How to increase Office Supplies Inc.'s revenue through customer segmentation
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ABSTRACT
The objective of this analysis is to propose Office Supplies Inc. a Data Science path that will ensure an increase in their revenue through marketing promotions. Given the transactional nature of the dataset, I performed an initial market segmentation which identifies certain characteristics of a customer's purchase behavior and associates those customers into different categories. Then I presented marketing promotions that are tailored to each of these categories. After performing the segmentation analysis in Excel, I built charts in Tableau to communicate my insights. At the end, I proposed a few Data Science paths for future analysis to deep dive into the problem and create customized solutions.

DESIGN
The data consists of historical transactions of one full year. I performed initial customer analysis by running metric like Recency, Frequency, Monetary and Breadth of purchase. Using individual or a combination of metrics, the customers can be categorized as Best, Big spenders, Loyal, At-risk and Churned. Then I recommended marketing promotions and offers to each of these categories. In order to optimize the marketing promotions, I proposed Data analyses such as Cluster analysis, recommendation engine and Regression analysis to predict revenues in future.

DATA
Sample data of a superstore is collected from https://www.superdatascience.com/pages/tableau. The dataset is in Excel format and it consists of transactions that took place in the super store in the year 2015. There are 1900+ datapoints and 25 features. There are 1130 unique customers, and the most important features of the dataset were: Customer ID, Product Category, Product Sub-Category, Product Unit Price, Order ID, Order Date, Order Quantity Sales and City.

ALGORITHMS
Data Metrics (**Score of 3** highest, **Score of 2** medium and **Score of 1** lowest)

- **Recency**: When was the last purchase made by a customer. The recent one has a top R-score of 3 then 2 and the 1 who made a purchase more than 11 months ago.
- **Frequency**: How many orders did a customer make in the entire. How frequently he purchased from the store. Most frequent purchases has a F-score of 3.
- **Monetary**: What is the total amount of Sale did a customer make in the entire year. If a customer is contributing to Top 33% of sale, he has M-score of 3.
- **Breadth of purchase**: How many different product categories did a customer purchase .

RFM Analysis

- Assigned metrics to each customer through Percentage Ranking.
- Obtained an RFM score for each customer
- Marketing promotions are recommended based on the RFM score of each customer.

TOOLS

- Excel to clean and create pivot tables.
- Excel for RFM analysis and Visualization
- Tableau for Visualization and EDA

COMMUNICATION
Slides and visuals for presentation. Work and code will be available in Github.