Good evening ladies and gentlemen

today we are presenting our project "Enhancing E-Commerce Excellence - Customer Segmentation and intelligent Product Recommendation"

we are about to give a introduction on what we have worked and the project apprach, the data we have gathered and the execution process and finally the outputs we have achieved

lets start with the introduction, so as we all know well that customer satisfaction is very crucial for e-commerce success and the main focus of our project will be customer segmentation and product recommendation

moving on to scope of our project we used clustering techniques for customer segmentation and implemented association rule mining for recommendation of products

now lets discuss about the project approach, we have used K-means and Hierarchical clustering methods for customer segmentation by considering the purchase frequency, transaction value and

product categories

for the 2nd approach we have also performed association rule mining to observe market basket analysis by determining frequent bought products together and this kind of information can be used by retailers to boost their sales and profits

coming to the data we have used in our project we have collected the data from UCI Machine Learning Repository and our data set contains transaction from dec 2010 to dec 2011 and the major sales in the data set are from UK.

now lets discuss the execution process we have segmented the data of customers based on RFM(Recency, Frequency, Monetary) as the name suggests Recency indicates how recently the customer purchased and frequecy indicated how frequently the customer has purchased and monetary indicates how much do they spend

we have started the execution by performing data cleaning and in this process we omitted missing rows from our dataset and then split the invoice date into day month and year now we implement the data for RFM analysis by following the process as I previously mentioned

we have used 2 most popular methods to find the number of clusters which are elbow and silhouette method and for the Association Rule mining process we utilized apriori algorithm for valuble insights