Summary Report

Lead Score Case Study talks about the process of lead creation in order to optimize sales and marketing efficient, To make this process more efficient, the company wishes to identify the most potential leads, also known as 'Hot Leads'. If they successfully identify this set of leads, the lead conversion rate should go up as the sales team will now be focusing more on communicating with the potential leads rather than making calls to everyone. The company requires to build a model wherein we need to assign a lead score to each of the leads such that the customers with a higher lead score have a higher conversion chance and the customers with a lower lead score have a lower conversion chance.

For above implementation we created a logistic regression model, in process of creating it we used Jupiter notebook for python programming, we imported dataset ,replaced all the 'select' value with null values , treated missing values using mode and mean method and outliers, removed the columns having missing values more than 40%, also removed the column having only a single unique values, created dummy values for categorical columns with multiple levels, mapped the columns with binary values, scaled the numerical columns using Standard scaling method, separated the data into train test dataset, features selection using RFE method, model creation ,checked p value and VIF score, created ROC curve and found optimum cut-off point, based on this created model with lead score, tested on test data and evaluated it using confusion matrix parameters. The ROC (AREA =0.97), OPTIMUM cut-off point coming around 0.3, accuracy, sensitivity and specificity for both train and test data is coming more than 90%. The model successfully identified leads with a high likelihood of conversion, enabling the sales and marketing teams to focus their efforts on the most promising prospects.

The lead scoring case study demonstrates the efficacy of logistic regression modelling in accurately predicting lead conversion probabilities. By leveraging advanced analytics techniques, businesses can optimize their lead management processes, enhance customer acquisition strategies, and ultimately drive revenue growth. Moving forward, continuous refinement and validation of the logistic regression model will be essential to adapt to evolving market dynamics and maximize business outcomes.