**Literature review progress**

[2] The author proposed a grocery recommender system for supporting their Canadian customers by predicting the customer's weekly basket based on their purchase history. The model uses data of 826 customers with different grocery baskets. It is observed that many different machine learning tools were applied, but out of them the Random Forest having highest F-Score value of 0.499.Further should work on prediction of each item bought and without shopping history.

[3] The author proposed a distance metrics which shows the distance between numerical of product price and sales rate. An implementation of K-mean, hierarchical, image clustering, with CNN based, Euclidean, HC-Euclidean, Levenshtein has been conducted on 3285 products dataset collected for a period of 570 days. It is observed that the performance of Hierarchical clustering with movement pattern based distance and image clustering are better compared to other techniques

[4] The author applied K mean clustering on grocery data from the stores of Kenya. The author grouped the customers based on similar purchase behaviour. A clustering on different combinations of customer's age, spending score, annual income has been conducted.

[17] The author used two types of systems which have been tested for grocery recommendation. The methods and metrics used for making these two recommender systems including truncated SVD, cosine similarity and k-nearest neighbours. The user based recommendation system takes into account all the products ordered by the users. it uses previous purchases and ratings.

[18] The author recommended two systems for product recommendation. First is done based on purchasing history and second it recommends based on frequent words in product descriptions. It helps the new customers to take appropriate decisions while purchasing the product. The author applied k-means clustering on product descriptions. Based on different survey conducted it shows 56% people felt product recommendation saves time and another 46% felt it might save the time.