**DRAFT PROJECT PROPOSAL**

**Team Introduction:**

**Group #12**

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**Background/Motivation:**

Because of increasing popularity of online shopping, it is important to understand how consumers are making purchasing decisions and how online retailers can improve their business strategies to attract and retain customers. The online retail dataset can be a valuable resource for businesses and researchers to gain insights into customer behaviour and e-commerce trends, and to develop strategies to improve their operations and drive sales.

**Problem Statement:**

The problem that this project aims to solve is how to improve sales and customer satisfaction for an UK-based retailer. The dataset is used to identify sales trends, popular products, and customer behaviour to make data-driven business decisions that can lead to improved sales and customer satisfaction.

**Project Statement & Importance:**

This project aims to study the online sales of a UK retailer from December 1, 2010, to December 9, 2011. The study is important because it will provide useful information about what products were popular and what customers liked. By analysing the data, the retailer can make better decisions to improve sales and customer satisfaction. This analysis can also help predict future sales.

**Project Benefits [Audience]:**

1. Retailer: By analysing the sales data, the retailer can identify trends and opportunities for growth, which can lead to increased sales. Analysing customer behavior and preferences, the retailer can make decisions to improve the customer experience and satisfaction. From the use of optimize operations, the retailer can identify areas where costs can be reduced without impacting sales or customer satisfaction.
2. Customers: Customers can determine which products are more popular from the statistics. Customers can estimate product costs in future from data because they are aware of past and present product costs.

**Project Proposal:**

Our team will create descriptive analysis for sales trends, popular products, and customer purchase pattern. This analysis can help the retailer make data-driven decisions to improve sales and customer satisfaction, and for customers they can predict any product cost in future.

**Analysis Questions:**

1. What is the top-selling product?
2. Which countries have the highest sales volume?
3. Are there any associations between the purchase of certain products and the time of day?
4. What are the sales trends by month, day of week, and time of day?

**Dataset Description:**

The dataset is based on online retail transactions of a UK-based retailer, and we found this dataset from <https://data.world/uci/online-retail>. The dataset included data on online retail transactions from 01/12/2010 to 09/12/2011. It has based on invoice no, description, quantity, and many other key points.