**Introduction**

**Motivation:**

We chose this dataset so as to answer the question of how the transaction history of customers/consumers can give insight into consumers’ purchasing habits and also predict the products consumers might be interested in buying in the future. This kind of information can be used to align business decisions and also to understand which consumers are most valuable to the retail store, along with other essential insights.

The data set contains transactions occurring for a UK-based non-store online retail between 01/12/2009 and 09/12/2011.The company mainly sells unique all-occasion gift-ware, having many customers that are wholesalers.

**Modelling:**

1. Predicting what a customer might buy next (or recommendation)
2. Clustering customers into groups to apply different marketing strategies on them

**Exploratory Data Analysis:**

During the Exploratory Data Analysis of our dataset, we tried to analyze consumer trends and patterns of buying and also the countries that reported having most sales and revenues for the retail brand. We also did RFM analysis, which is a common technique to determine the best customers quantitatively by computing how recently a consumer has purchased (Recency), how often they purchase (Frequency) and how much the customer spends (Monetary). This is a popular way to analyze retail datasets better.

We tried to answer the following questions in our EDA:

* What are the top 10 Product categories based on sales?
* In each country , which product is sold the most?
* When were sales highest and lowest?
* Top 10 countries with maximum revenue
* Sale trends in countries with most purchases
* Who are the most valuable customers?
* Country with most valuable customers?
* Who is the most frequent and least frequent customer?
* Which customers spent the most and least?

