



E-Commerce Data Exploration

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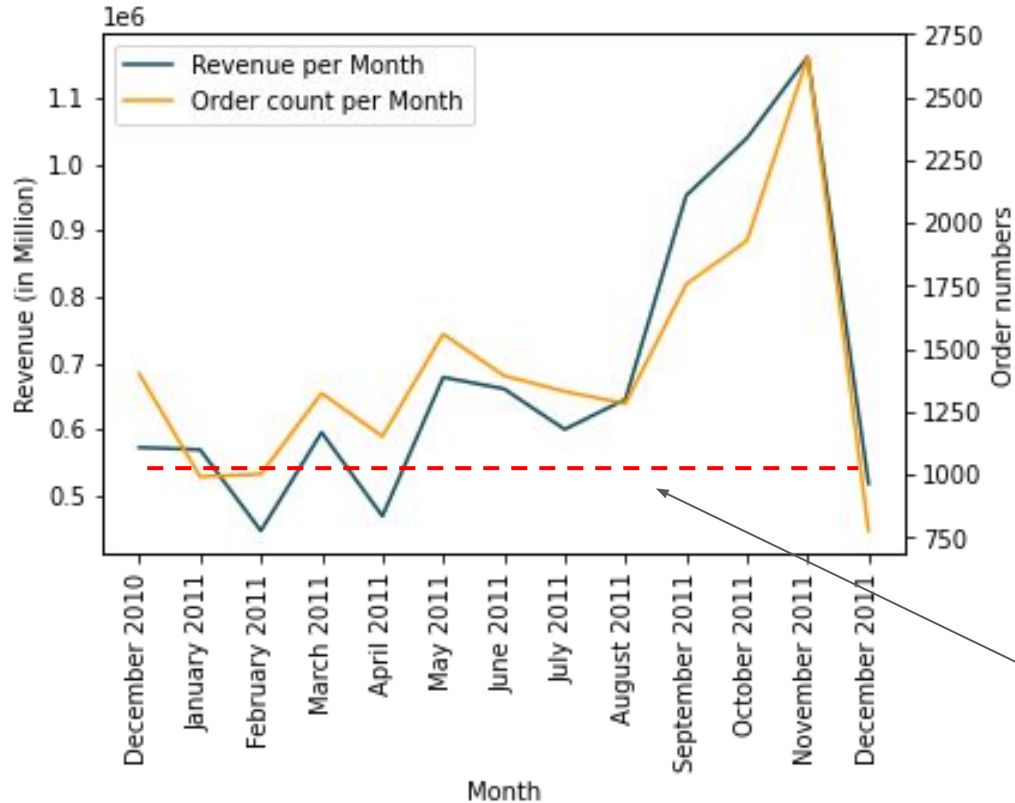
Prelude

- This will be the presentation report for the e-commerce exploratory data analysis
- The data is from Kaggle → <https://www.kaggle.com/datasets/carrie1/ecommerce-data>
- The data is processed using Python. The python notebook can be accessed here : (insert link)



Current State

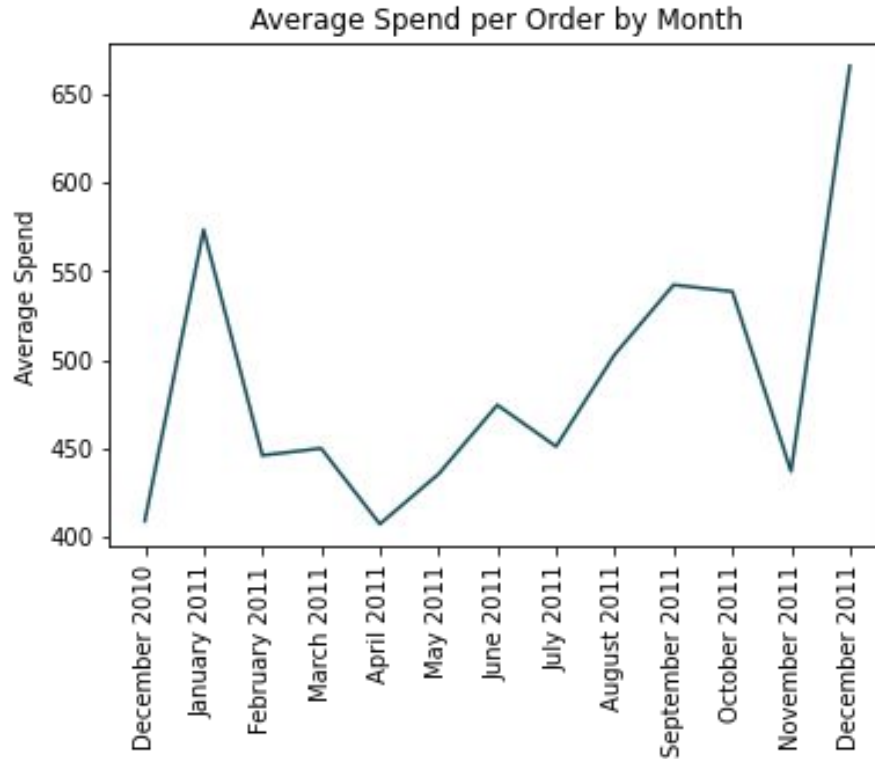
The revenue number tends to be increasing throughout the year, but significantly dropped at the end of 2011



- There is **~55% revenue reduction** from November 2011 to December 2011
- The **order count** has significant **decrease**

This causes the revenue number to have a **lower value than December 2010** (previous year)

Despite the decreasing number of revenue and order volume, the average spend per order is increasing at the end of the year



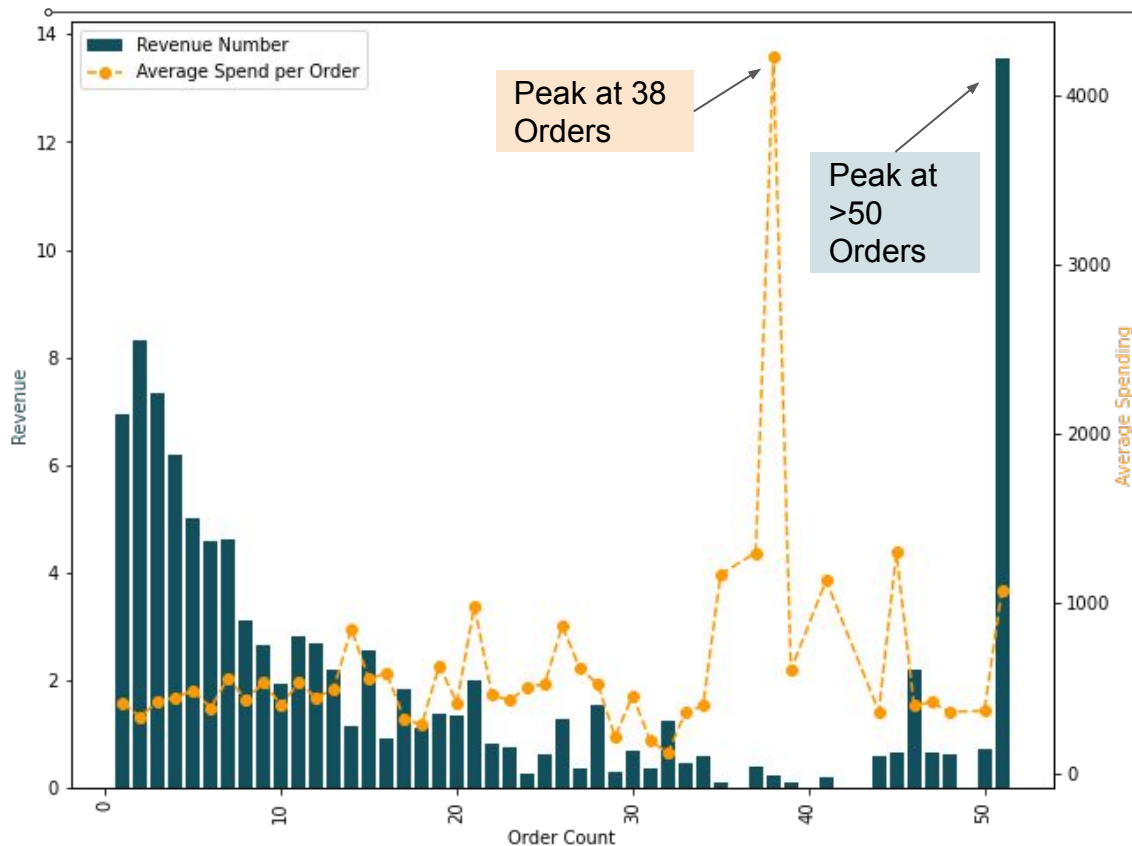
The average spend per order for December is at the highest throughout the year, meaning that **the revenue drop is not caused by the lowering spending value**

~50% customers are recurring (or returning) customer



New customers only take up ~55% from overall orders which means that **almost 50% orders are coming from recurring customer**

Revenue tends to decrease as order count is increasing

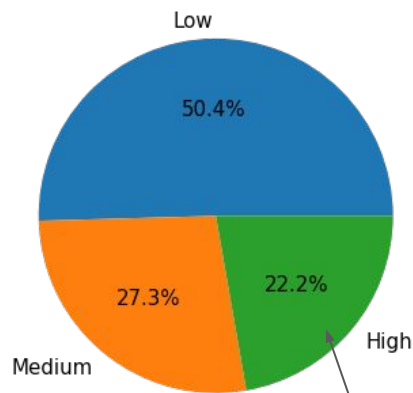


There are two **interesting peaks**:

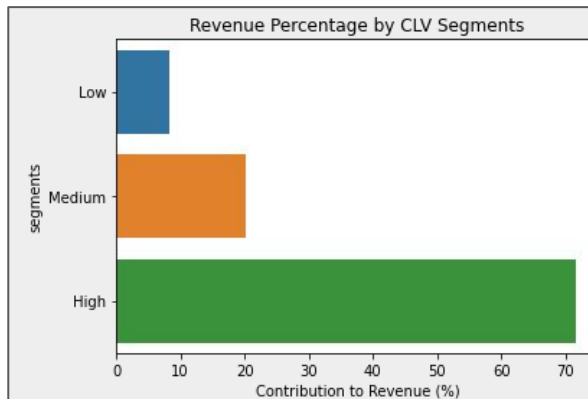
1. Peak **revenue** at >50 orders
2. Peak **average spend** per order at 38 orders

This behavior is interesting, hence it is recommended to expand the customer information to gain more insights

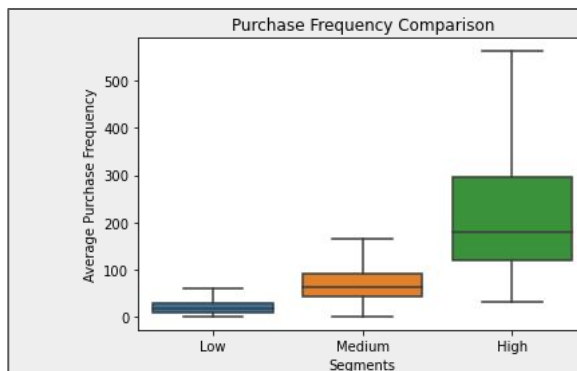
High value customers contribute the highest to the total revenue despite the low number from overall customers



High value customers only take up to 22.2% from all segments

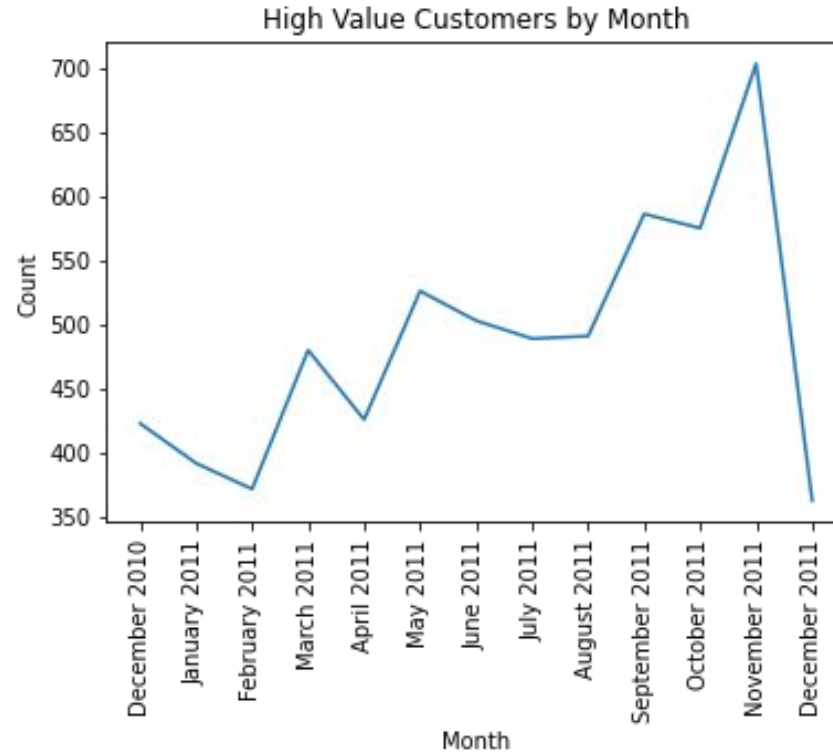


High value customers contribution to the total revenue is significantly higher than other segments



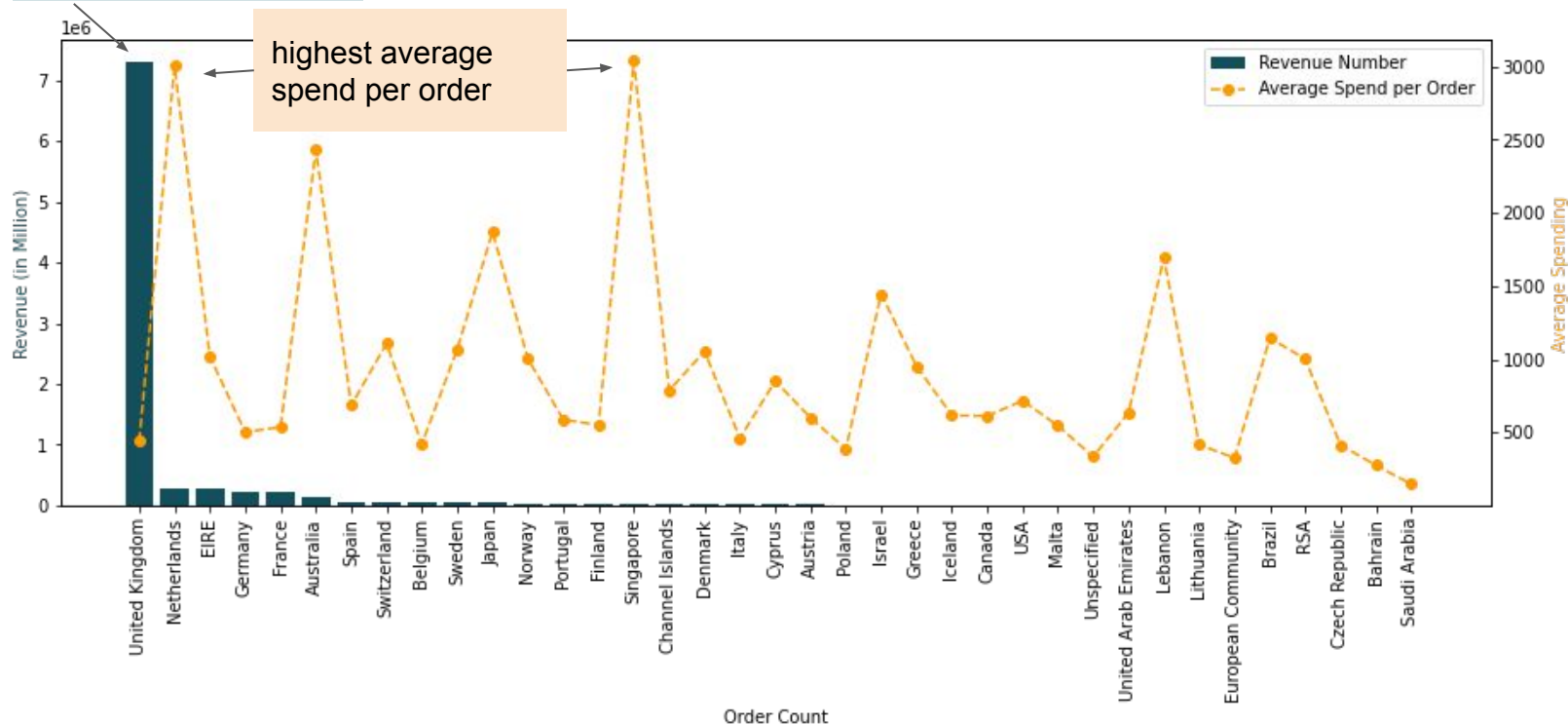
High value customers purchase frequency is also the highest

The High value customer number is decreasing at the end of the year



United kingdom contributes the highest to the total revenue

United Kingdom brings the highest total revenue





Recommendations

Goal	Current State	Proposal
Increasing Order Volume	<ul style="list-style-type: none"> - Total revenue is decreasing - Total order is decreasing - Recurring customer almost take up 50% overall order - High value customer contributes found to be the most profitable despite the low number 	<ol style="list-style-type: none"> 1. Increase engagement with high value recurring customer, as they are more loyal and profitable to the company. Engagement suggestion: <ul style="list-style-type: none"> • Find the characteristic for the customer segment and make marketing suggestion based on the characteristic • Create bundles to increase upselling and cross-selling 2. Dig deeper to unique customer purchasing behavior by expanding the exploration to customer demography