Summary

This Project Aimed To Enhance The Lead Conversion Rate For X Education, Currently At 30%. The Objective Was To Develop A Lead Scoring Model That Prioritizes Leads With A Higher Likelihood Of Conversion. The Target Set By The CEO Was To Achieve An 80% Conversion Rate.

Data Cleaning Involved Addressing Missing Values (Imputation For Categorical Data, Handling Outliers, Addressing Invalid Data), Grouping Infrequent Categories, And Mapping Binary Variables. Exploratory Data Analysis (EDA) Assessed Data Balance, Conducted Univariate And Bivariate Analysis For Both Categorical And Numerical Variables, And Identified Factors Significantly Impacting Lead Conversion.

Data Preparation Included Creating Dummy Variables For Categorical Data, Splitting Data Into Training And Testing Sets, Feature Scaling, And Eliminating Highly Correlated Features. Feature Selection Employed Recursive Feature Elimination (RFE) Alongside Manual Reduction Techniques. Three Models Were Built Before Arriving At The Final, Stable Model With Statistically Significant Features (P-Values < 0.05) And Minimal Multicollinearity (VIF < 5).

The Final Model, "Logm4," Comprised 12 Variables And Was Used For Predictions On Both Training And Testing Sets. Model Evaluation Utilized A Confusion Matrix, Leading To A 0.345 Cut-Off Point Based On Considerations Of Accuracy, Sensitivity, And Specificity. This Cut-Off Point Was Then Applied To The Training Data For Lead Score Assignment. The Top Three Influential Features Identified Were Lead Source_Welingak Website, Lead Source_Reference, And Current_Occupation_Working Professional.

Analysis Suggested Allocating A Greater Budget Towards Welingak Website Advertising. Additionally, Offering Incentives For References That Convert To Leads And Strategically Targeting Working Professionals – A Segment With Higher Conversion Rates And Potentially Stronger Financial Standing – Were Recommended.

This Project Provided Valuable Hands-On Experience In Data Cleaning, EDA, Data Preparation, Model Building, And Evaluation. It Emphasized The Importance Of Selecting Appropriate Evaluation Metrics Aligned With The Business Goals And Understanding The Trade-Offs Between Different Metrics. The Analysis Yielded Valuable Insights Into Lead Conversion Factors And Actionable Strategies For Improvement.