PROBLEM STATEMENTS

GROUP 1

19BEC020
19BEC021
19BEC026
19BEC027

Problems

- Your client is a meal delivery company which operates in multiple cities.They have various fulfillment centers in these cities for dispatching meal orders to their customers.
- The client wants you to help these centers with demand forecasting for upcoming weeks so that these centers will plan the stock of raw materials accordingly. The replenishment of majority of raw materials is done on weekly basis and since the raw material is perishable, the procurement planning is of utmost importance.
- Secondly, staffing of the centers is also one area wherein accurate demand forecasts are really helpful.
- Given the following information,the task is to predict the demand for the next 10 weeks(Weeks: 146-155) for the center-meal combinations in the test set: Historical data of demand for a product-center combination(Weeks:1 to 145) Product(Meal) features such as category, sub-category, current price and discount. Information for fulfillment center like center area, city information etc.

- The food cost of hospital is increasing. Food cost includes raw material, such as meat, vegetables and chicken.Moreover, the leftovers are also considered as hospital is preparing 10% extra food so that there would be no problem and deficiency of the respective food. The food is distributed for five times which includes breakfast beverage, breakfast, lunch, dinner and bed time beverage. The company wants to develop a forecasting model which would help the hospital to decrease its food cost and wastages such as pre food and post food wastages. Moreover, the results in futurewhen the hospital would be expanded. And the limitations of the model.

- it has been analyzed that the consumption of rice is 75 servings per day. In addition to meet deficiencies, company made 45 servings extra that is due to using past experiences data such as 20% and the excess food of 20% to avoid any deficiencies. However, this much precautions shows that despite of meeting demand of 84 servings, company had made 120 plates, which is 11% extra. In order to have estimated demand in order to save company from food excess and pre food and post food wastage, a model has been prepared to help the company.
- Moreover, the company has been using manual style to calculate per day demand and the servings is estimated by the cook. However, this model would be requiring software through which actual demand would be calculated. However, once demand is calculated it would be easy for the company to calculate required raw material.

Solutions

ML

This can be solved by approaching Machine Learning and python using the data set.

Matlab

Another way to solve this problem is to deal using matlab software and the required data set.

DATA SET

IThe data set is related to a meal delivery company which operates in multiple cities. They have various fulfilment centers in these cities for dispatching meal orders to their customers.
The dataset consists of historical data of demand for a product-center combination for weeks 1 to 145.
With the given data and information, the task is to predict the demand for the next 10 weeks (Weeks: 146-155) for the center-meal combinations, so that these fulfilment centers stock the necessary raw materials accordingly.