1. Data science proposal for achieving the objective mentioned.

The objective of this project is to identify customer segments based on the overall buying behaviour of the client.

The given data sheet contains the products and number of quantities purchased by the customer in various location. The data can be used to analyse

1. Descriptive analysis: Items bought by customer frequently, in different location and the quantities.
2. Diagnostic Analysis: Based on data, the sales of each items can be diagnosed to find why the sales has been decreased or increased. Can also find the corelation between the items which are sold.
3. Predictive analysis: This assists organizations to apply the most effective solutions for their business growth and predict possible future scenarios. Based on the given data, the sales can be predicted.
4. Prescriptive analysis: Analysis on the given data can be used to prescribe actions that can raise sales and what customer need in a region at a given time slab. Can also be used to strategy recommendation in different countries based on data.

**Key performance indicators**

We can broadly categorize performance indicators into

Transaction

Customer

Transaction performance indicators:

The revenue, revenue growth, number of orders and revenue per order based on monthly transactions.

Monthly revenue can be calculated based on unit price and purchase quantity based on data.

Revenue growth can be calculated based on change in percentage of revenue month on month

Orders per month can be calculated based on grouping of invoice counts

Average revenue can be calculated on monthly basis based on revenue.

Customer performance indicators:

Based on revenue, analysis can be done customer centric. i.e. active customers, new and old customers.

Active customers can be based on unique count of customer ID’s

New and old customer revenue by defining new features.

**Conclusion:**

The outcome of the project would be to create and unsupervised model that generates the optimum number of segments for the customer base.

The data can predict the staffing, logistics required in different location of customers. Based on customer trends individual baskets can be extracted.

Classification on customers can be made based on their spending. Based on model, new customers and their spending can be predicted. The model can also correlate the products purchased and can derive and spending.

Business actions: With the model on each segment, specific actions can be planned across business units like Operation, marketing, logistics etc…

Purchases based on value of the item, the conclusion can be made to retain the existing customer and attract new customers.