

## Summary Report: Enhancing Conversion Rates for X Education

### Introduction

This analysis aims to optimize conversion rates for X Education by targeting industry professionals. The report outlines steps taken, including data cleaning, exploratory analysis, model building, and evaluation. Insights gleaned from the analysis offer actionable strategies to increase enrollment and improve marketing effectiveness.

### Data Analysis Process

- 1. Data Cleaning**  
Cleaning involved handling null values, simplifying categorical variables, and preparing the dataset for analysis.
- 2. Exploratory Data Analysis (EDA)**  
EDA revealed data distribution patterns, identifying relevant variables and potential outliers.
- 3. Feature Engineering**  
Creation of dummy variables and scaling numeric values using StandardScaler for model compatibility.
- 4. Model Building**  
Utilized Recursive Feature Elimination (RFE) and VIF/p-value analysis for variable selection.
- 5. Model Evaluation**  
Evaluated model performance through confusion matrix, ROC curve, and determination of optimal cut-off.

### Key Insights and Recommendations

Top variables influencing potential buyers include time spent on the website, number of visits, lead source, last activity, lead origin, and occupation. Recommendations emphasize targeting these variables to maximize enrollment potential and drive marketing success for X Education.

### Conclusion

The analysis offers actionable insights to optimize marketing strategies for X Education, enhancing conversion rates and maximizing enrollment opportunities.