

Project 1: Superstore

Skills Leveraged:

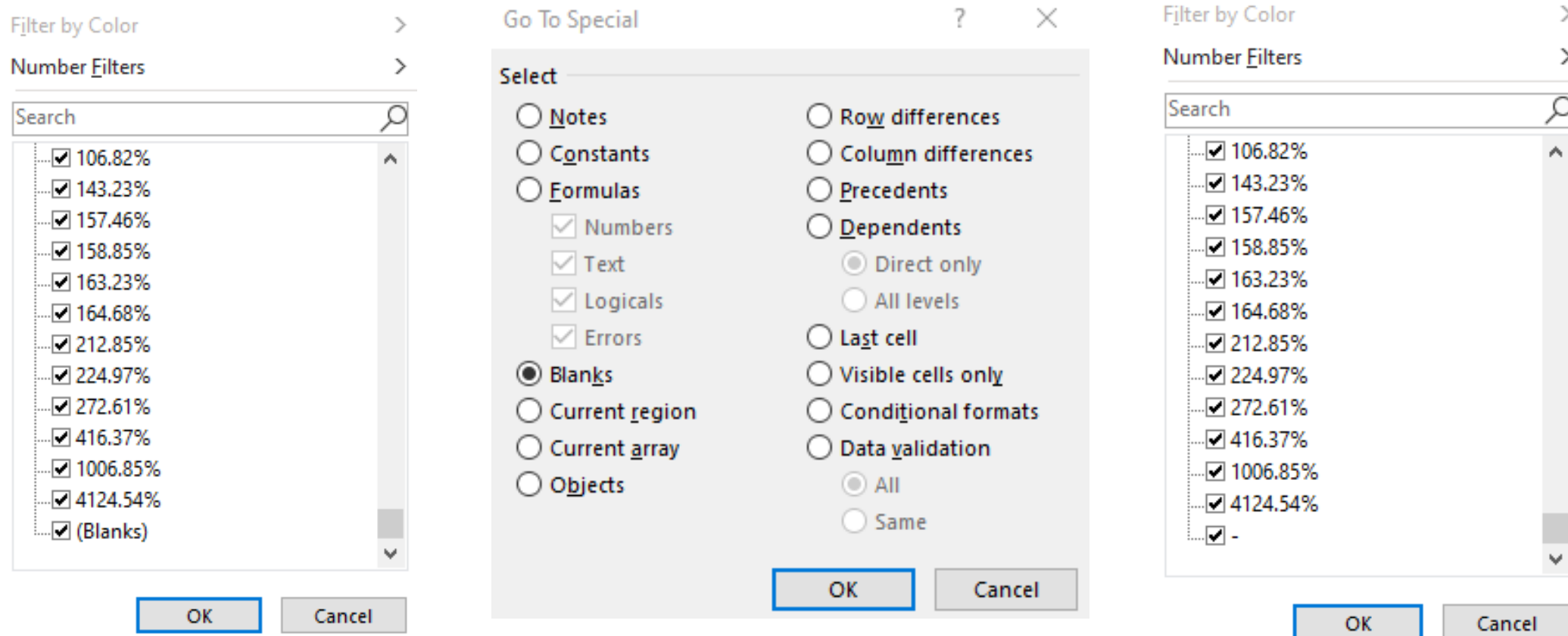
- Excel (vlookups, xlookups, PivotTables)
- PowerPoint

The Problem

- We want to observe the impact of returns and discounts on the profits of products in the Furniture and Office category in the Central US in 2019.
- Information gathered could be used to see what we could do better to reduce returns and therefore increase profits.

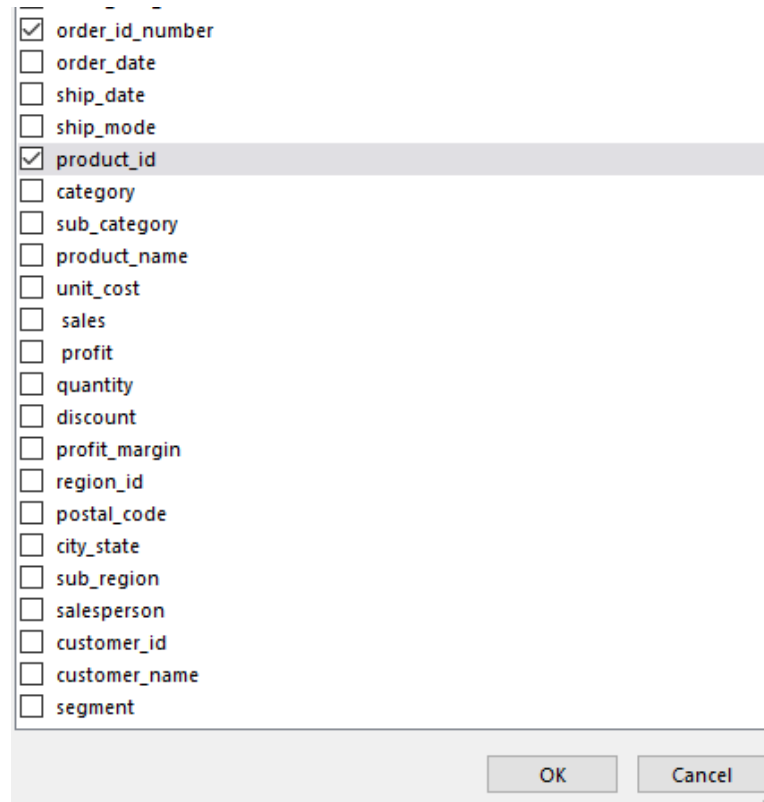
Data Wrangling

- Handling nulls through the use of the Find & Select function to search for blank cells. Blanks were filled in with a dash '-'



Data Wrangling

- The Remove Duplicates function in the Data menu was used to remove duplicate entries in the order_id_number and product_id column.



Microsoft Excel



9 duplicate values found and removed; 24060 unique values remain.

OK

Data Wrangling

- Added new column order_id so that the orders and returns worksheet had a field in common. This column will be used in vlookup and index/match functions later on.
- Used index/match and if functions to bring over return reasons from the returns worksheet, data is stored in a new return_reason and returned column.

1	order_id	order_info	order_id_num
2	=B2&"-"&C2	AE-2019	1231682

Data Wrangling

- Formatted each column according to their data type, i.e. order_date as date and profit as currency £.

Number Alignment Font Border Fill Protection

Category:

General
Number
Currency
Accounting
Date
Time
Percentage
Fraction
Scientific
Text
Special
Custom

Sample
order_date

Type:

*14/03/2012
*14 March 2012
14/03/2012
14/03/12
14/3/12
14.3.12
2012-03-14

Locale (location):
English (United Kingdom)

Category:

General
Number
Currency
Accounting
Date
Time
Percentage
Fraction
Scientific
Text
Special
Custom

Sample
profit

Decimal places: 2

Symbol: £

Negative numbers:

-£1,234.10
£1,234.10
-£1,234.10
-£1,234.10

Data Analysis

	Orders	Returns
Count of observations	24059	1209
Count of features	12	2

Categorical	Numerical
<ul style="list-style-type: none">• order_id• order_info_id• category• sub_region• state• return_reason• product_name	<ul style="list-style-type: none">• order_id_number• order_date• profit• returned• discount

Interpreting Data

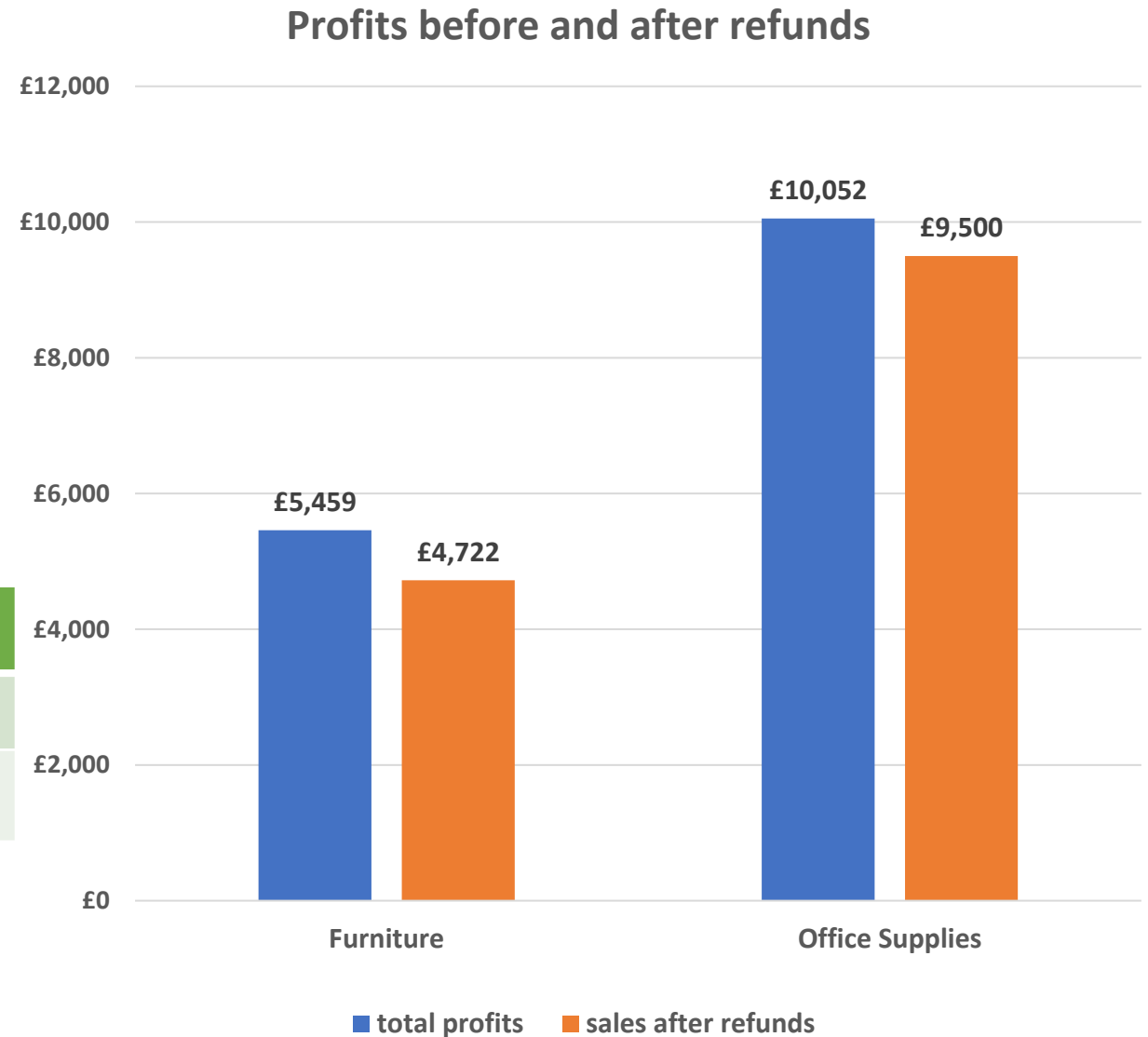
- 5.6% decrease of sales in furniture.
- 4.9% decrease of sales in office supplies



Interpreting Data

- 13.5% decrease of profits in furniture.
- 5.5% decrease of profits in office supplies

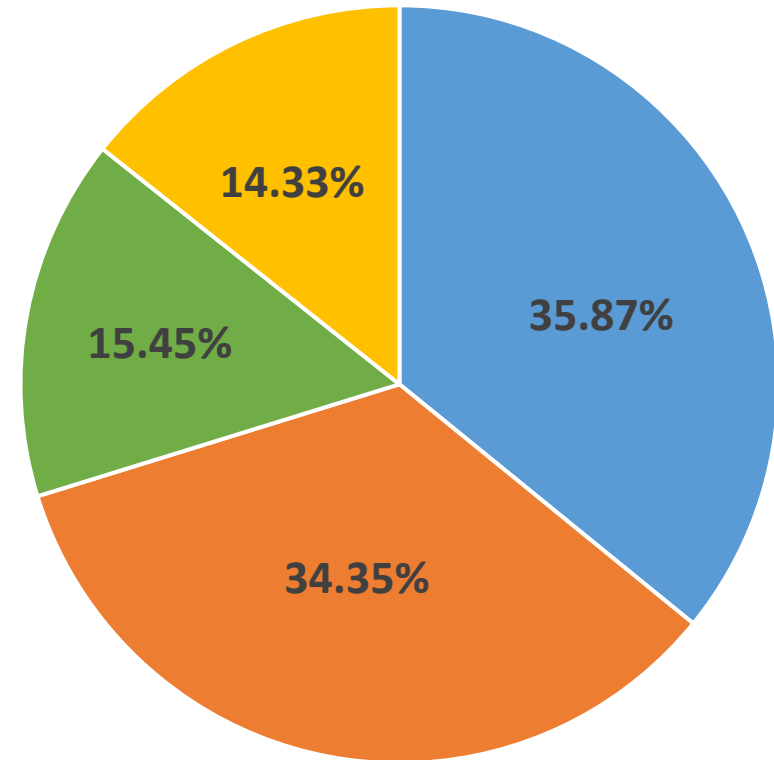
	% of sales refunded	% of profit loss
Furniture	5.6	13.5
Office Supplies	4.9	5.5



Interpreting Data

- Most common reason that's given is wrong items being sent.
- Followed by wrong color.
- Signs of human error.

Reasons for returns

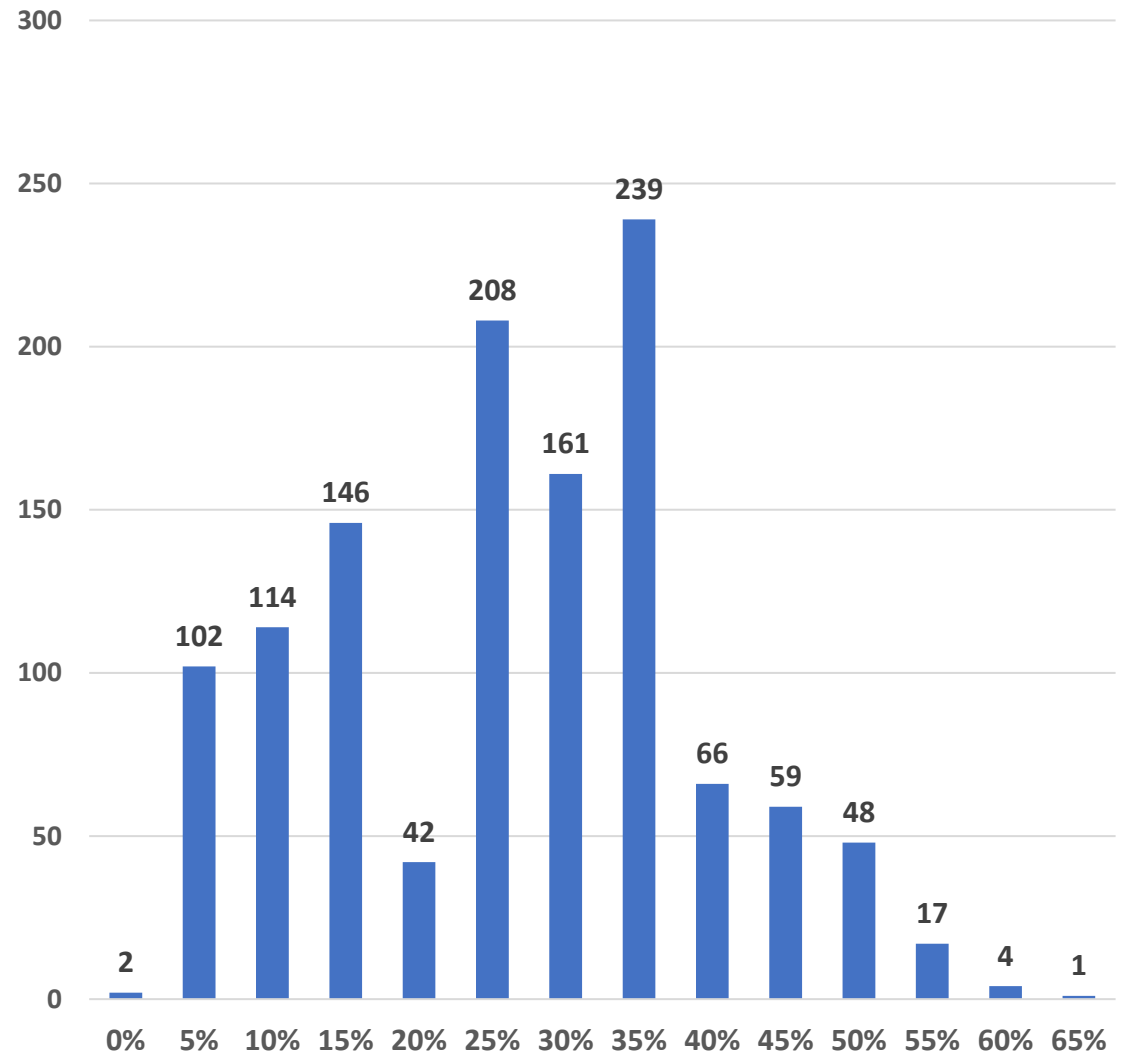


■ Not Given ■ Wrong Item
■ Wrong Color ■ Not Needed

Interpreting Data

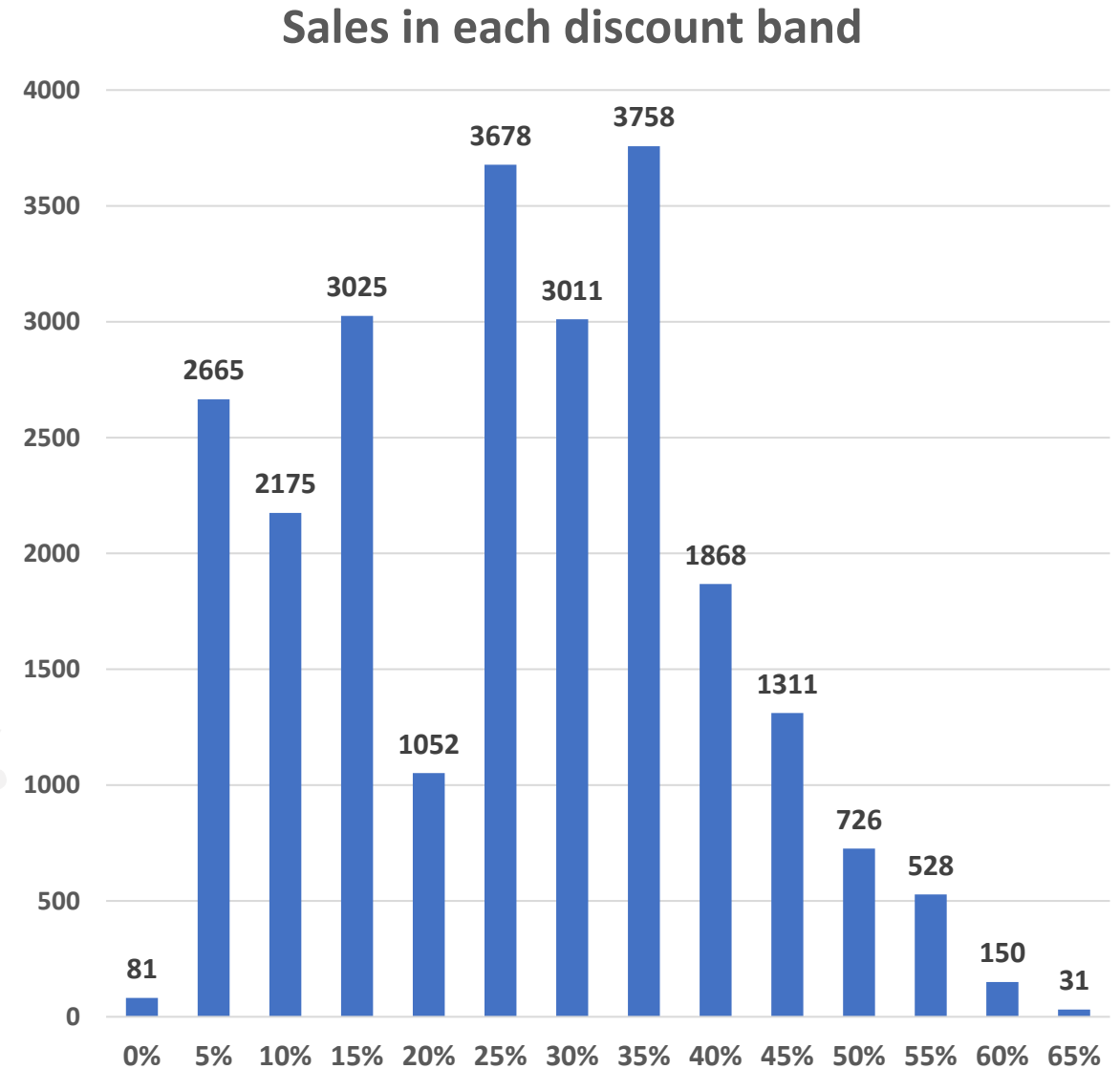
- Large number of returns happen between 25% and 35% discount.
- Possible explanation:
 - Seeing a discount -> Impulse buy leading to second thoughts after.

Returns in each discount category



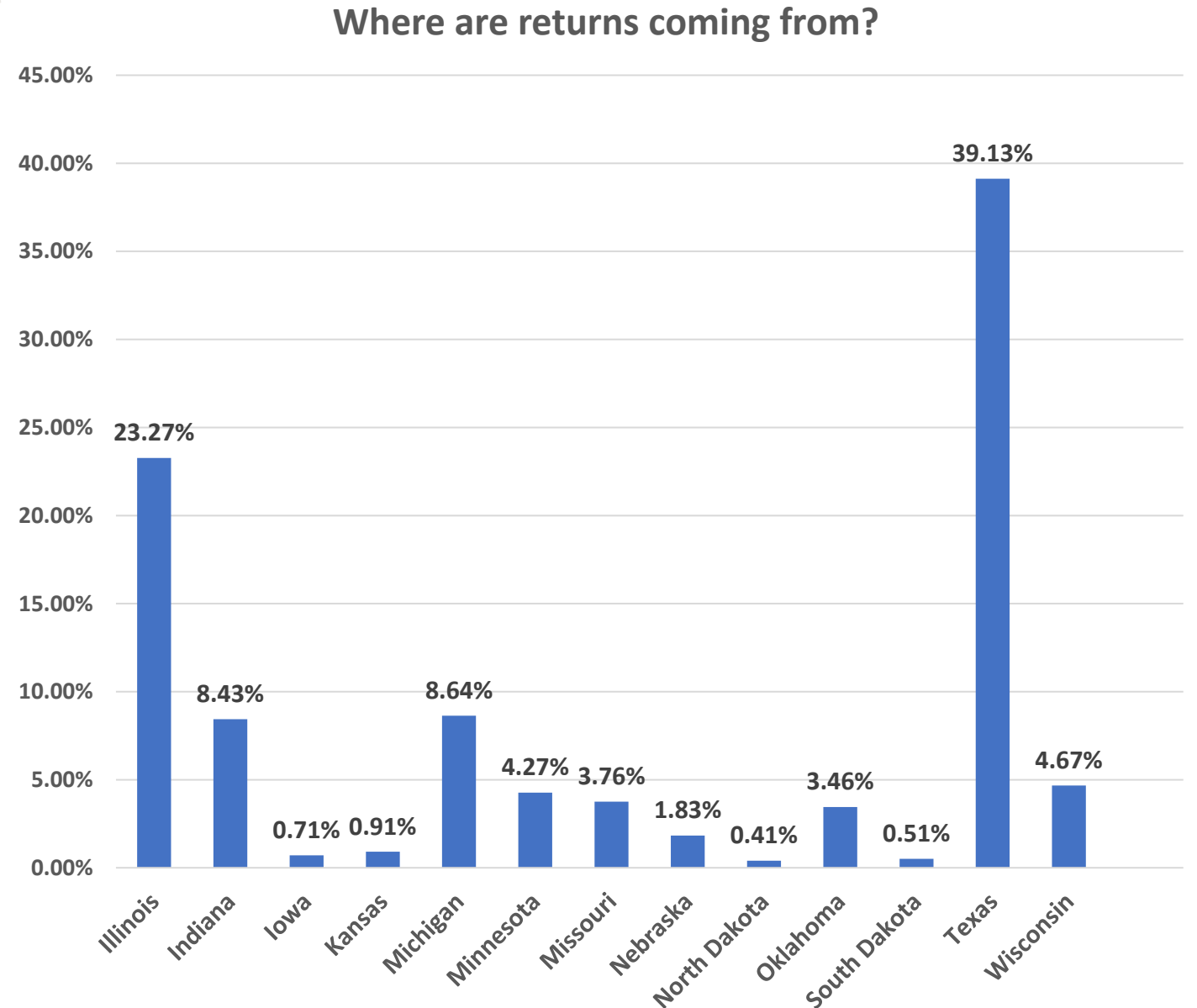
Interpreting Data

- Can also be explained by the high number of sales in the 25% to 35% range.



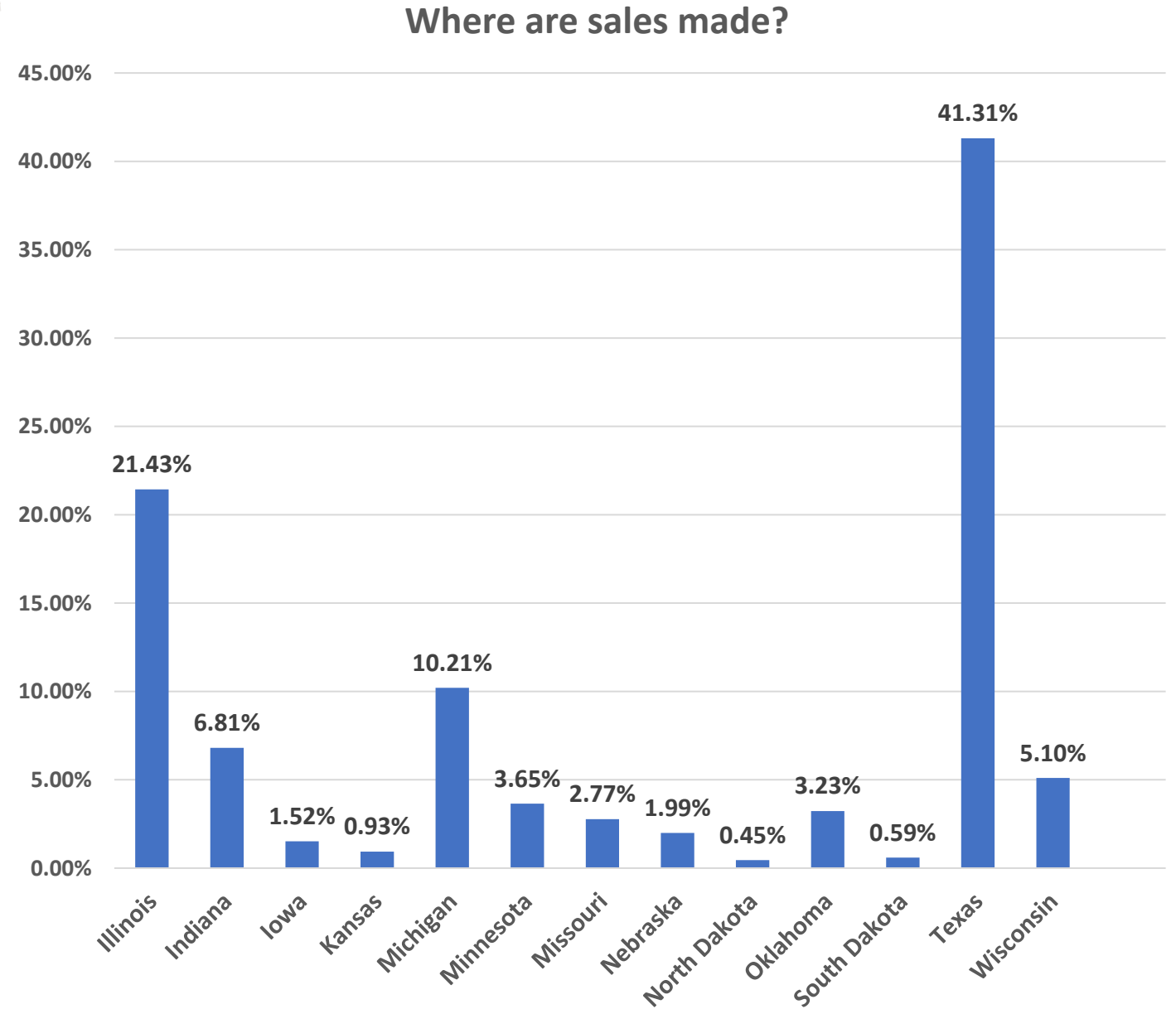
Interpreting Data

- High number of returns are coming from Illinois and Texas.



Interpreting Data

- This can also be explained as just over 60% of orders came from those 2 locations.



What can be done

- Find what items are being refunded in Furniture that's causing profits to decrease so much.
- Better train staff to note orders more carefully.
- If sales system is electronic, check if it's operating as intended.