

<b>Group No.</b>	4
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<b>Project Title</b>	Retail Insights: Personalized Marketing and Inventory Optimization
<b>Dataset with reference</b>	Online Retail K-Means & Hierarchical Clustering <a href="https://www.kaggle.com/code/hellbuoy/online-retail-k-means-hierarchical-clustering/input">https://www.kaggle.com/code/hellbuoy/online-retail-k-means-hierarchical-clustering/input</a>
<b>Project Description (Min: 100 Words)</b>	<p>The dataset we chose contains transactions of an online retail store over a one year time period. The features include invoice number, stock code, description, quantity, invoice date, unit price, customer ID, and country with about 500,000 entries. With this, we will try to show customer buying patterns using RFM (Recency Frequency Monetary). That is, looking at how recently customers purchased items, how frequently they make purchases, and how much money they're spending at the store. We would also like to potentially predict sales (over a specific period) using machine learning methods such as regression. We could also use classification methods to predict a target variable (Ex: Country) based on select features. We can find which items are most popular in certain countries to help the retail store distribute stock. We also plan on creating visualizations such as pie charts, bar graphs, box plots, etc.</p>
<b>Motivation</b>	<p>Our motivation as data scientists for this online retail company is to...</p> <ul style="list-style-type: none"> <li>- Tailor ads to customers based on buying patterns.</li> <li>- Make seasonal recommendations to the retail store (when to advertise certain products. For example, ornaments during the holidays).</li> <li>- Recommend the item quantity that should be in stock in specific countries.</li> </ul> <p>Doing all of this will be very meaningful and useful for the company, so that they can make strategic business decisions.</p>
<b>References</b>	<p>Murphy, C. (2019, November 19). What is recency, Frequency, monetary value (RFM) in marketing?. Investopedia. <a href="https://www.investopedia.com/terms/r/rfm-recency-frequency-monetary-value.asp#:~:text=Recency%3A%20How%20recently%20a%20customer,a%20customer%20spends%20on%20purchases">https://www.investopedia.com/terms/r/rfm-recency-frequency-monetary-value.asp#:~:text=Recency%3A%20How%20recently%20a%20customer,a%20customer%20spends%20on%20purchases</a></p>