# Project 1

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Superstore Dataset

Problem Statement: The Regional Sales Director wants to understand the impact of returns and discounts on the profits of specific products in Furniture and Office — in the central United States in 2019.

Goals: To gain an understanding on the relationships between returns, discounts, and profits of Furniture and Office products and their impact on the business. This will allow the Regional Sales Director to take the best approach of applying strategies to reduce returns, enhance sales, and increase profit margins.

Data Analytics Workflow

1. **Frame**: Problem statement

2. **Extract**: Superstore Dataset – system/software generated

3. **Wrangle/prepare**: Cleaning the data as appropriate – remove duplicates, profit margin calculation to complete fields.

4. **Analyse**: Graphs and chart visualisations to summarise data

5. **Interpret**: The reasons for these findings, recommendations.

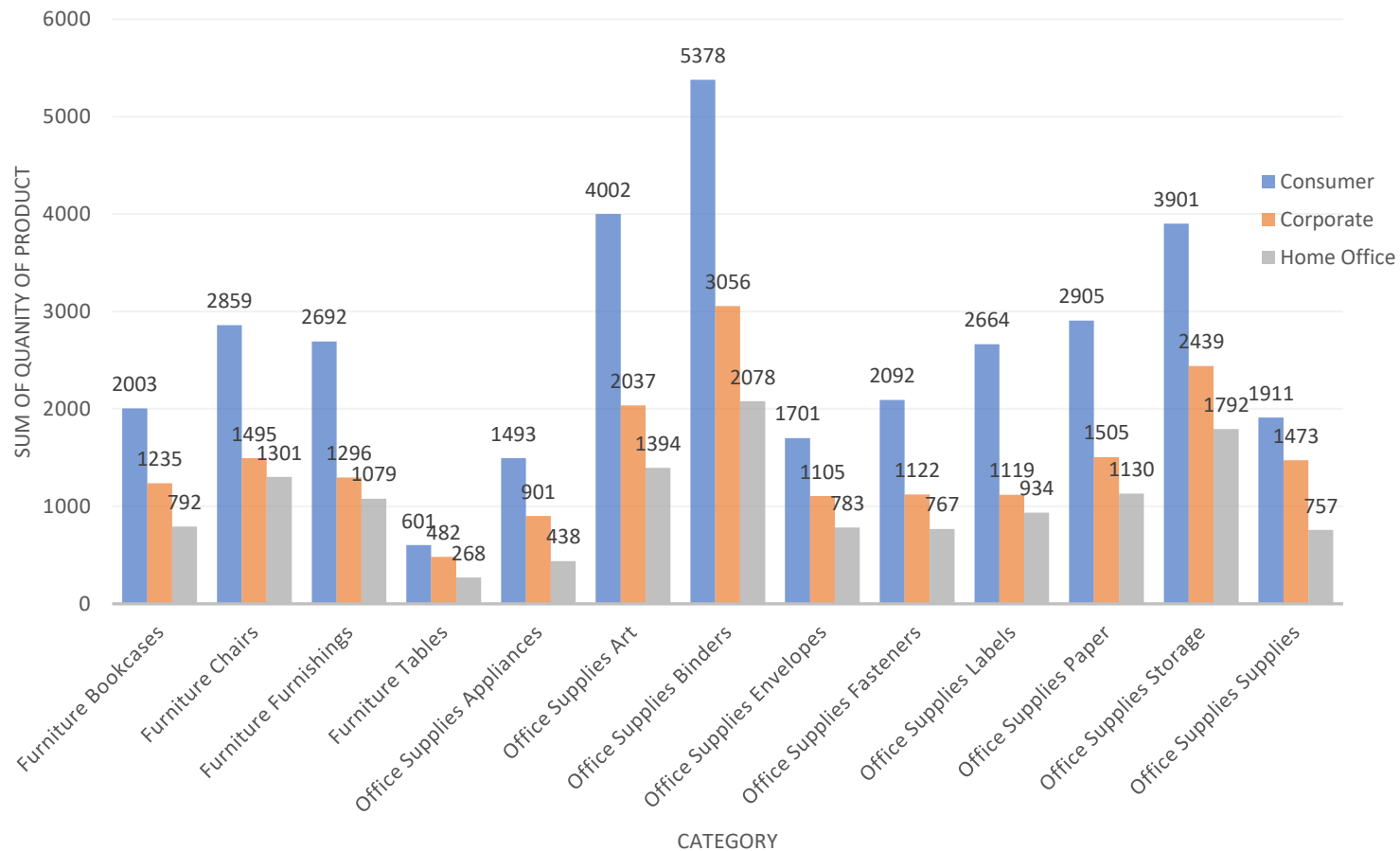6. **Communicate**: Present findings to intended audience; Key stakeholder
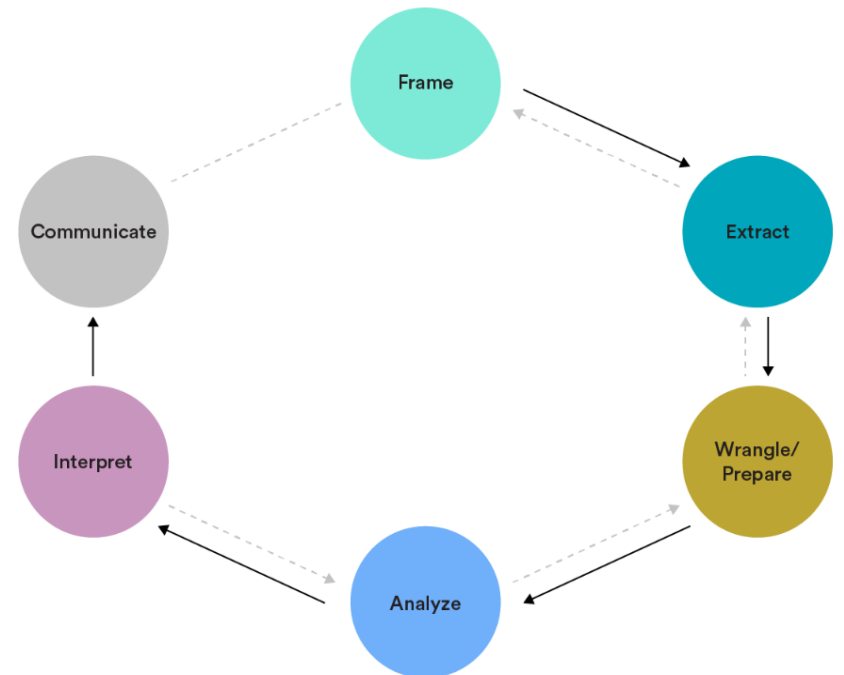
Total of Orders
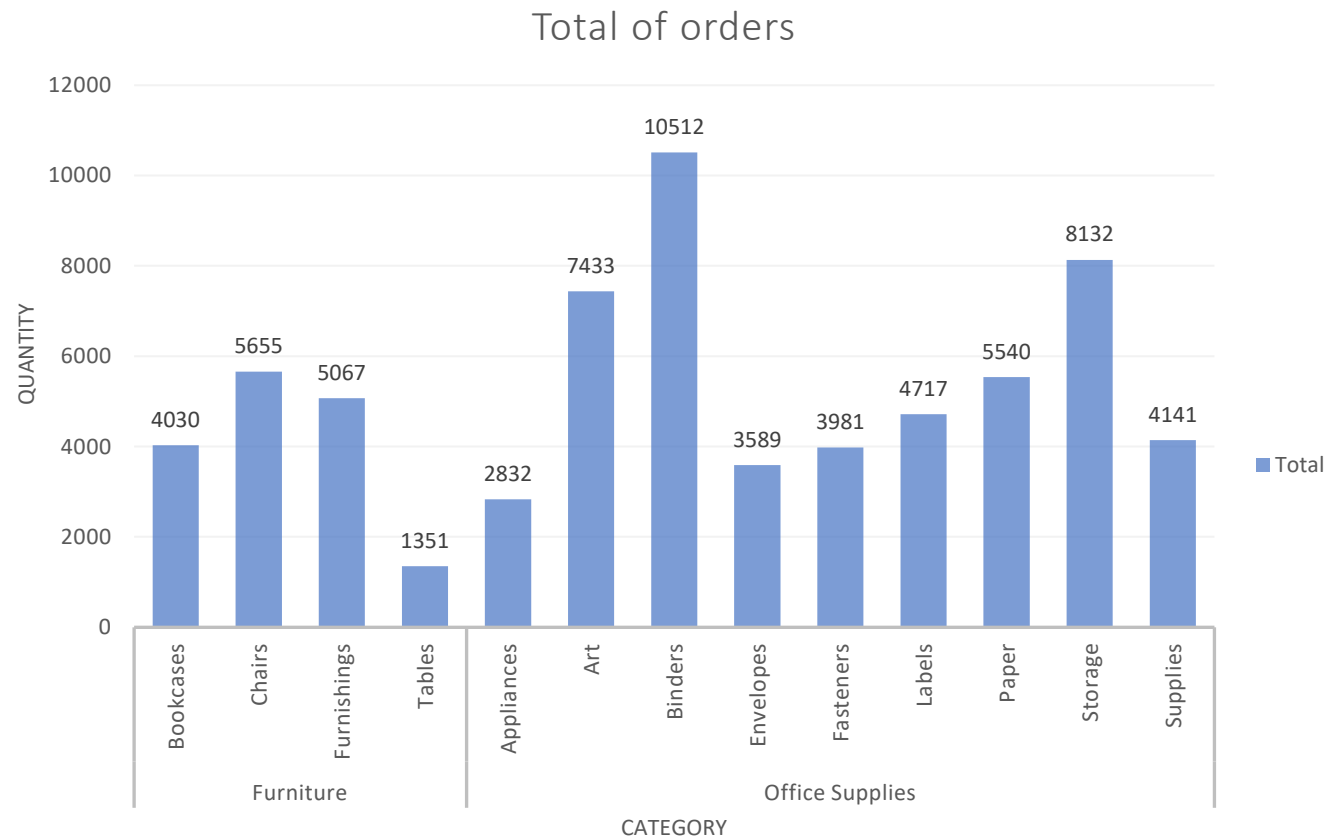
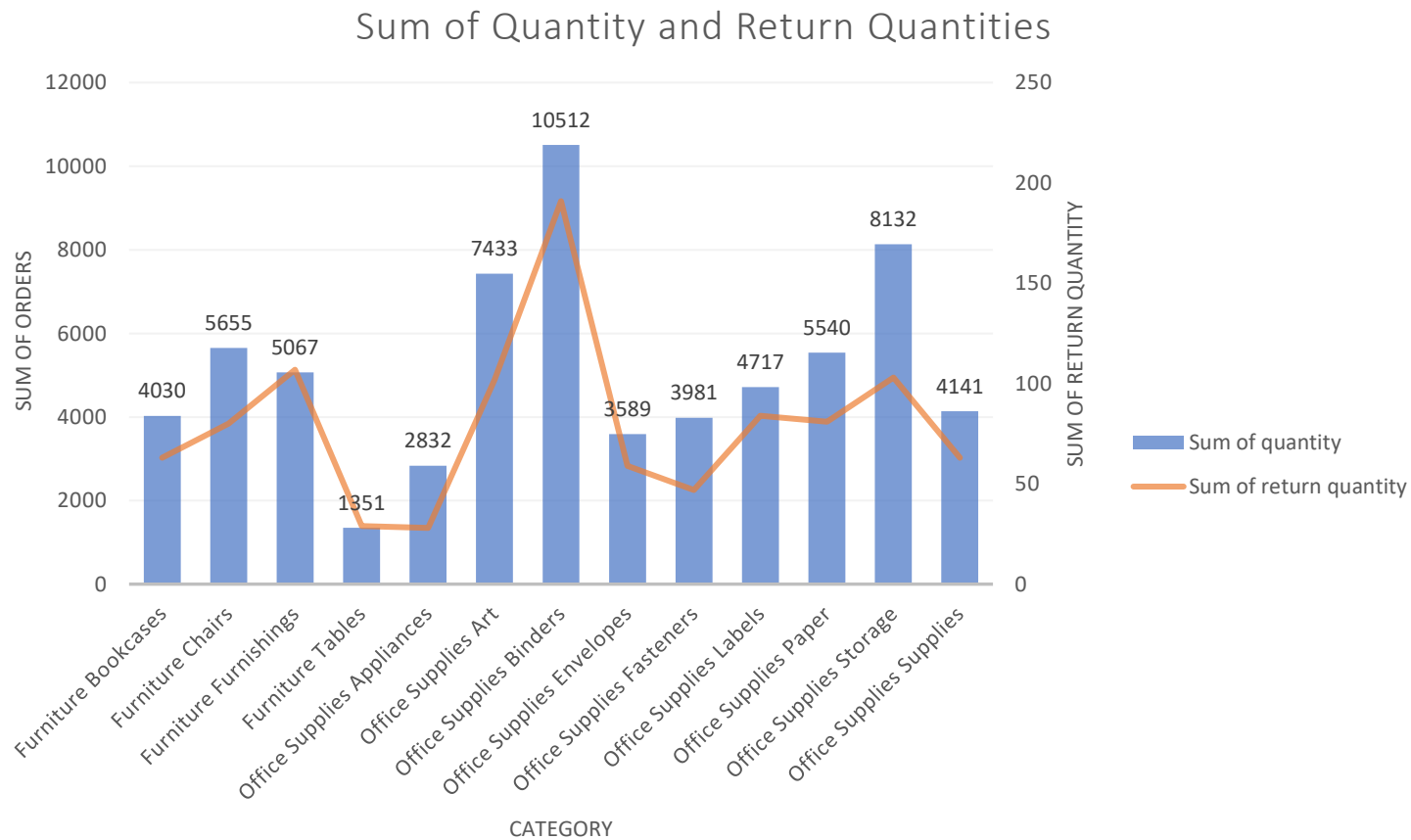Highest orders were for binders (Office Supplies) and lowest was Tables (Furniture)

Customer Segment

Number of orders from different Customer Segments

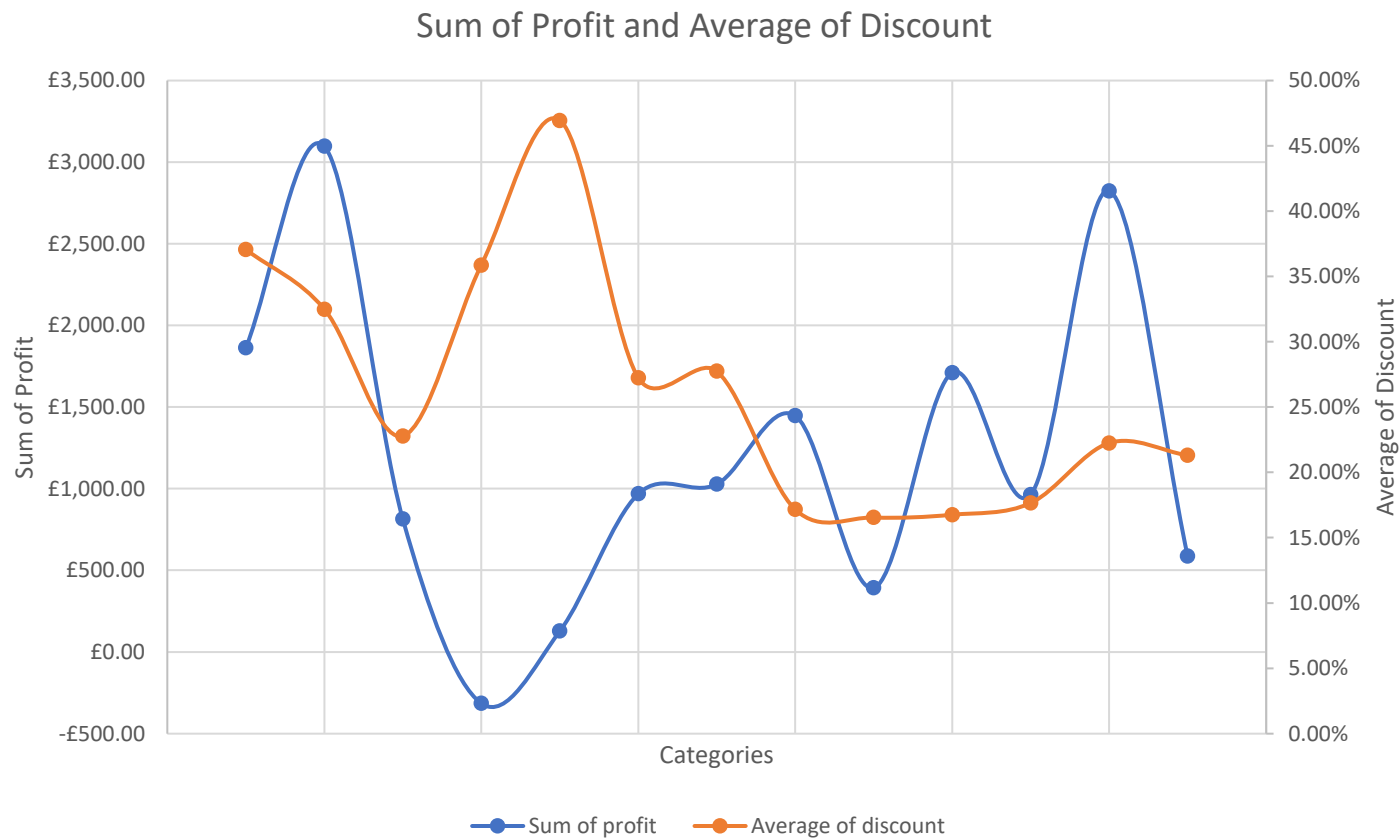Consumers purchase the most goods. Each segment will have unique needs, preferences, and behaviours.

Number of Orders and Returns

Sum of Quantity and Return Quantities

Weak positive correlation between order quantities and number of returns

Profit and Discount

Sum of Profit and Average of Discount

Row Labels	Sum of profit	Average of discount
Bookcases	£1,862.30	37.06%
Chairs	£3,097.15	32.49%
Furnishings	£813.90	22.78%
Tables	-£313.86	35.87%
Appliances	£127.99	46.95%
Art	£968.46	27.24%
Binders	£1,028.13	27.74%
Envelopes	£1,446.94	17.16%
Fasteners	£392.81	16.55%
Labels	£1,710.90	16.76%
Paper	£964.28	17.65%
Storage	£2,824.48	22.25%
Supplies	£587.60	21.30%

Profit and Returns

Sum of Profit and Sum of Return Quantity
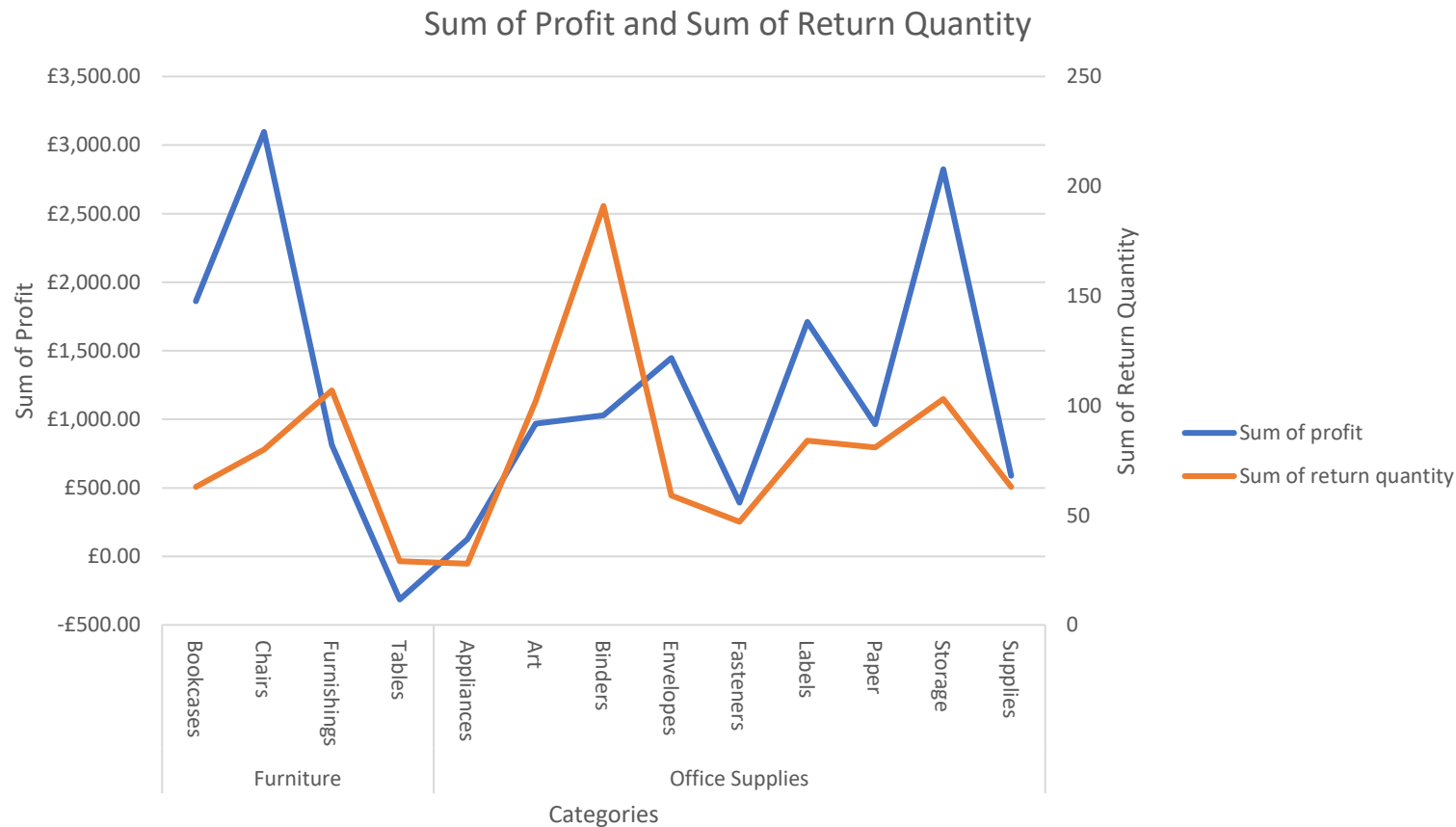
Row Labels	Sum of profit	Sum of return quantity
Furniture	**£5,459.49**	**279**
Bookcases	£1,862.30	63
Chairs	£3,097.15	80
Furnishings	£813.90	107
Tables	-£313.86	29
Office Supplies	**£10,051.59**	**758**
Appliances	£127.99	28
Art	£968.46	102
Binders	£1,028.13	191
Envelopes	£1,446.94	59
Fasteners	£392.81	47
Labels	£1,710.90	84
Paper	£964.28	81
Storage	£2,824.48	103
Supplies	£587.60	63

Reasons for Returns

Reasons for Returns
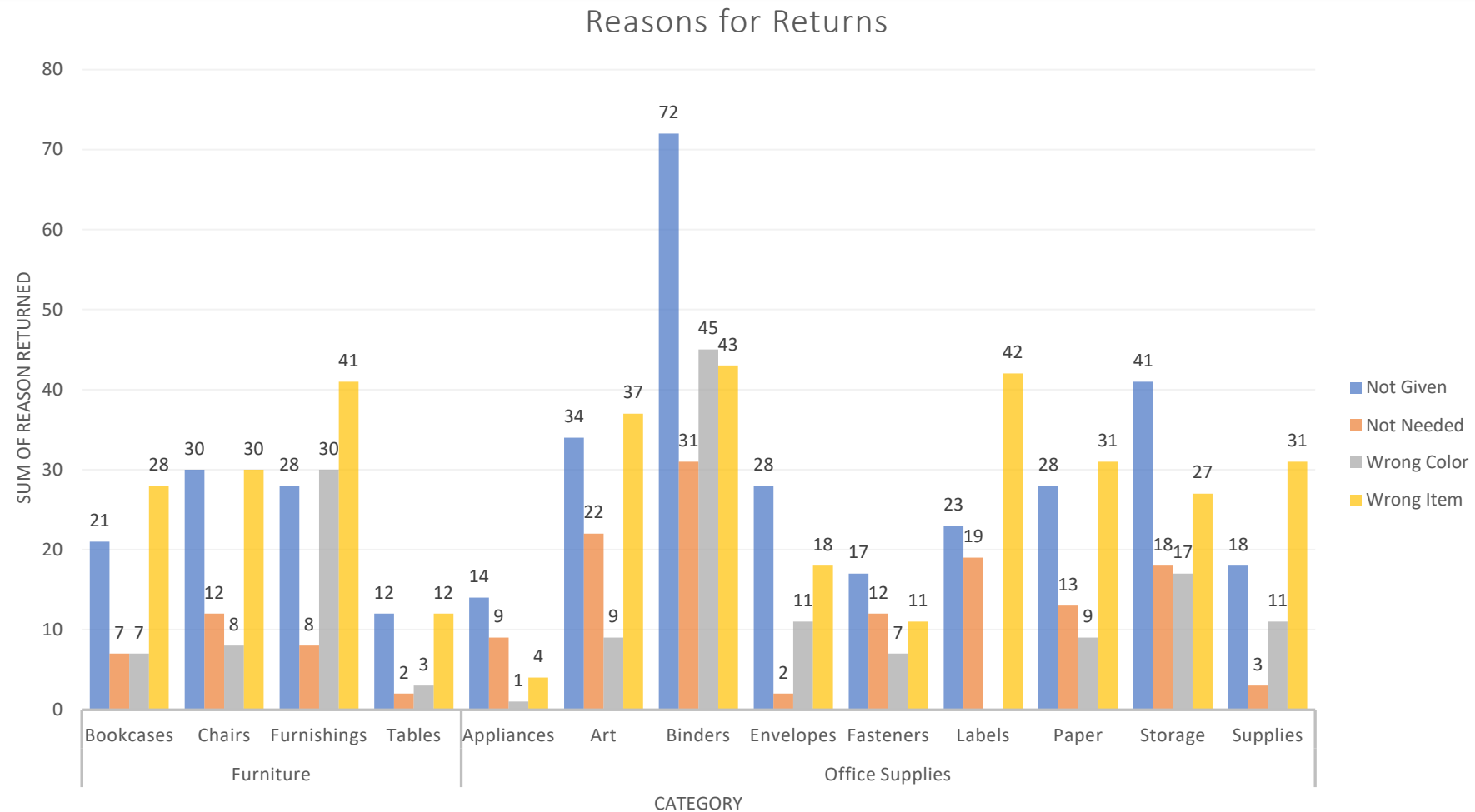
Results

The low-profit Furniture and Office products commonly had a higher average discount but with lower returns. In contrast, the high-profit products had more returns than the low-profit products, but the discounts varied.

Recommendations:

- There was a high number of wrong items being delivered which will reduce customer satisfaction. Refining customer service processes and operational efficiency will help improve service and decrease returns.

- Modifying pricing tactics and optimising product offerings to increase profitability.

- Targeting specific customer segments such as consumers who make up the majority of sales or increase corporate customers by targeting strategies by tailor marketing efforts and promotions precisely to these segments to increase sales without relying heavily on discounts.

Further Investigation…

- Evaluating the effectiveness of different discount strategies.

- Looking deeper into customer segments impact and how regions impact profits.

- Which products are bought more in bulk and how this effects customer satisfaction and profitability.

- Seasonality or Trends - depending on the customer segment or product category, there could be seasonal factors or trends influencing both order quantities and return rates.