

E-COMMERCE: PRODUCT RANGE ANALYSIS

November 29th, 2018 – December 7th, 2019

Table of contents

Purpose of the study – Slide 3

Revenue by season – Slide 4

Daily average revenue by season – Slide 5

Quantity by season – Slide 6

Daily average quantity by season – Slide 7

Top 5 categories in unique products – Slide 8

Category proportions in unique products – Slide 9

Top 5 categories in quantity – Slide 10

Category proportions in quantities – Slide 11

Top 5 categories in revenue – Slide 12

Category proportions in revenue – Slide 13

Average price per product for all categories – Slide 14

Unique products per category per season – Slide 15

Quantities per category per season – Slide 16

Revenue per category per season – Slide 17

Top 10 selling products – Slide 18

Top 10 products in terms of revenue – Slide 19

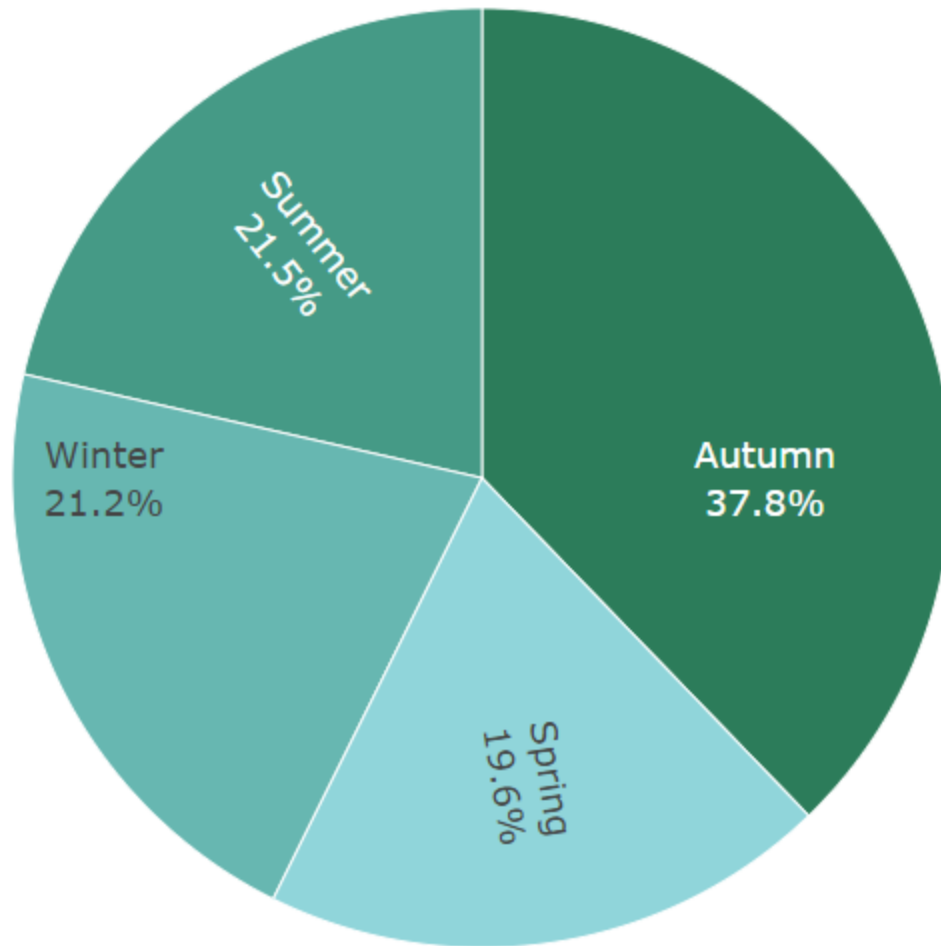
Conclusion and Recommendations - Slide 20

Purpose of the Study

The purpose of the study is to analyze the store's product range by carrying out exploratory data analysis, analyzing the product range and formulating and testing statistical hypotheses.

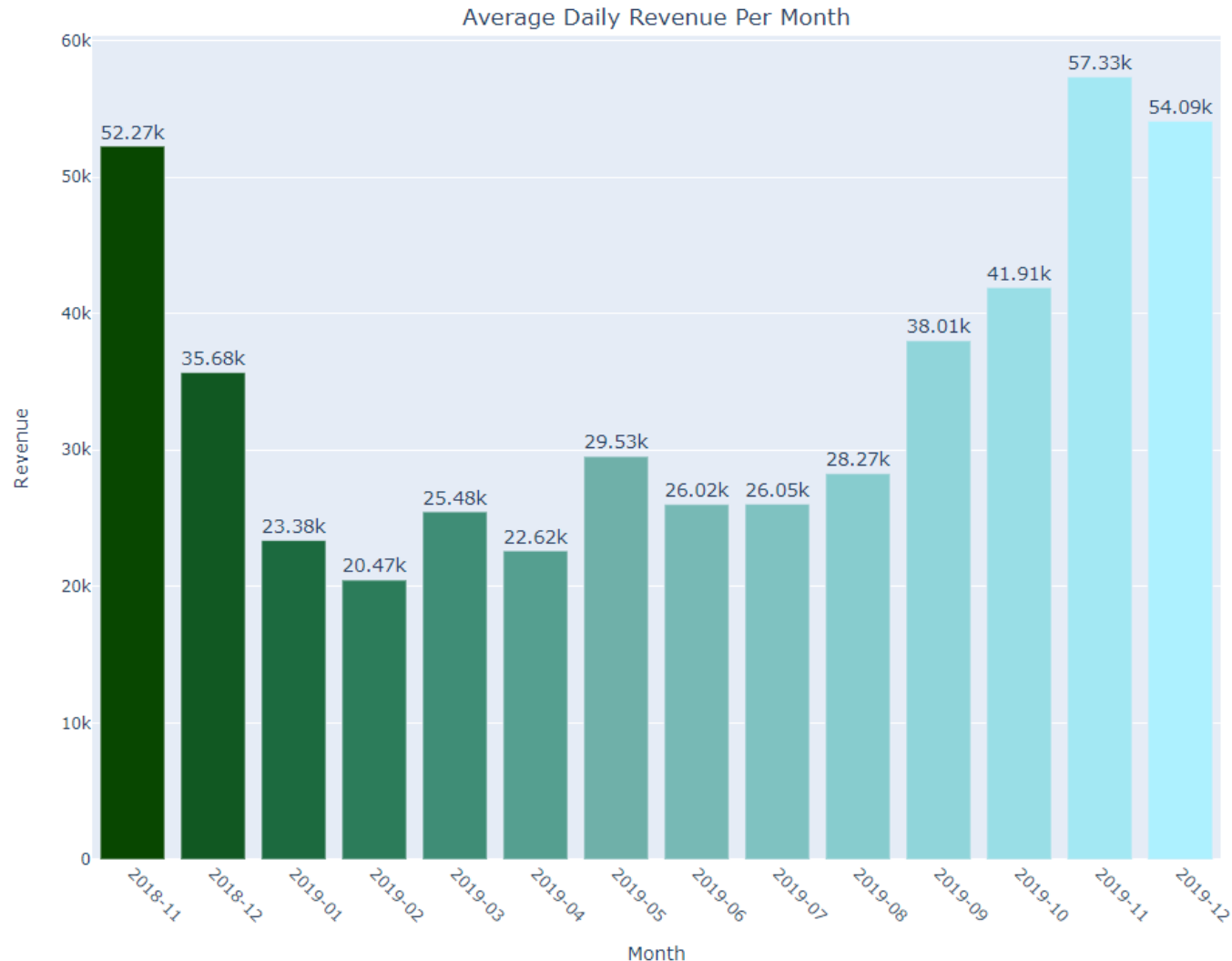
The highest revenue is in Autumn

Proportions of revenue by season



The highest revenue is in Autumn (37.8%), followed by Summer (21.5%), Winter (21.2%) and Spring (19.6%)

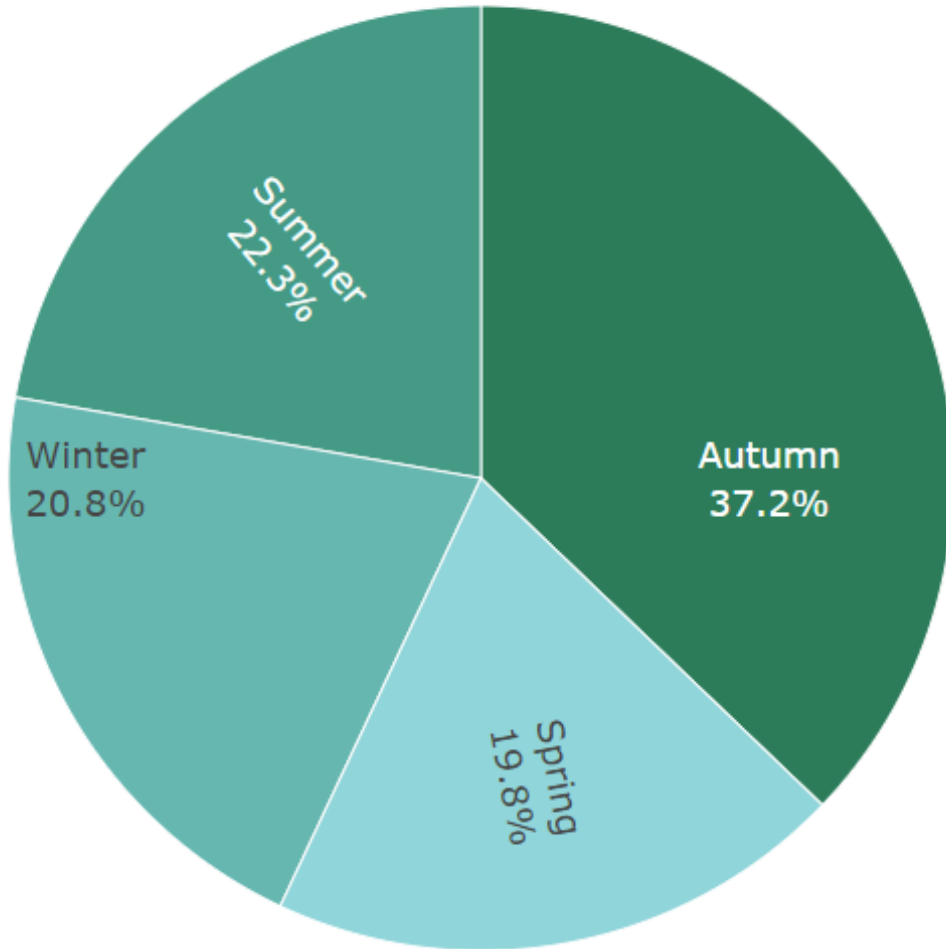
November '19 had the highest average daily revenue



We can see an increase in the average daily revenue in November of '18 and '19, probably due to the upcoming end of year holidays. Overall, there's an increase in the average daily revenue throughout the year

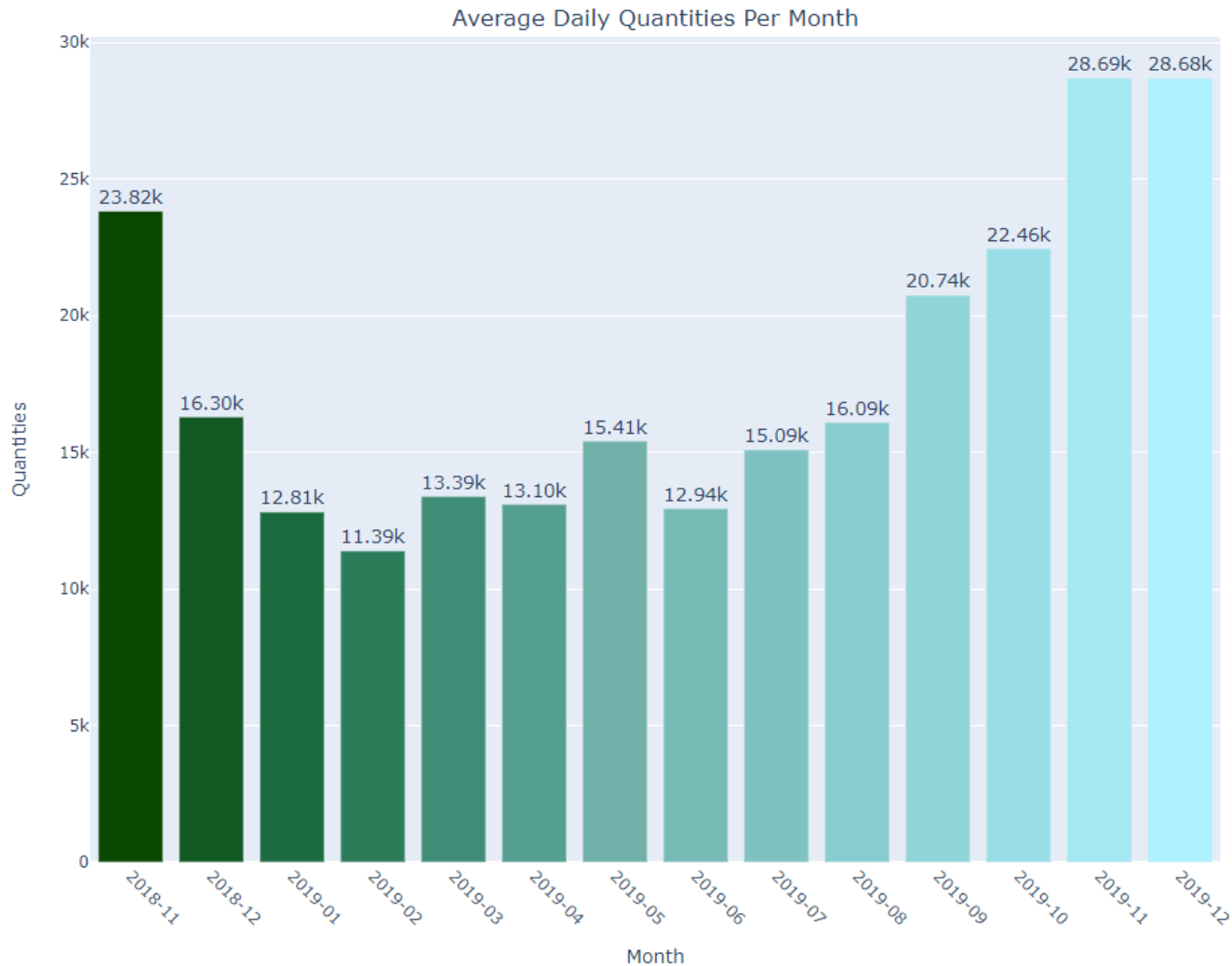
The highest quantity of products was sold in Autumn

Proportions of Quantity by Season



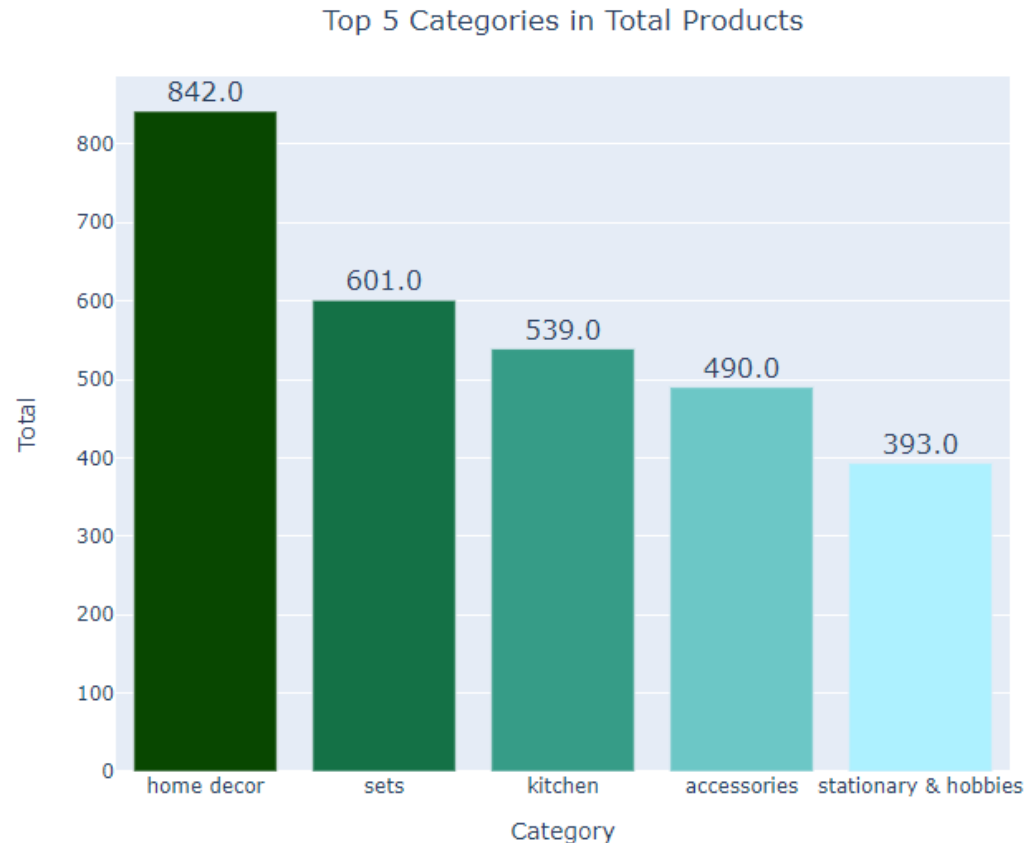
The highest quantity of products sold was in Autumn (37.2%), followed by Summer (22.3%), Winter (20.8%) and Spring (19.8%)

The highest quantity of products was sold in November '19



We can see an increase in the average daily quantities sold in November of '18 and November and December '19, probably due to the upcoming end of year holidays. Overall, there's an increase in the average daily quantities sold throughout the year

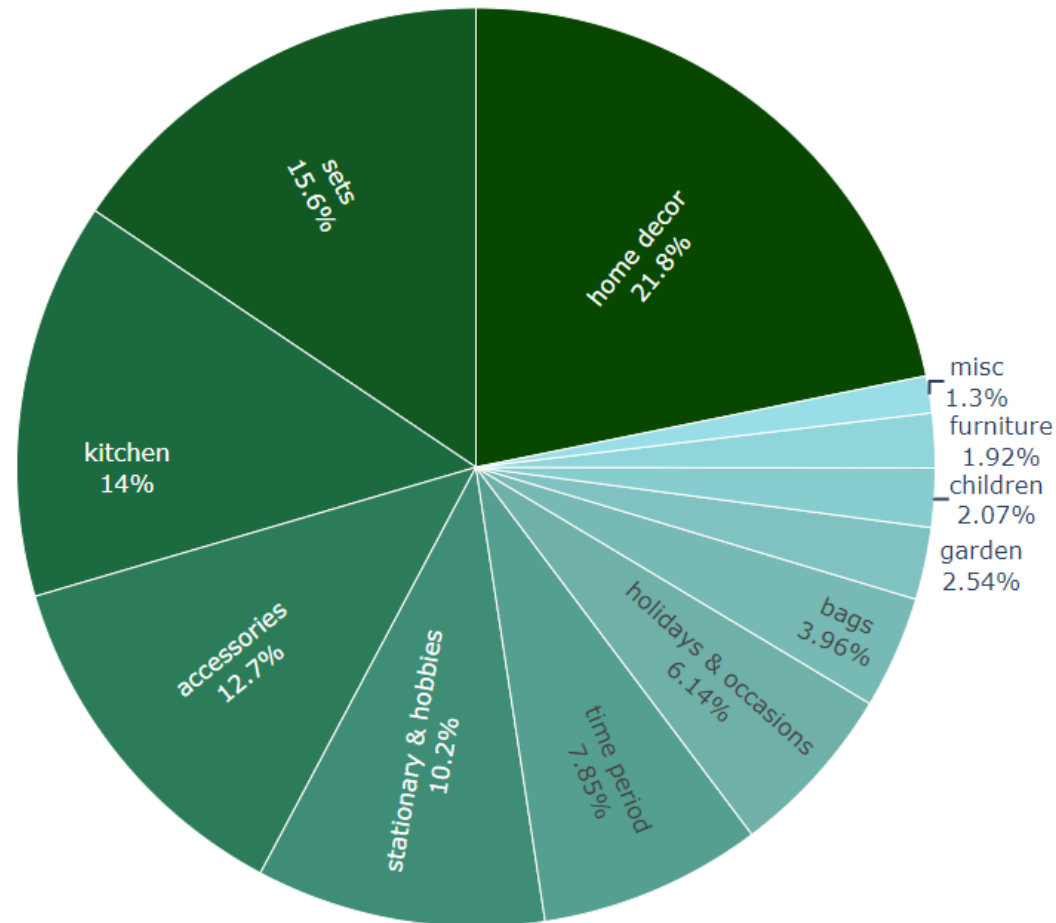
“Home Décor” is the top category in terms of amount of unique products



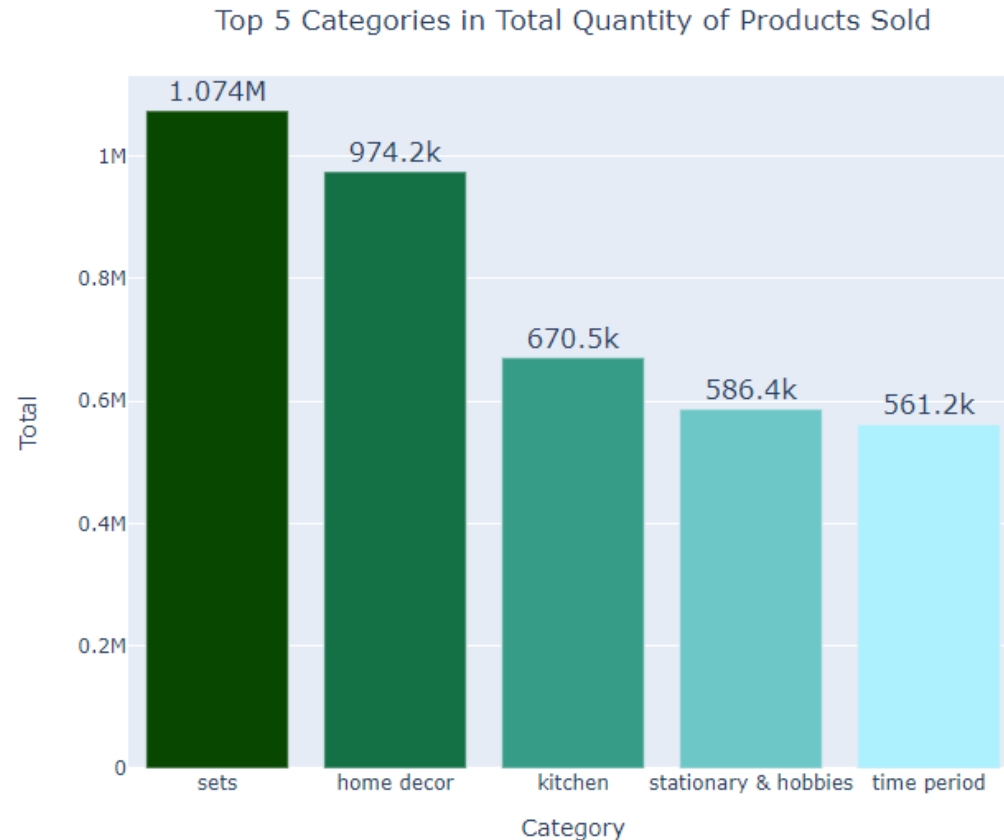
The top category with the most unique products is “Home Décor”, followed by “Sets”, “Kitchen”, “Accessories” and “Stationary & Hobbies”

“Home Décor” constitutes 21.8% of the total unique products

Proportions of Number of Products Per Category



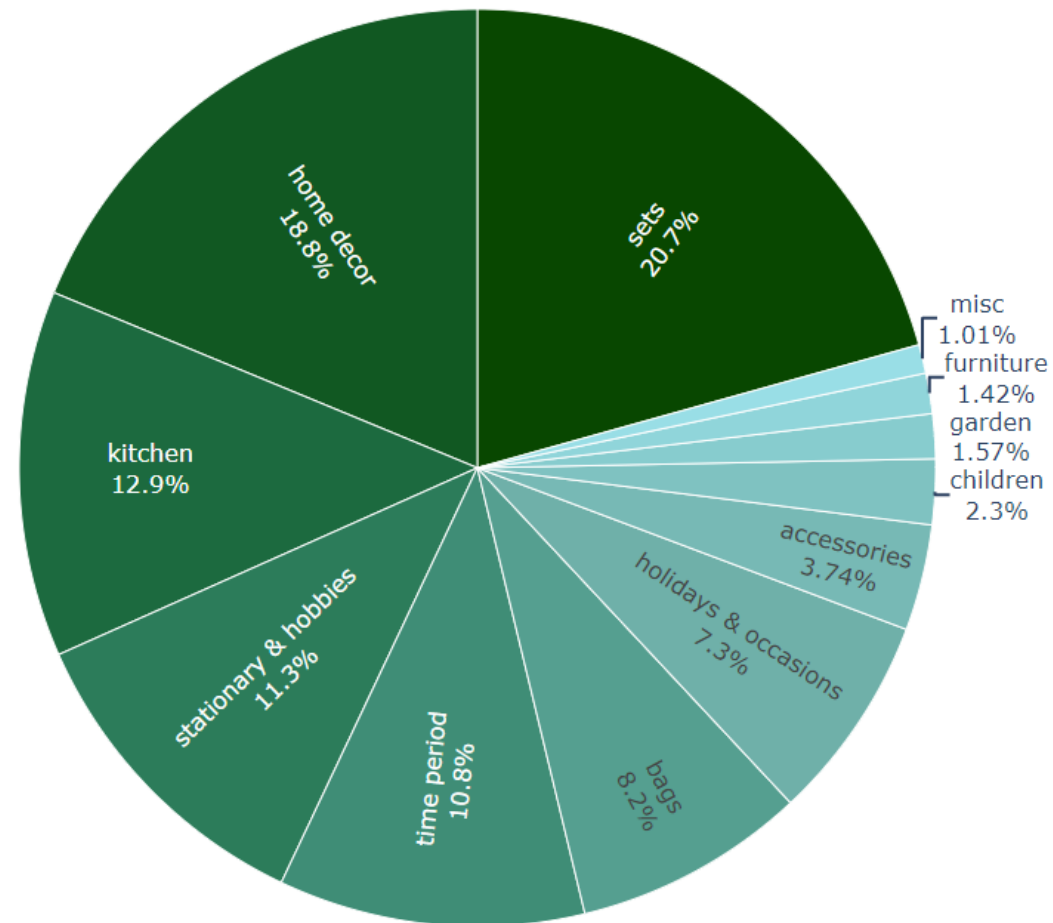
The “Sets” category has sold the largest total quantity of products



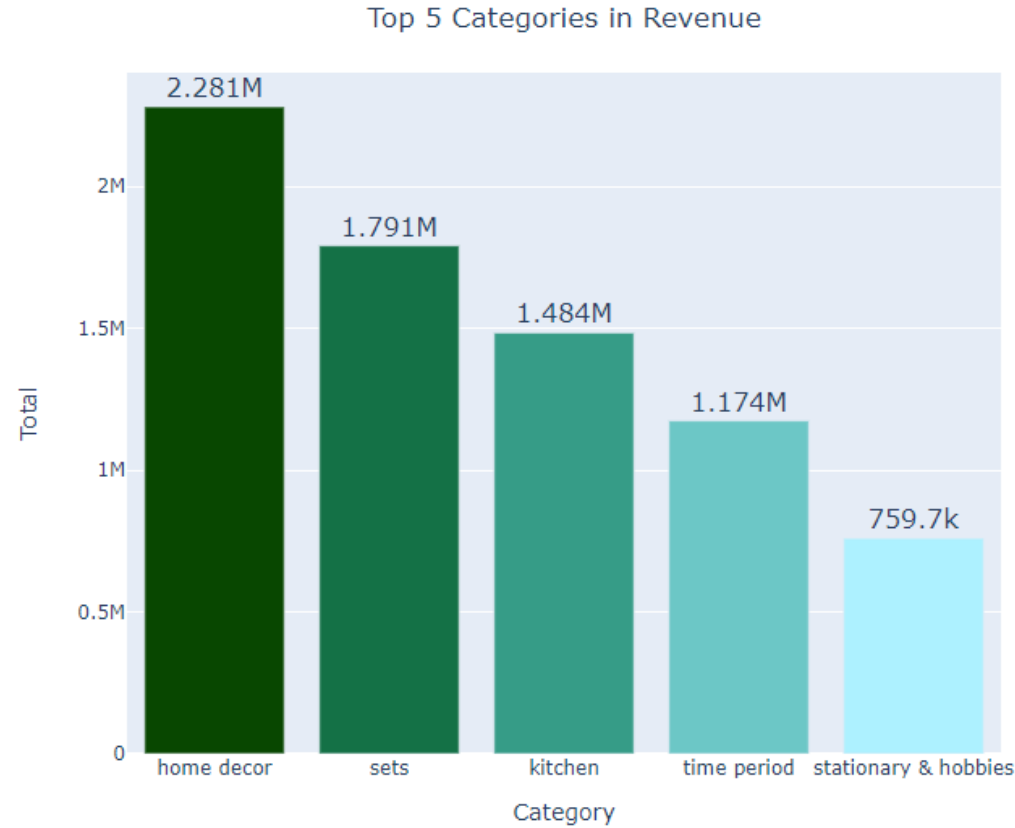
The top category with the most total quantity sold is “Sets” followed by “Home Décor”, “Kitchen”, “Stationary & Hobbies” and “Time Period”

"Sets" constitute 20.7% of the total quantity of products sold

Proportions of Product Quantities Sold Per Category



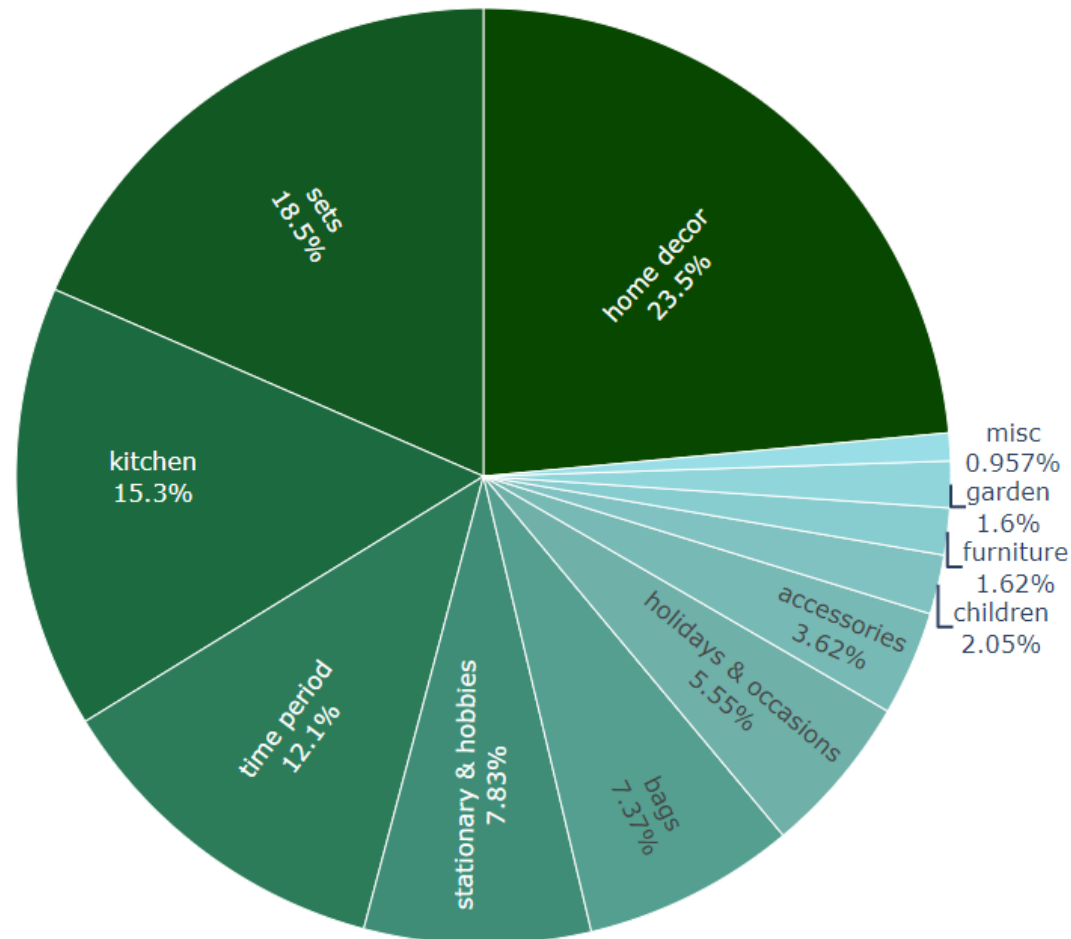
“Home Décor” brings in the largest revenue



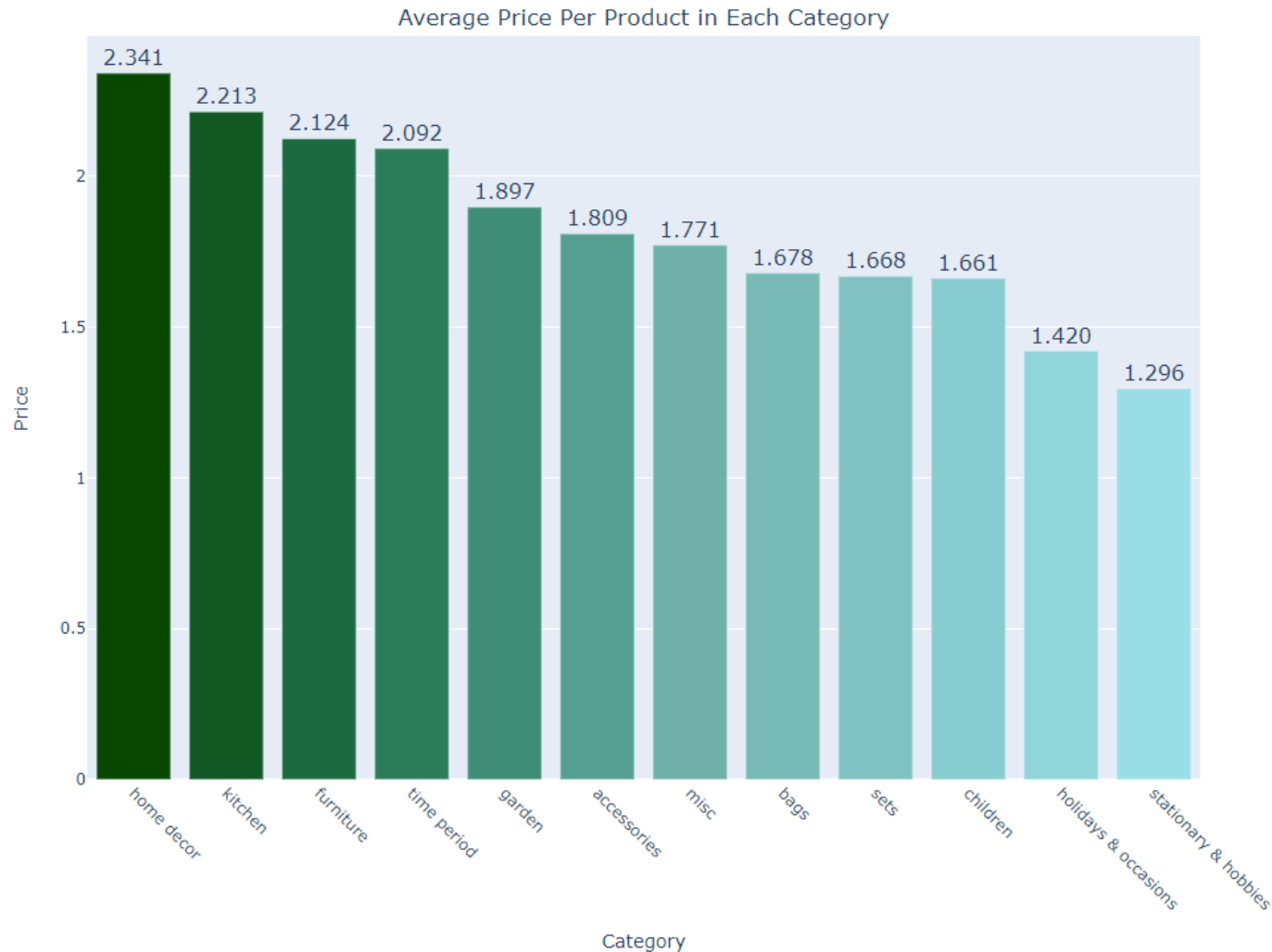
The top category with the highest revenue is “Home Décor” followed by “Sets”, “Kitchen”, “Time Period” and “Stationary & Hobbies”

“Home Décor” brought in 23.5% of the total revenue

Proportions of Revenue Per Category

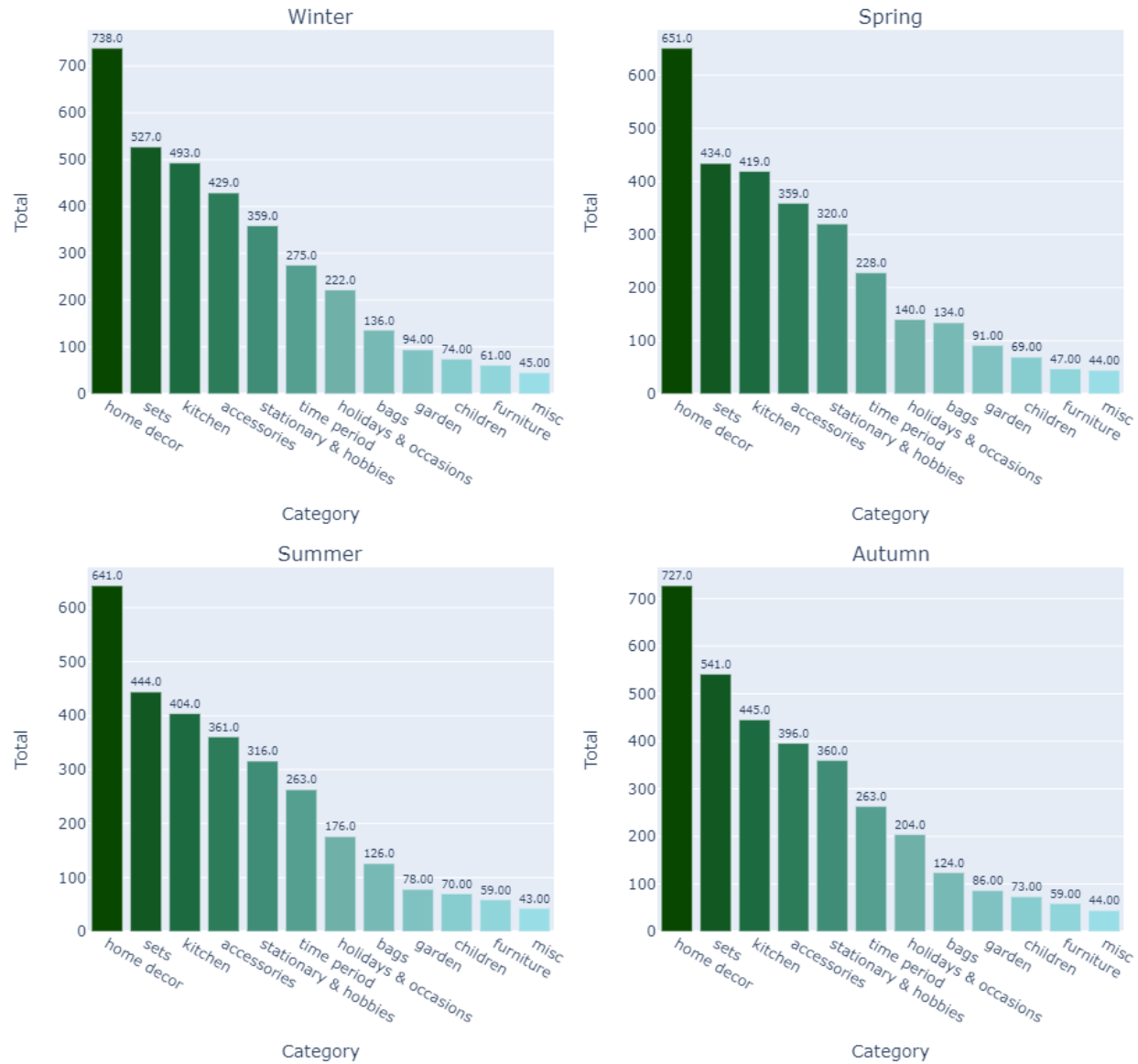


On average, products in “Home Décor” are the most expensive



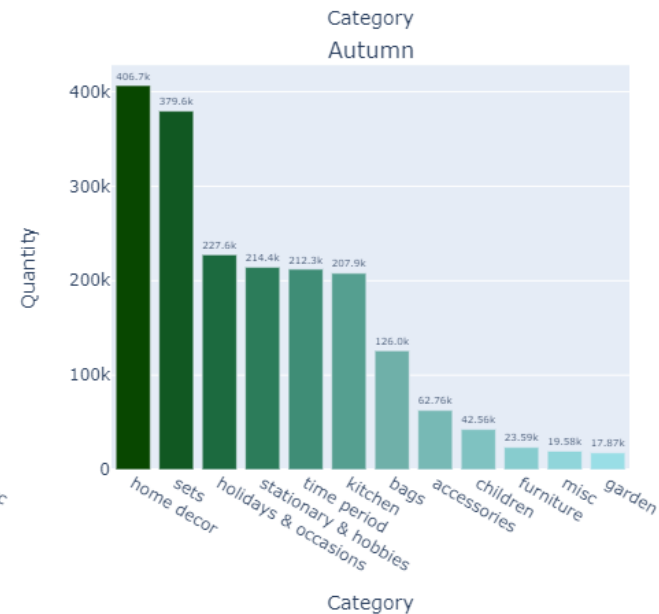
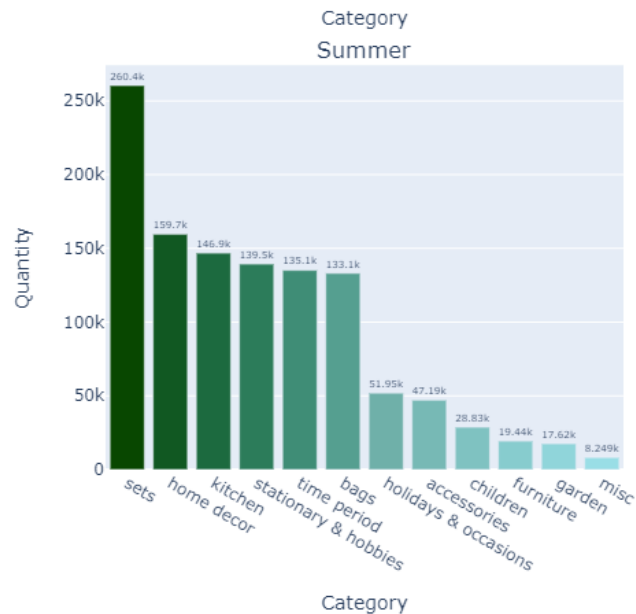
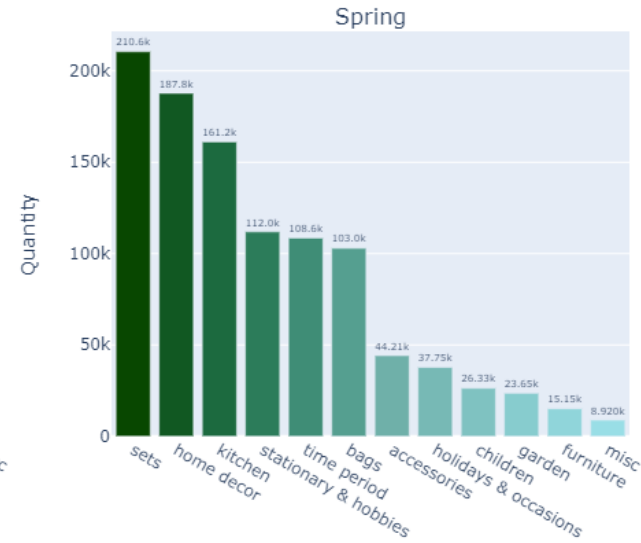
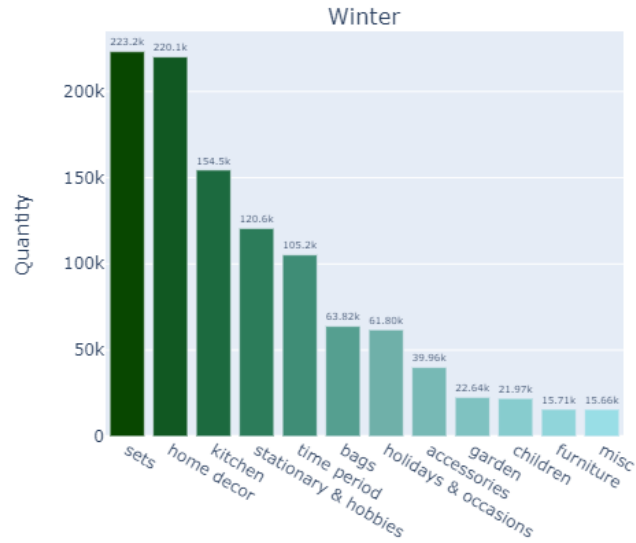
On average, “Home Décor” has the most expensive products, followed by “Kitchen”, “Furniture”, “Time Period” and “Garden”

Unique Products Sold in Each Category For Each Season



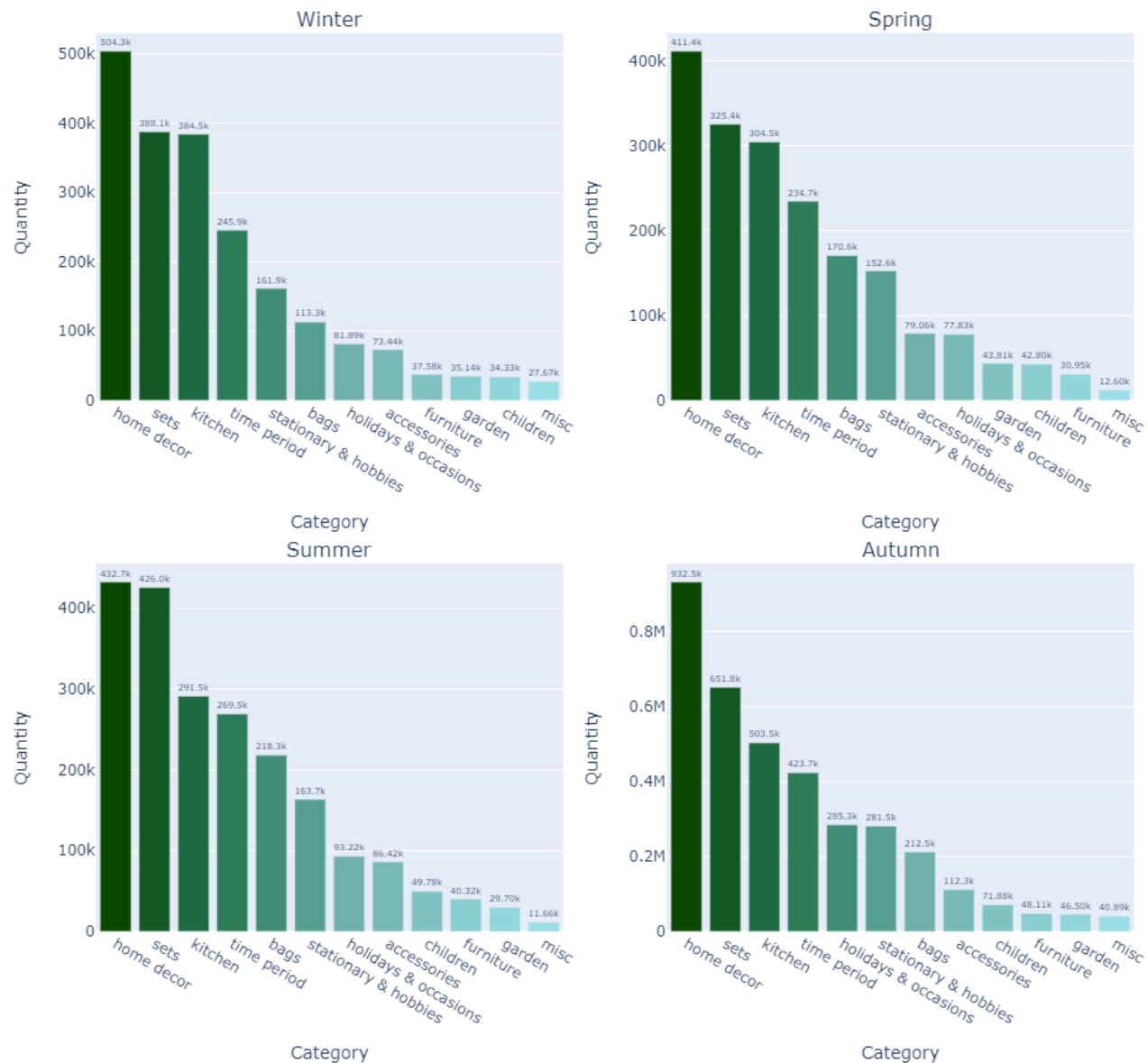
“Home Décor” has the most unique objects in all four seasons

Total Quantity of Products Sold in Each Category For Each Season



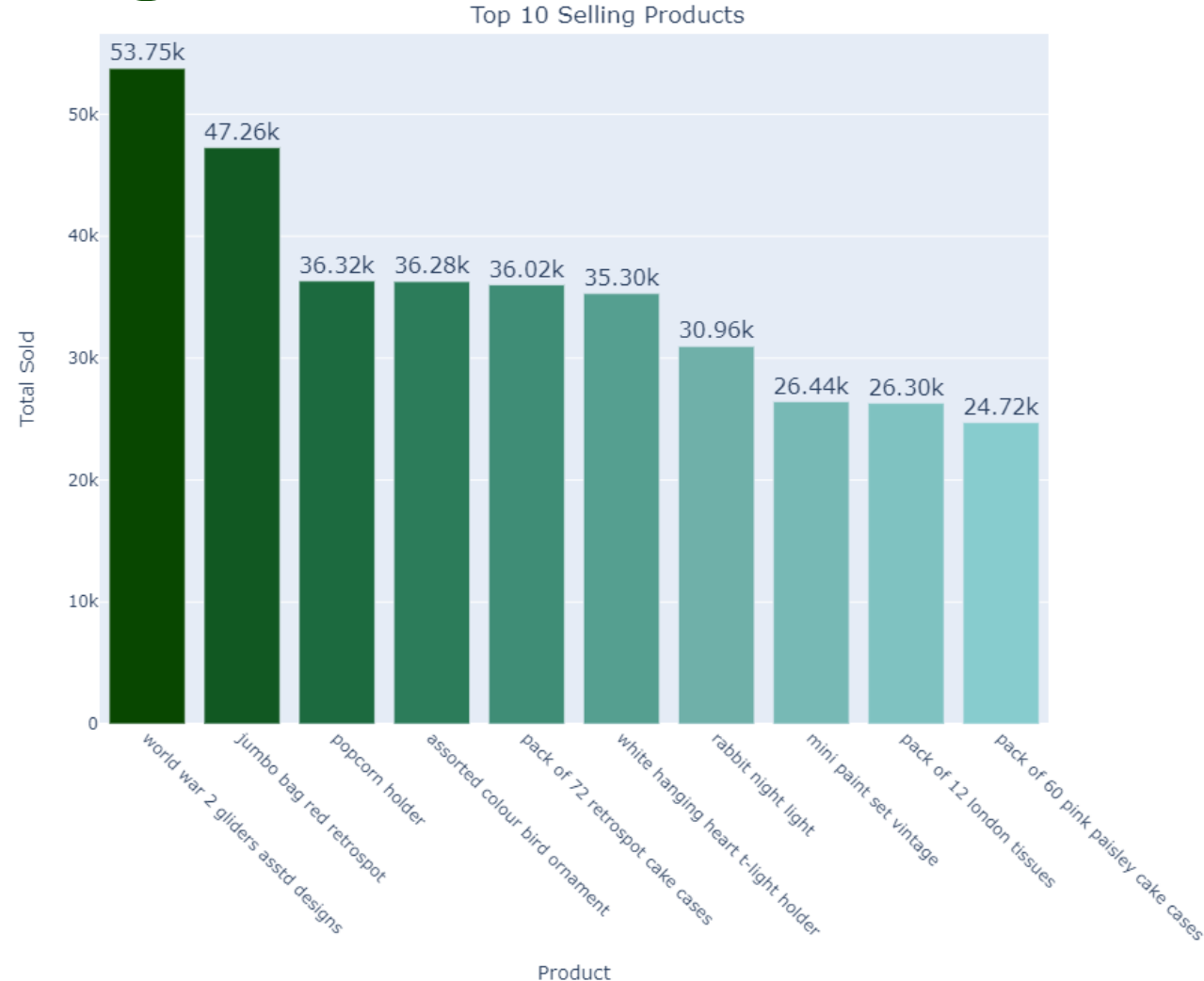
“Sets” has sold the largest quantities of products in Winter, Spring and Summer. In Winter the top selling category in terms of quantities is “Home Décor”

Total Revenue in Each Category For Each Season

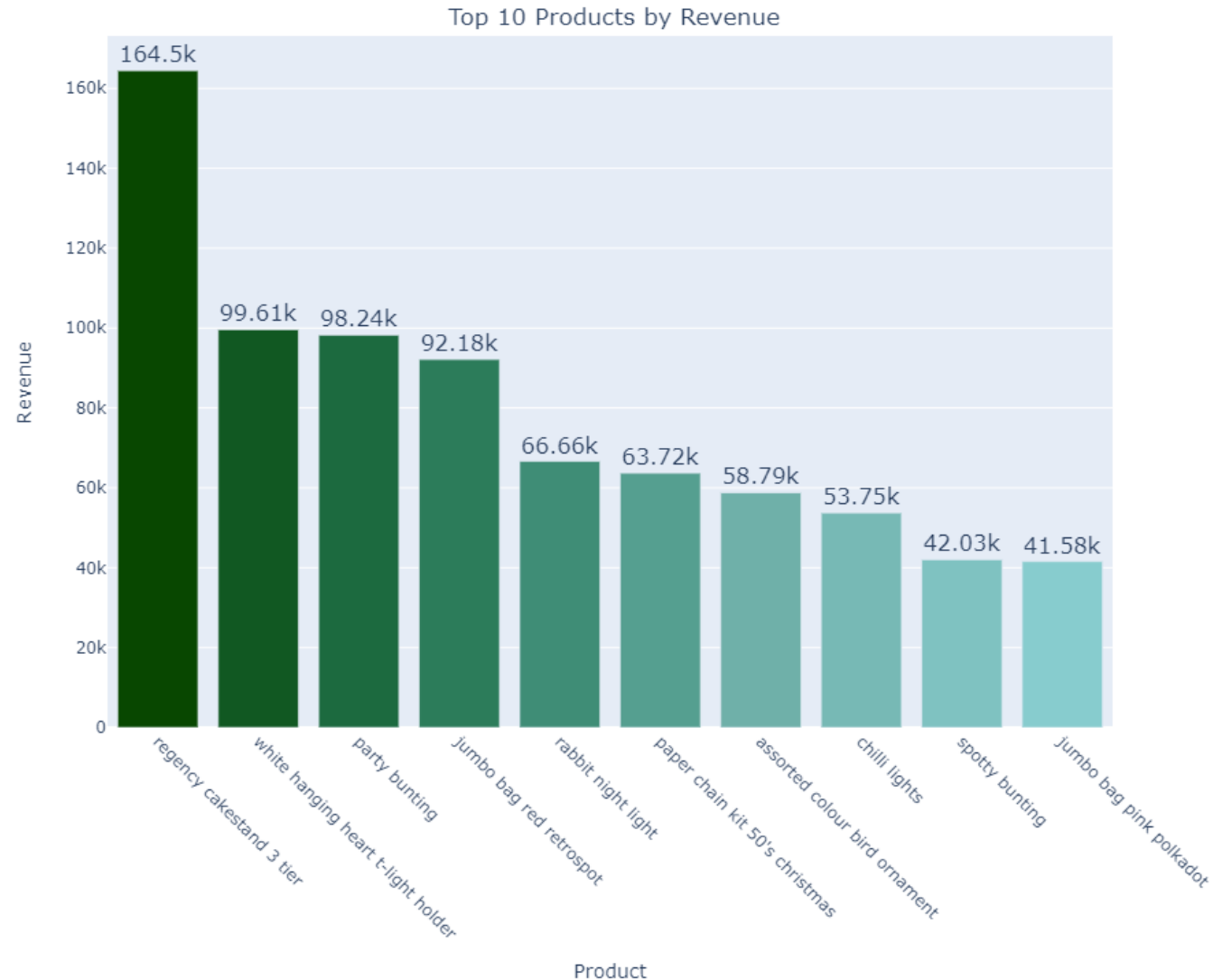


“Home Décor” has the largest revenue in all four seasons

“world war 2 gliders asstd designs” is the #1 selling product in terms of quantity



'regency cakestand 3 tier' is the #1 products in terms of revenue



Conclusion and Recommendations

Overall, we can see that sales and revenue is growing.

My recommendations would be:

- To focus on 'Home Decor', 'Sets' and 'Kitchen' in terms of categories by expanding their assortment of products as these are the categories customers seem to gravitate the most to and that bring in the most revenue.
- Autumn, and in particular November, is the highest in revenue already, so to encourage customers to buy even more during this time of year I would suggest offering more deals on the top categories.
- The 'Time Period' category is very successful in terms of revenue even though it doesn't sell a lot in quantity. I would suggest trying to increase the sales in this category.
- Adding some sort of 'Notes' column so the 'Description' column can be used only for the products descriptions.