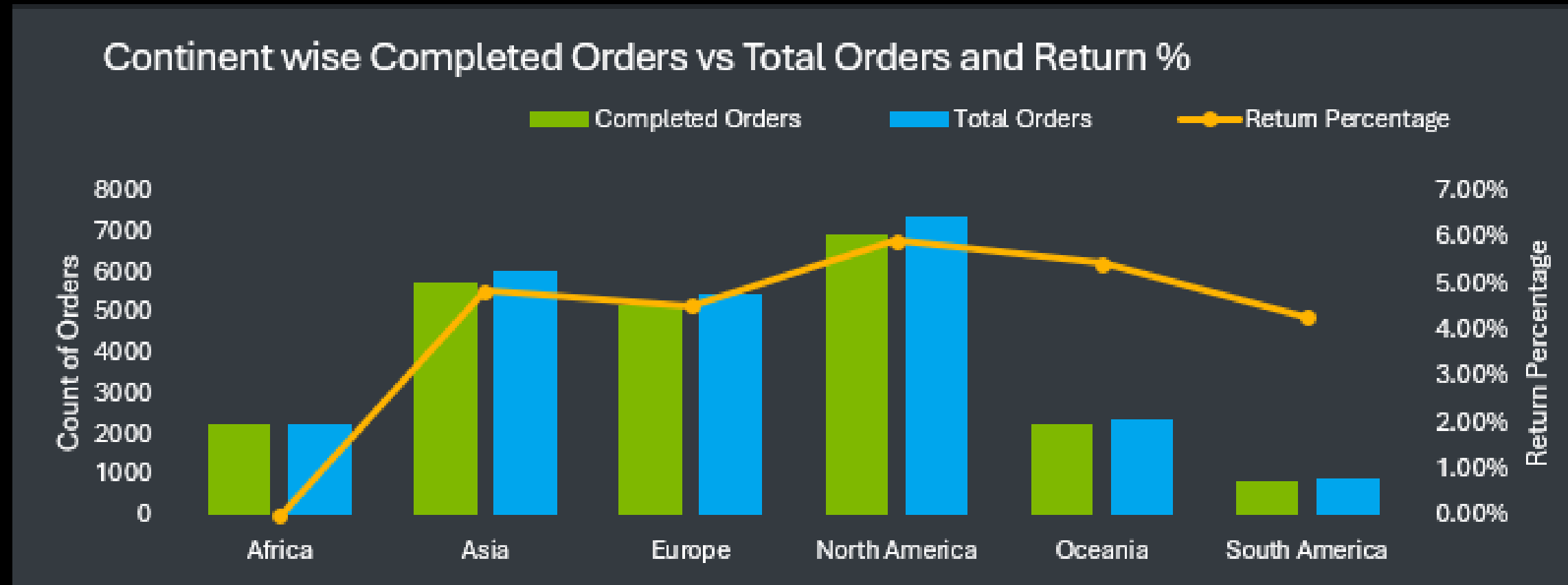
In this chart, we have information about total orders placed vs total orders completed along with the return rate. We observed that Although having lower numbers of transactions there is no return orders (Placed=Completed) in Africa. North America has the highest number of Placed and Completed orders but also has the highest return rate, about 6%. From South America, we have the lowest number of transactions and also have a 4.3% of return rate.

7   Order Priority wise Processing time vs Cost

In this chart, we have Order Priority-wise processing time and cost of shipping. We observed that Critical orders have the highest average shipping cost and also need the lowest time for processing. Lowest priority orders have a higher shipping cost than medium priority orders which opposes the trend, however, the processing time is the highest in lowest orders, and gradually becomes lower when the priority increases.
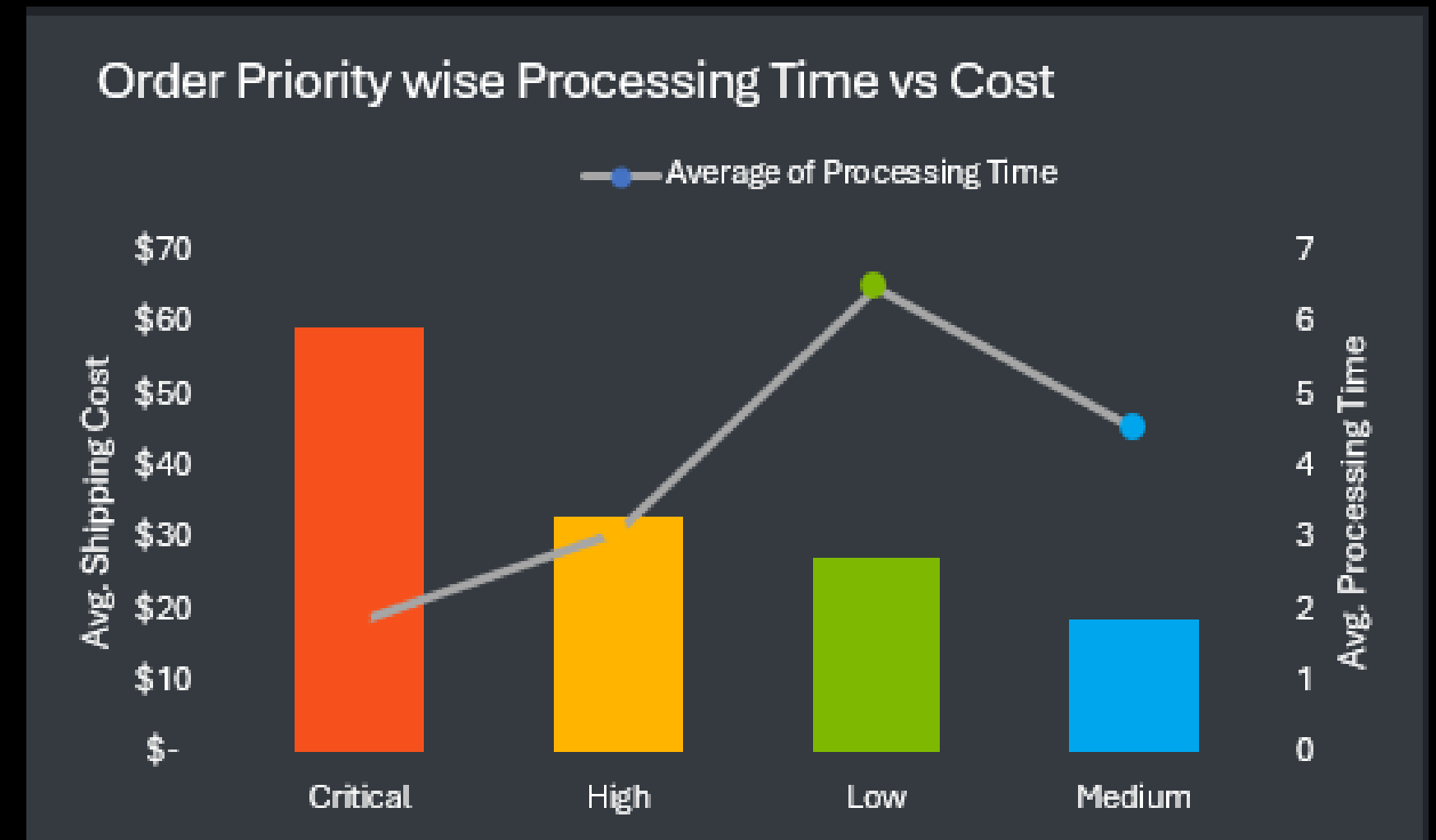
8   Product Sub-category wise Shipping Cost

In this chart, we have product subcategory-wise shipping costs. We observed that bigger in size items like tables, chairs, machines, etc. have higher shipping costs mostly because of their size. Phones also have higher shipping costs because of the requirement of careful handling. The small items paper, binders, etc. have the lowest shipping costs because they are easy to ship, and labels have the lowest shipping cost.
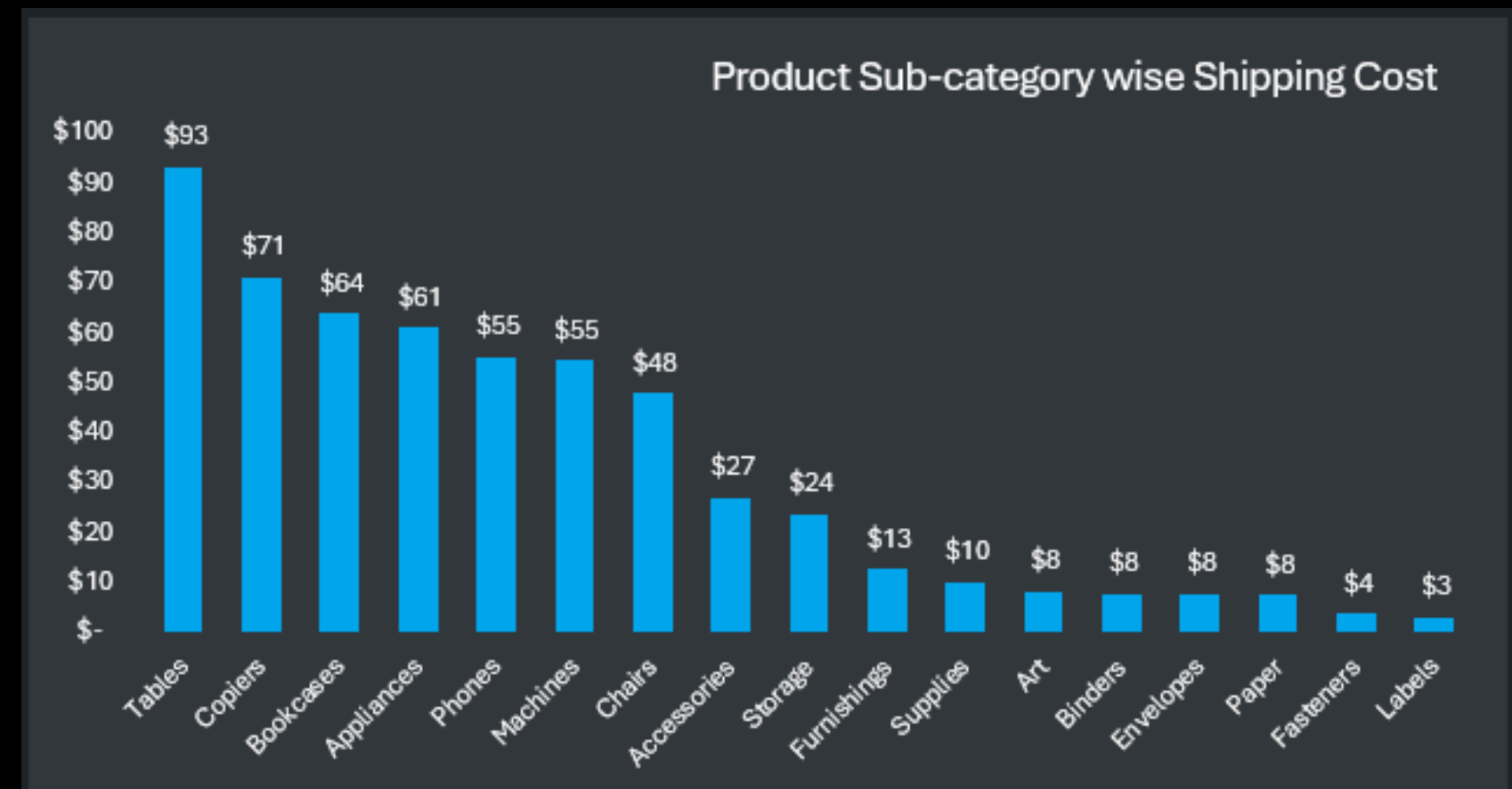
Priority wise Orders distribution

In this chart, we have order priority-wise order distribution. We observed that most of the orders (57%) are of medium priority. We also have a large amount of high-priority orders (30%). Low and critical priority orders are among the smallest pieces of pie having 5% and 8% share respectively.

Priority wise Order Distribution

Critical   High   Low   Medium

1777, 8%
7075, 30%
13295, 57%
1086, 5%
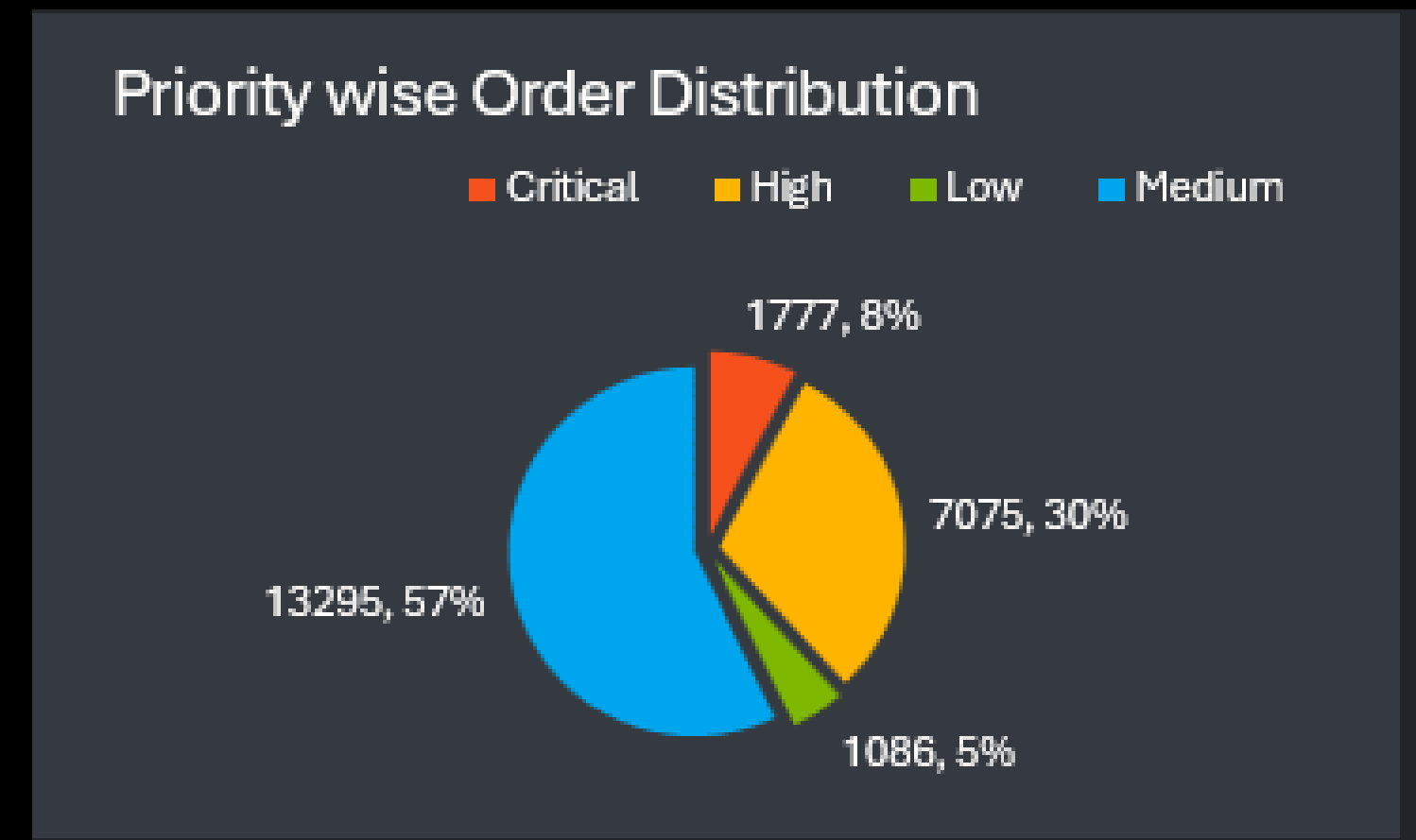
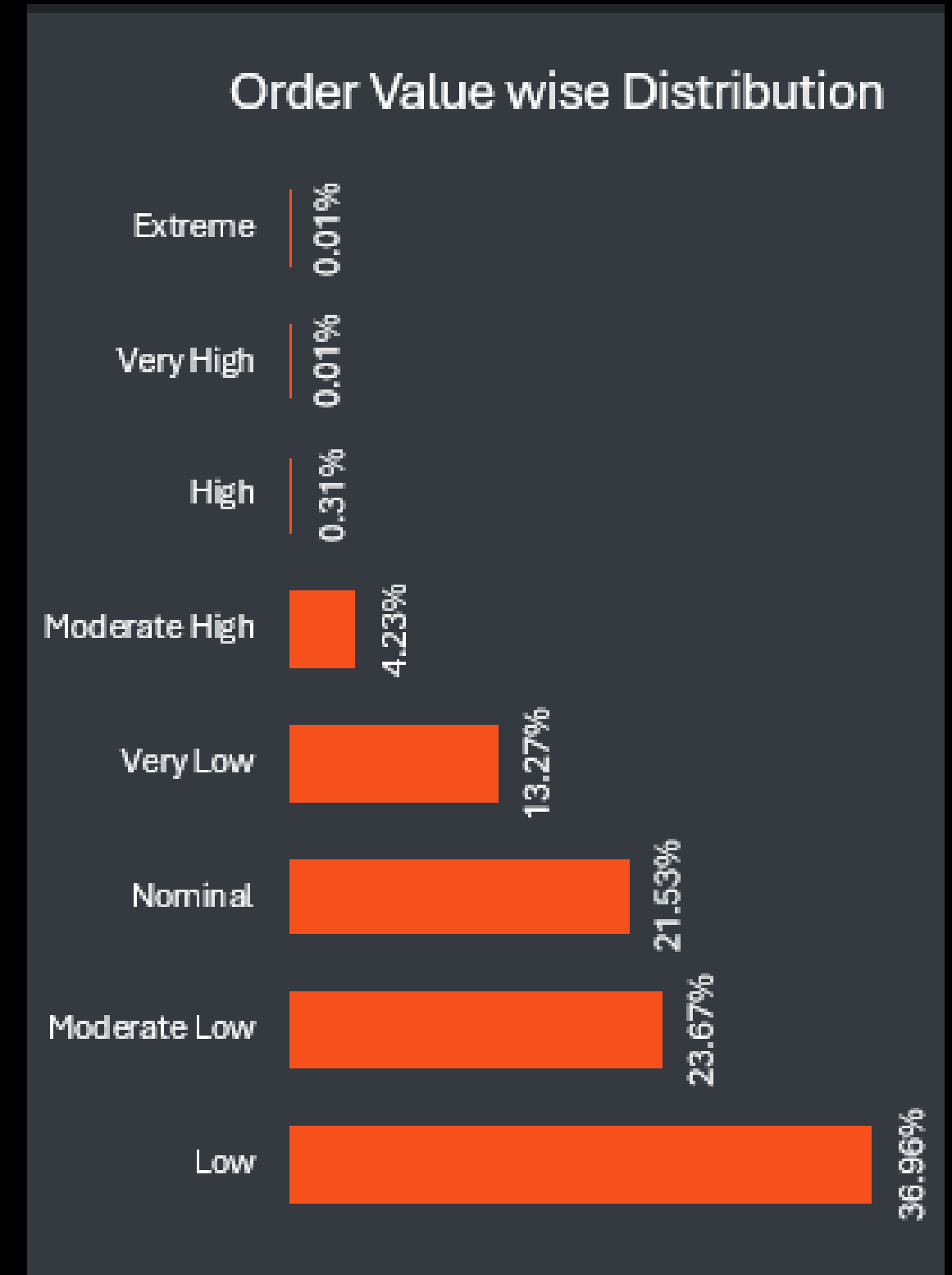# 10   Customer Segment wise Orders Completed

Here we have the information about the number of completed orders by each customer segment. We observed that Consumers have completed the most numbers of transactions, whereas home office customers have completed the lowest.

Customer Segment wise completed orders
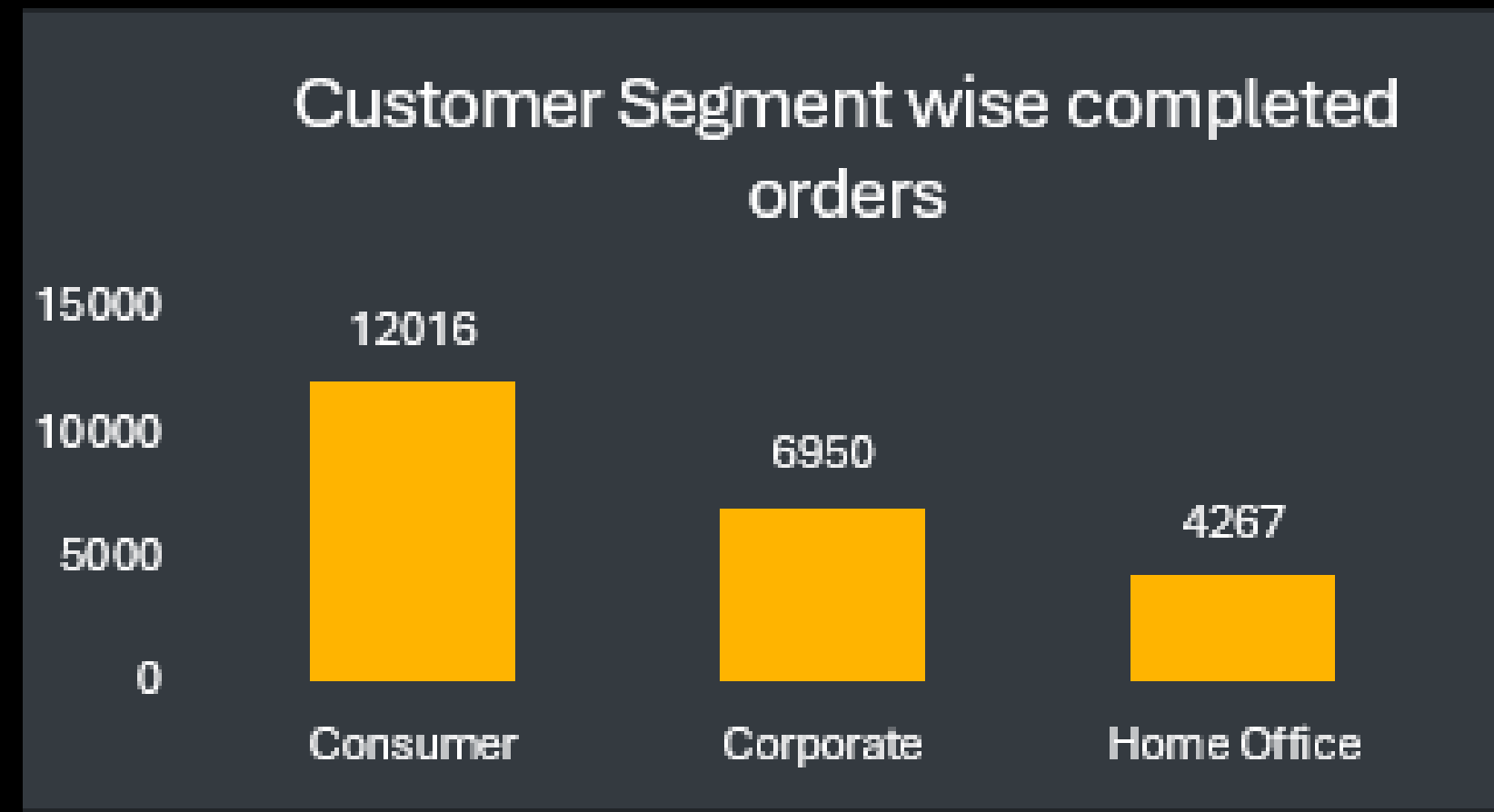
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Order Value wise Distribution

In this chart, we have Order value-wise order distribution. We created segments based on order value. We observed that approx 37% of the orders are valued below 500$. 23.6% of orders are moderate-low, which means they are valued below 2000$. A significant amount of orders (21.5%) are of Nominal value, which means they are below 50$. We have a minimal amount of orders that are high, very high, and extremely-valued, which means they are valued beyond 5000$.

Order Value wise Distribution

| Segment	Percentage
Extreme	0.01%
Very High	0.01%
High	0.31%
Moderate High	4.23%
Very Low	13.27%
Nominal	21.53%
Moderate Low	23.67%
Low	36.96%

12   Ship Mode wise Cost vs Processing Time

In this chart, we have Ship mode-wise shipping cost and processing time. We observed that Same-day deliveries have an average processing time of 0 days. That means the order processing is done on the same day of order placing. First-class orders have an average of 2 days, The same is 3 days for second-class orders and Standard class orders have the highest average processing time of 5 days. The cost of shipping goes like this Same day > First Class > Second Class > Standard Class.

Ship mode wise Shipping Cost vs Processing Time
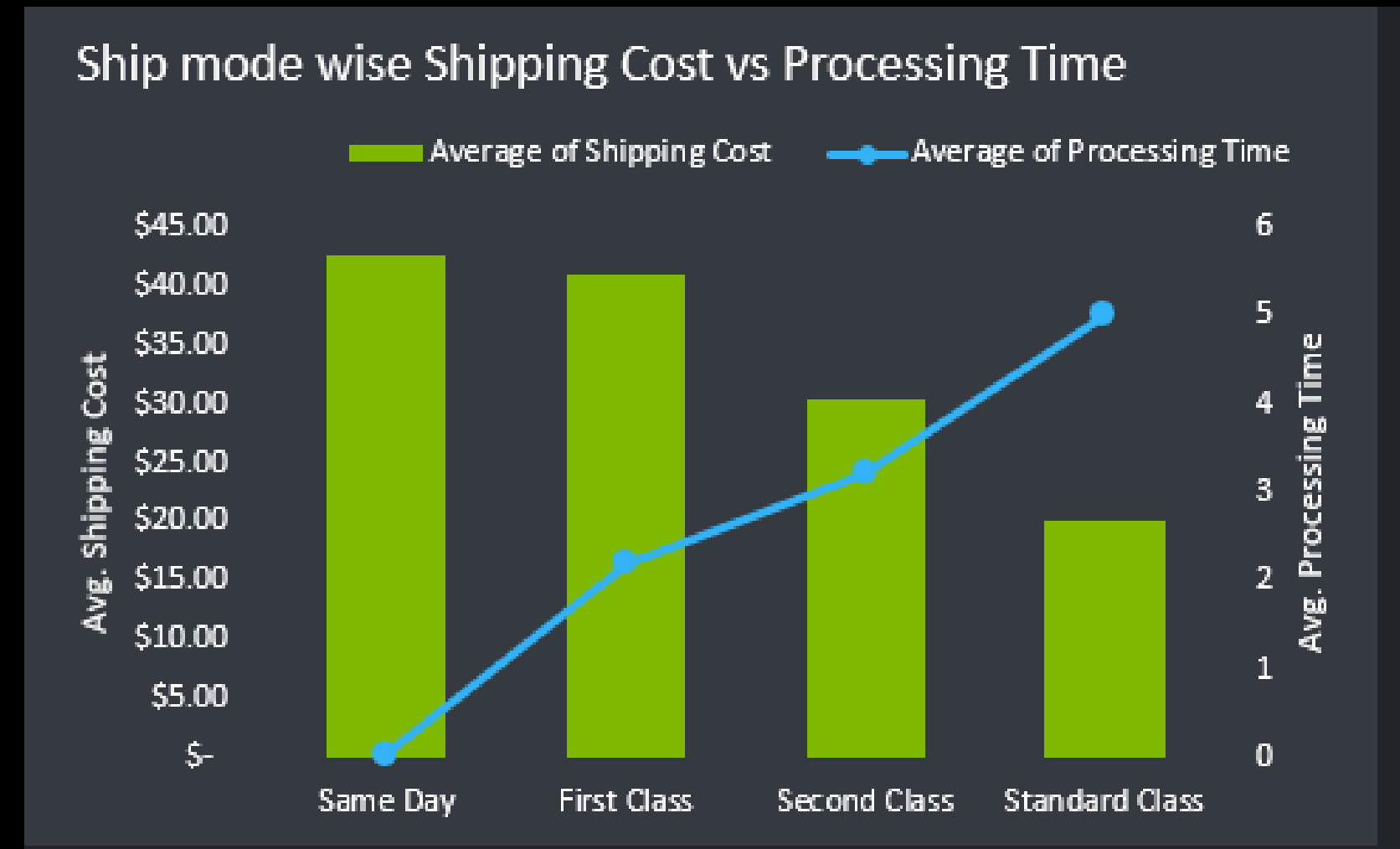
Product Performance

14   Product sub-category-wise Revenue and Profit %

In this chart, we have the product sub-category-wise revenue and profit %. We observed that the highest revenue is generated from phone sales. The profit we are getting from it is somewhat between 13%. From paper sales, we are getting the highest profit % (about 25%). The lowest profit is gained from machine sales. Whereas table sales are incurring a loss of close to 10%.

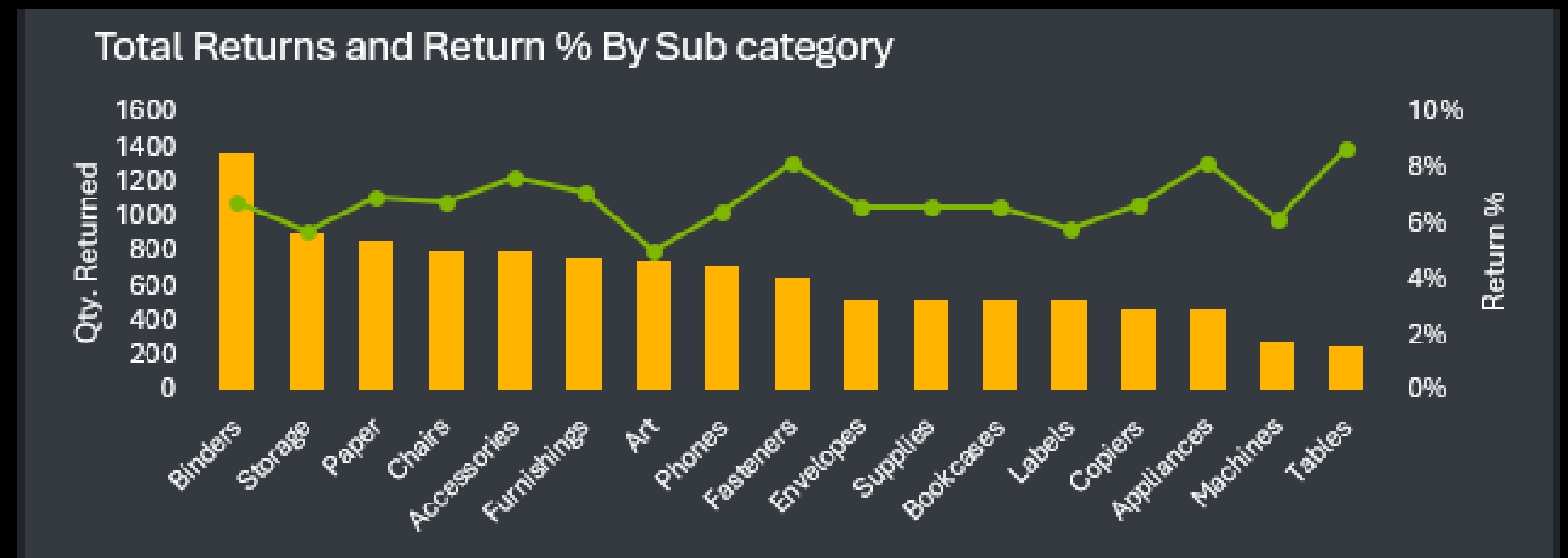Revenue/Profit % By Products Sub categories
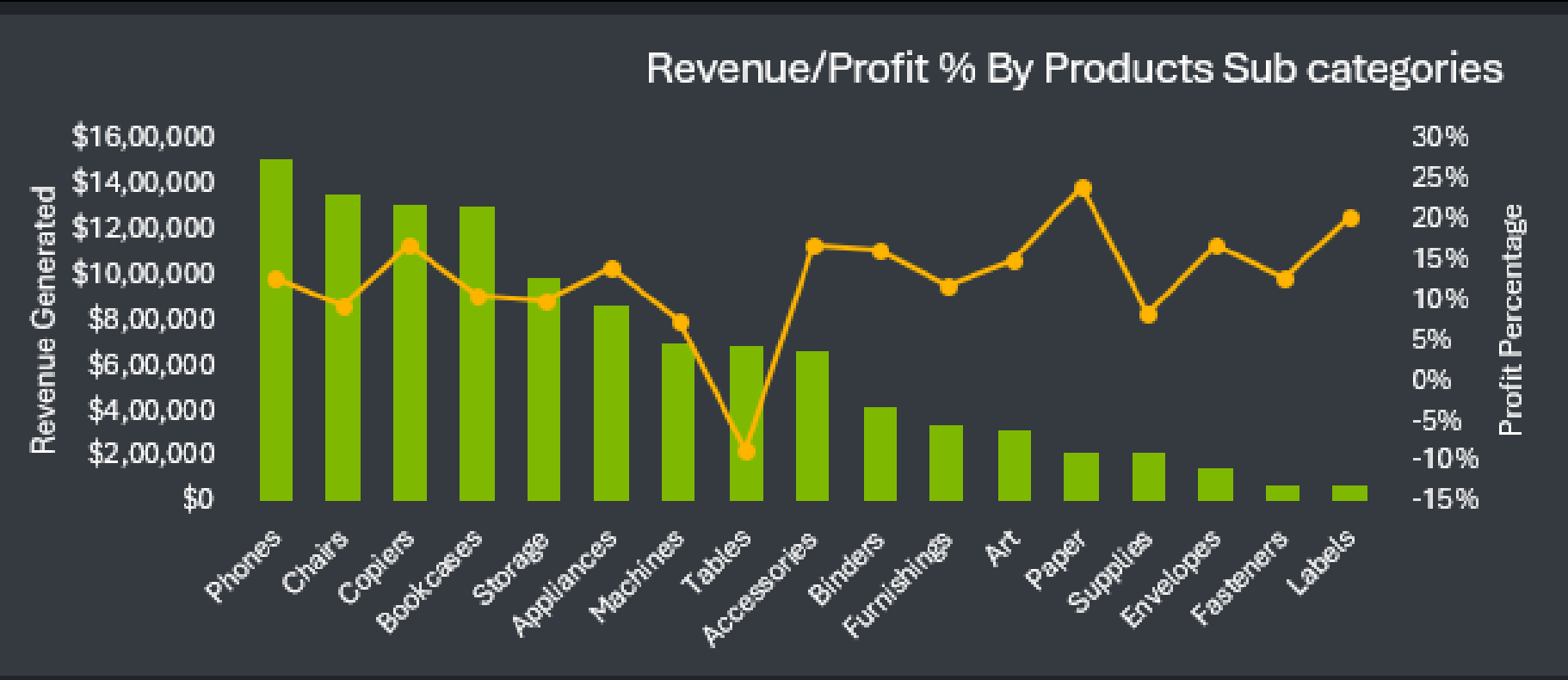
15   Product Sub category wise quantity sold

In this chart, we have the product sub-category-wise quantity sold. We observed that the Binders have the highest quantity sold. Storages, Art, Papers, Chairs, Phones, and Furnishings all have quantities sold beyond 10000 units. The tables have the lowest number of quantities sold.
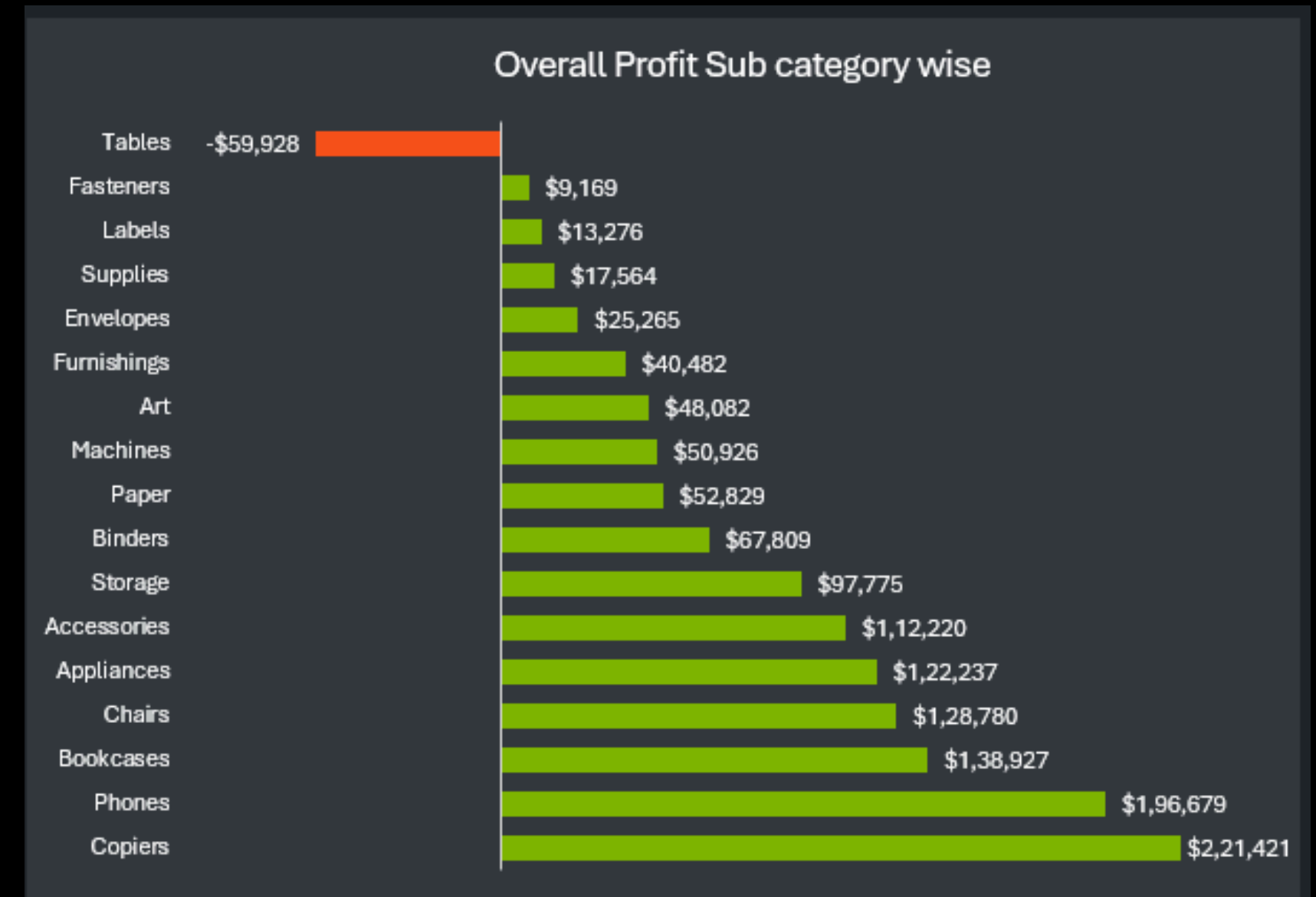

Sub category wise quantity sold
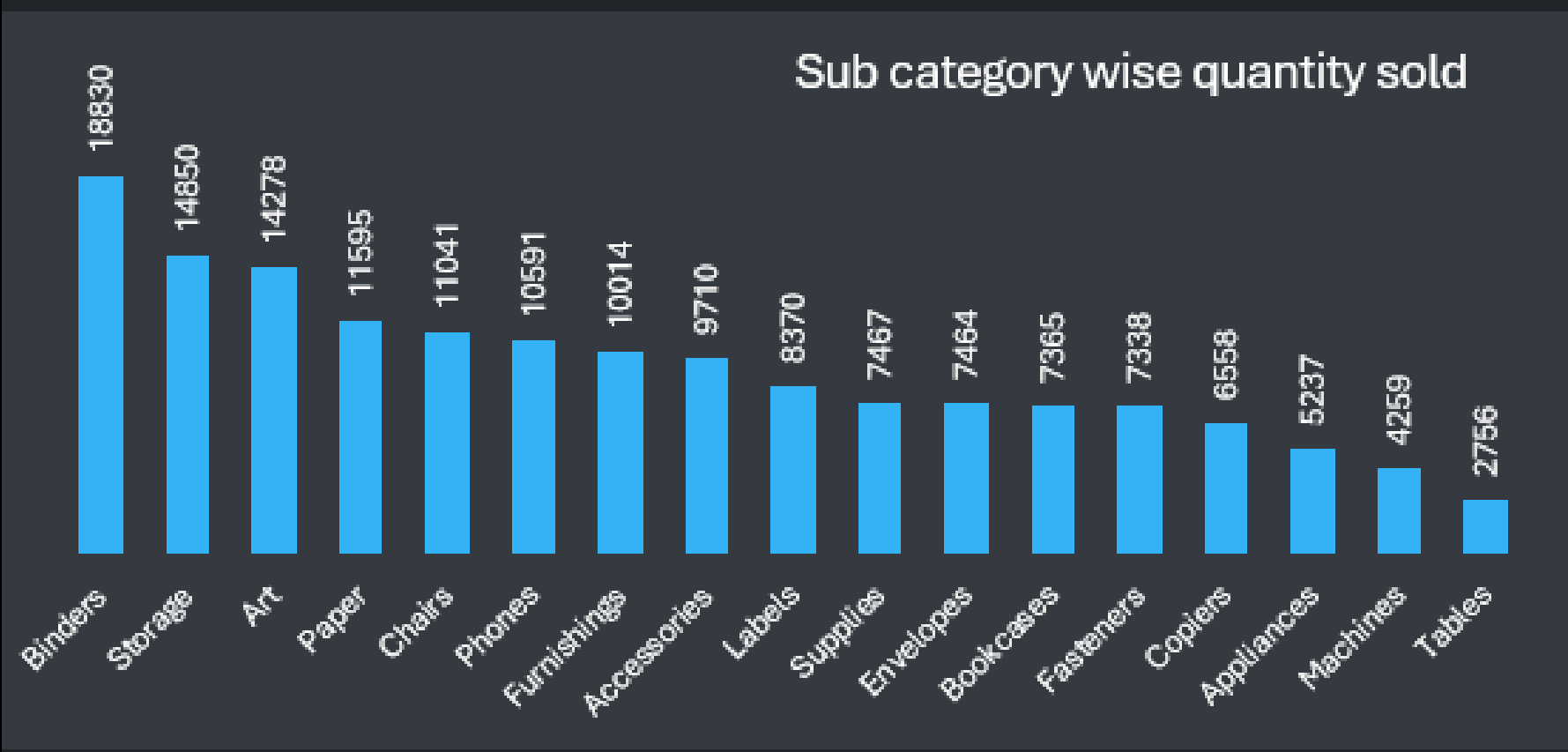
16 Product Sub category wise return/return %

In this chart, we have the product sub-category-wise return and return %. We observed that binders are having high returns but they also have the highest quantity sold. So the return % is more important here. We observed that Arts have the lowest return rate of 5% and the tables have the highest return rate of 9%.

Total Returns and Return % By Sub category

17 Overall Profit by product sub-categories

In this chart, we have the amount of profit generated by product sub-categories. We have observed that we are having the most amount of profit from Copiers and phone sales. Whereas the Tables are making an overall loss. (The green colored bar denotes the profit and the red colored bar shows loss)

Overall Profit Sub category wise

| Sub Category	Profit
Tables	-$59,928
Fasteners	$9,169
Labels	$13,276
Supplies	$17,564
Envelopes	$25,265
Furnishings	$40,482
Art	$48,082
Machines	$50,926
Paper	$52,829
Binders	$67,809
Storage	$97,775
Accessories	$1,12,220
Appliances	$1,22,237
Chairs	$1,28,780
Bookcases	$1,38,927
Phones	$1,96,679
Copiers	$2,21,421

Category wise sales performance

In this chart, we have category-wise sales performance. We observed that the sales dropped from January to February. After that, there were a few ups and downs in sales and the sales increased greatly in June. Then in July, the sales decreased again and after a few rises and fall the sales reached the peak at the year-end (between November to December)

Monthly Sales Performance By Product category
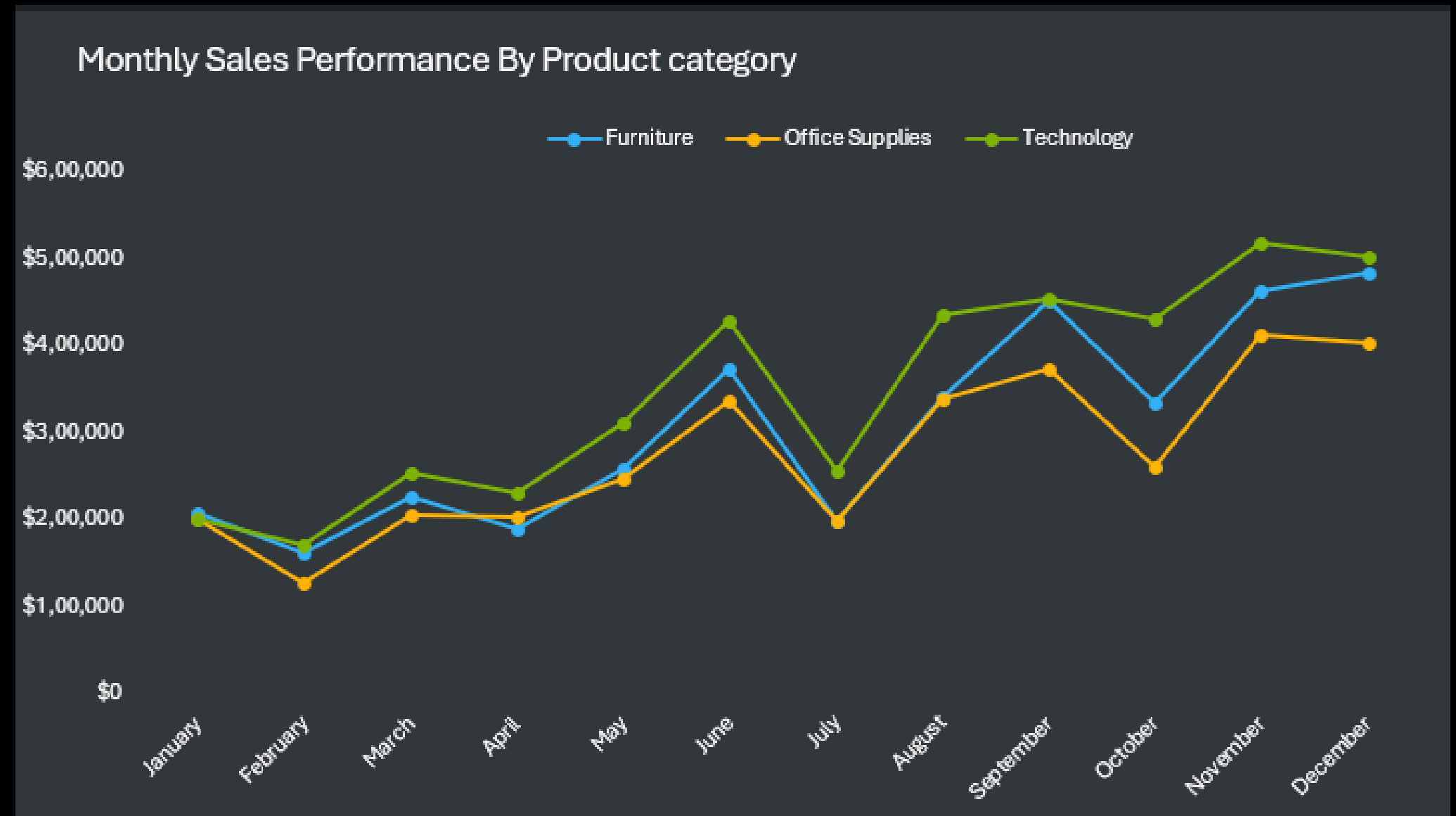
Customer Segmentation

Segment wise Customer Distribution

In this chart, we have segment-wise customer distribution. 51% of our customers are from the consumer segment. 30% are corporate and 19% are of Home office.

Customer Segment wise Distribution

■ Consumer ■ Corporate ■ Home Office

19%

51%

30%
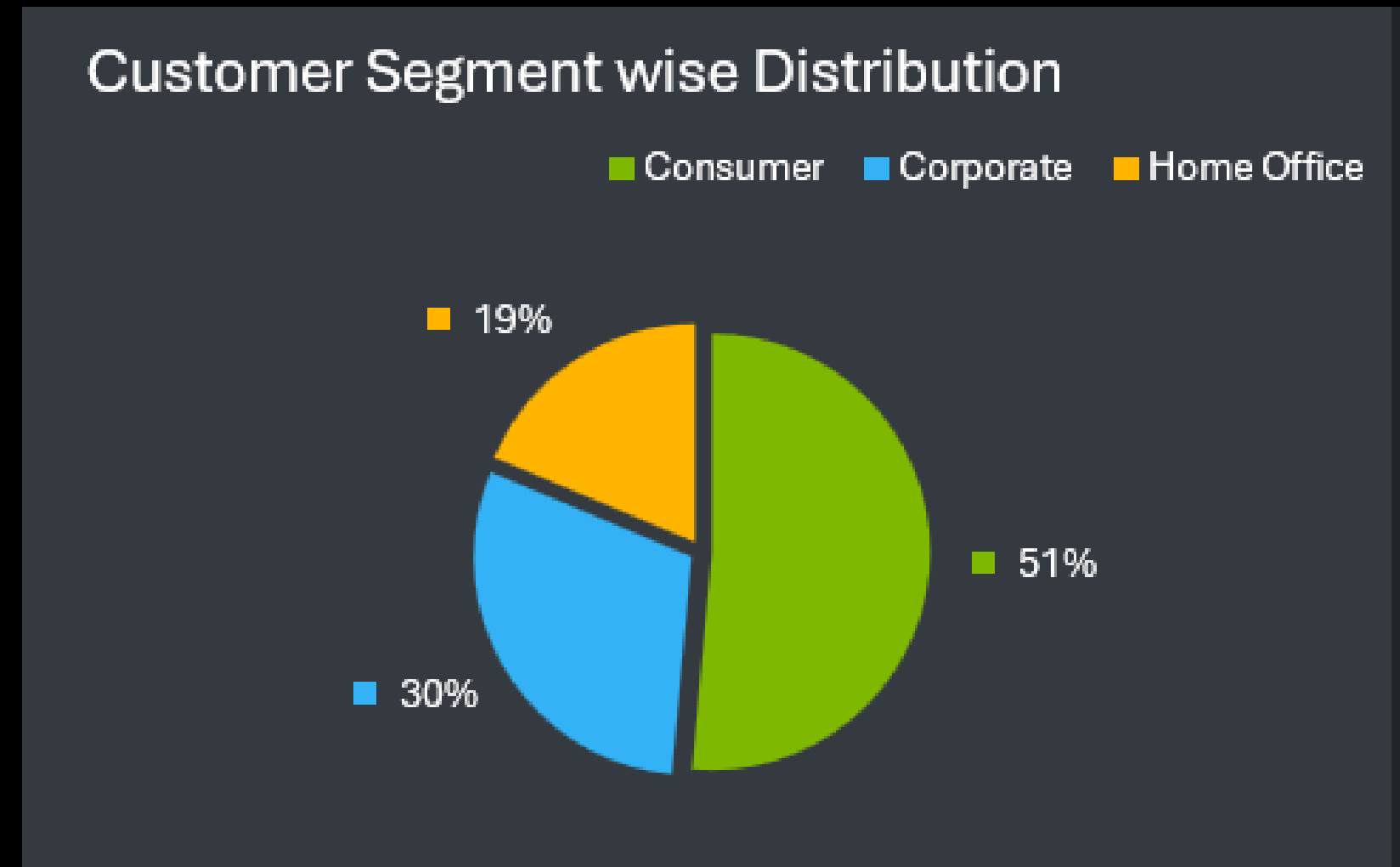
Value wise Customer Distribution

In this chart, we have customer value-wise distribution. We have significant numbers of high-value (total sales generated between 1001$ to 5000$) and premium-value customers (total sales generated between 10001$ to 20000$) are about 33.3% and 31.3% respectively. We have the least amount of top-value customers (total sales generated beyond 20000$) about 4.2%. The number of Low-value (sales less than 500$) and Moderate (total sales generated between 501$ to 1000$) are about 7% and 7.6% respectively

Customer Value wise Distribution
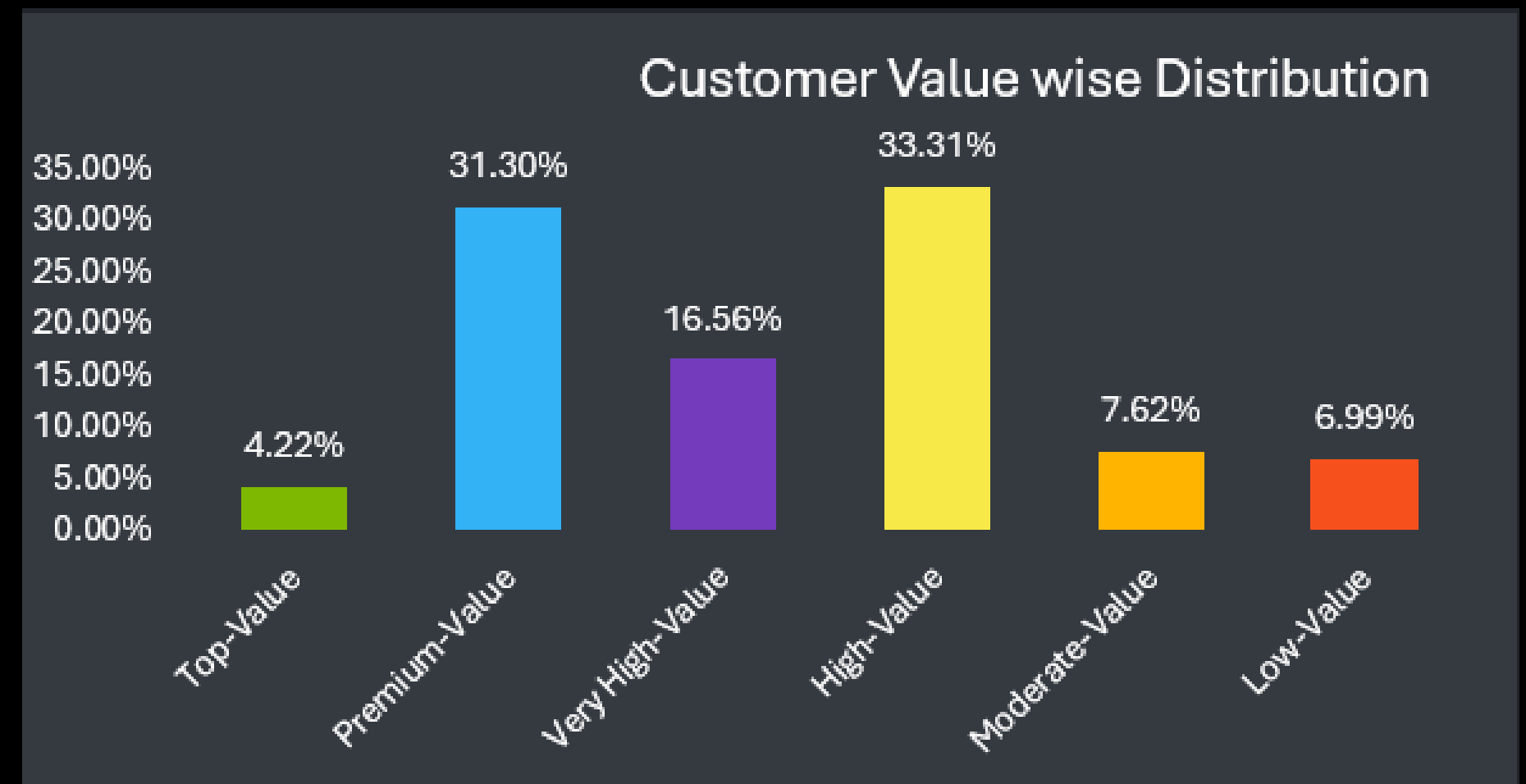
Order placing trends by customers

In this chart, we have the order placing trend of the customers. We observed most of the customers are repeating orders 3 to 7 times and we also observed that a good number of customers repeated orders 21 to 27 times. The lowest number of time customers made transaction is for 1 time and the highest number we have is for 39 times.
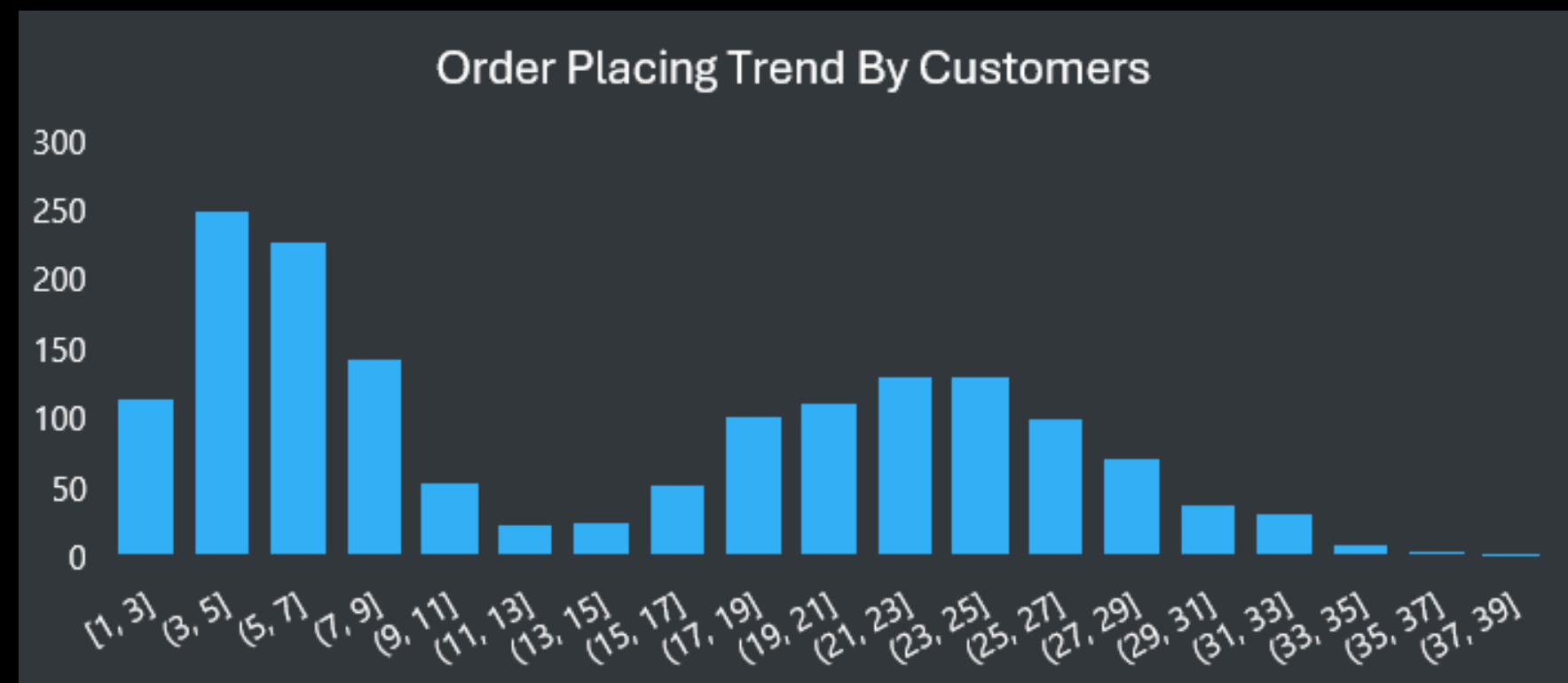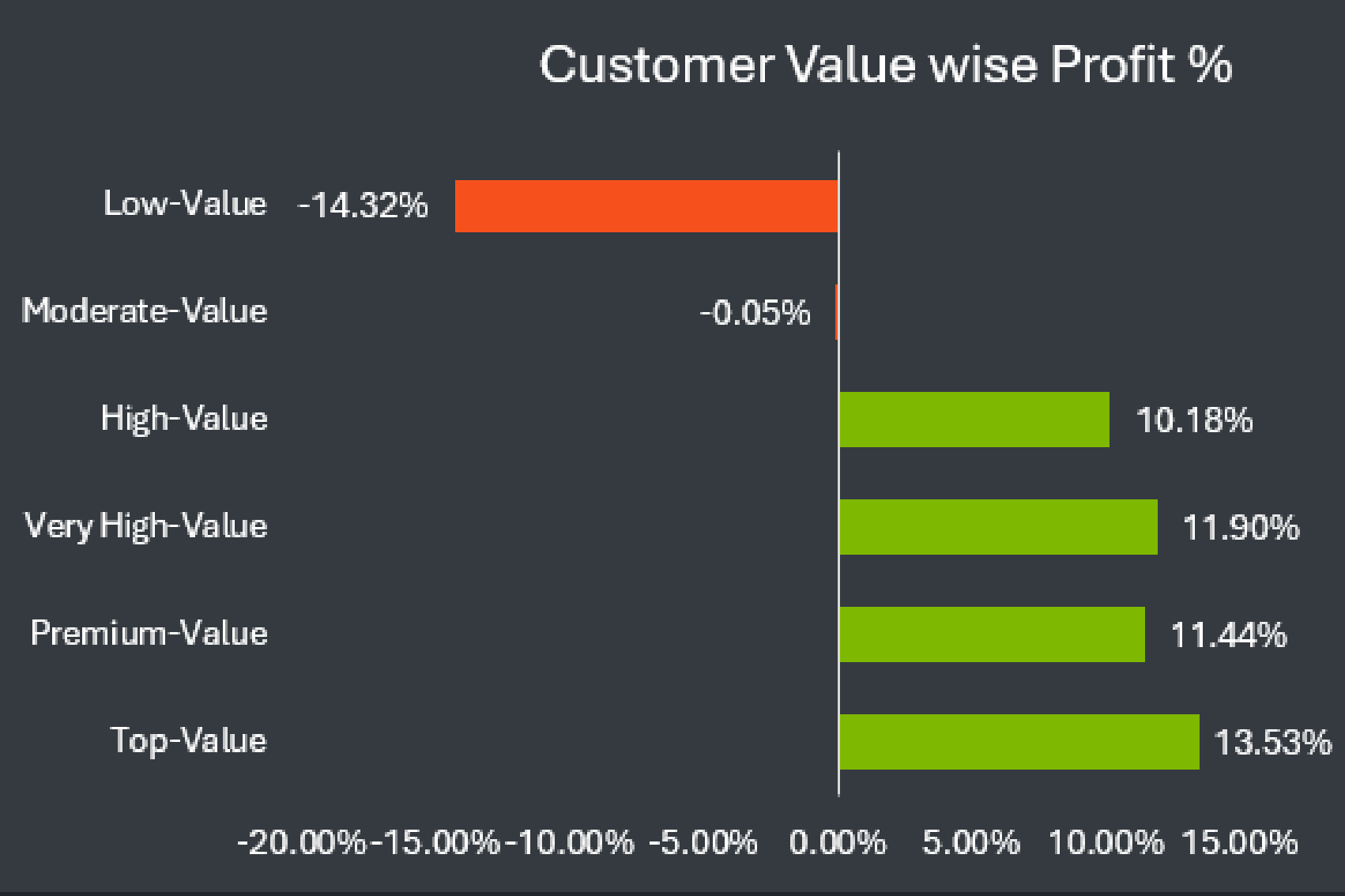
Continent wise Customer Value

In this chart, we have the continent-wise distribution of customers. We observed that in Africa we mostly have high-value customers. In Asia we have all types of customers, most of them are high and premium valued. The distribution of Europe is also very similar to that of Asia. In North America, more than half of the customers are premium-valued customers (52%), and next are very-high-value customers. In Oceania, the story is also the same. In South America, 71% of the customers are premium-valued and 29% are Very high-valued
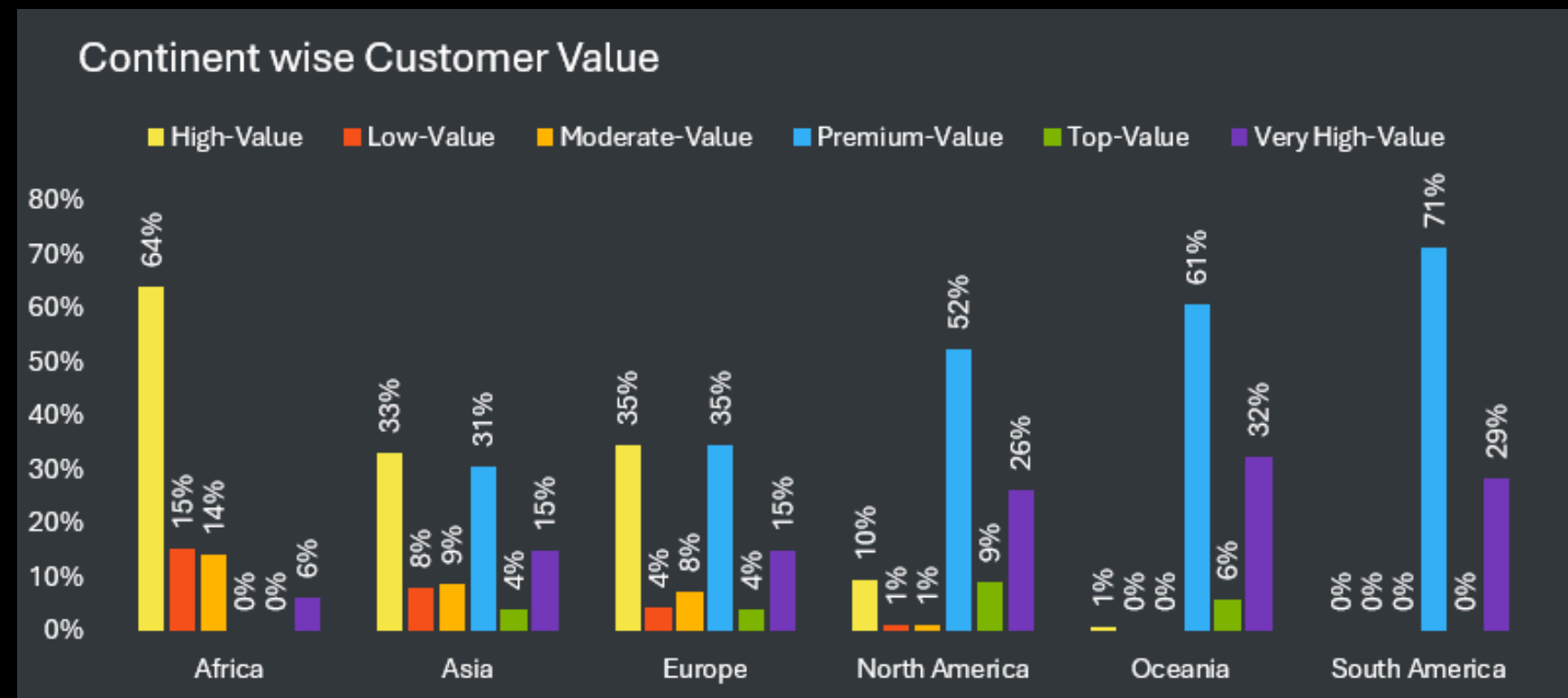
Customer Value wise Profit %

In this chart, we have customer value-wise generated profit %. We observed that all the value-wise types of customers are generating profit except low and Moderate-valued customers. Low-valued customers are causing a significant amount of loss (14.32%) to the business.

Customer Value wise Profit %

Low-Value	-14.32%
Moderate-Value	-0.05%
High-Value	10.18%
Very High-Value	11.90%
Premium-Value	11.44%
Top-Value	13.53%

Completed Orders segregated by Customer-value

In this chart, we have the number of completed orders segregated by customer value. We observed that the premium valued customers are the most active customers having transactions of 12015 out of 23233 (total completed orders) which is almost 52%. We also have good amount of orders coming from high and very high valued customers. Moderate and low-valued customers have completed the least number of transactions.

Orders By Customer Value
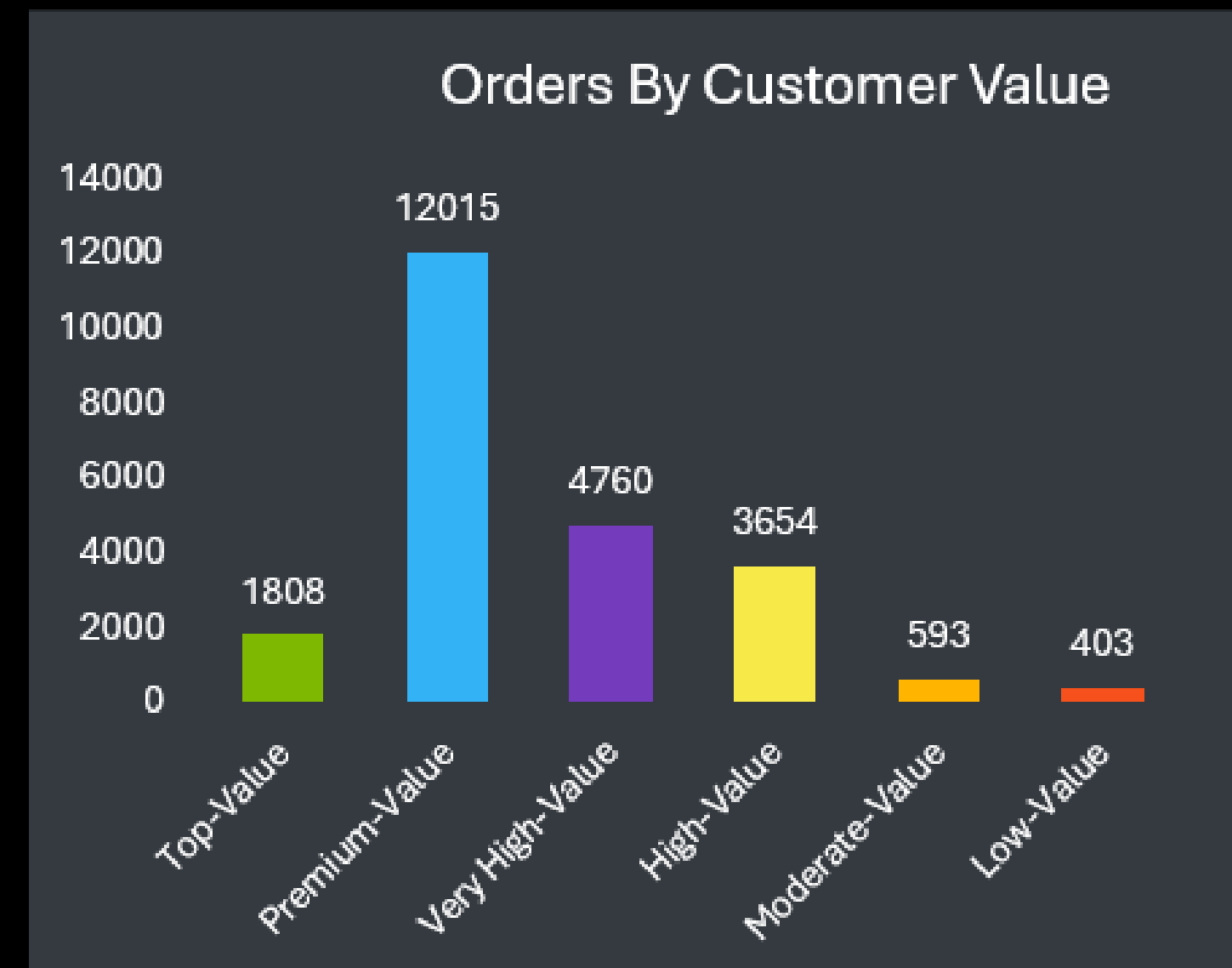
Key Insights

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- The lowest Transactions and sales happened between January to February and the highest in November to December.
- There are no returned orders from Africa and the Lowest number of transactions happened from South America also having a 4% return rate.
- Most of the orders are of medium and high priority.
- More than 80% of orders are valued within 2000$.
- The tables have the highest shipping cost, lowest quantity sold, highest return %, and also the loss-making product.
- The highest profit-generating products are Labels.
- 51% of customers are consumers.
- 33% of customers are highly valued and 31% are premium valued.
- Most of the customers have repeated orders for 3-7 times.
- Low-valued and Moderate-Valued customers are loss-making.
- Premium Valued Customers are mostly active.
- Out of 24376 orders, 23233 are completed and 1143 orders are returned.
- CAGR (Orders) is 23.58%, and CAGR (Sales) is 22.06%.
- We have a total of 1588 customers.

Thank you.

Please Check the detailed information for more insights.