Summary Report

Introduction

X Education is struggling with a low lead conversion rate of around 30%. The goal of this analysis is to develop a predictive model that assigns lead scores, helping the sales team focus on high-potential leads. By doing so, we aim to improve the conversion rate to approximately 80%.

Data Preprocessing & Exploration

- The dataset was cleaned by handling missing values and removing irrelevant "Select" responses.
- Categorical variables were transformed into numerical data using one-hot encoding.
- Numerical features were standardized to improve model performance.
- Key factors influencing lead conversion were identified, such as Total Time Spent on Website, Lead Origin, and Last Activity.

Model Building & Evaluation

- A Logistic Regression model was developed to predict lead conversion.
- The model achieved an accuracy score of 96.88%
- Performance was evaluated using metrics like the confusion matrix, precision-recall scores, and the ROC-AUC curve.

Business Insights & Recommendations

- Focus on High-Engagement Leads: Leads who spend more time on the website should be prioritized.
- Optimize Lead Sources: Channels like referrals and direct traffic have higher conversion rates and should be emphasized.

- **Targeted Sales Strategies:**
    - Aggressive Outreach: Increase follow-ups and personalized engagement for high-scoring leads.
    - Efficient Resource Allocation: Reduce outreach to low-scoring leads and automate follow-ups.
- **Strengthen Communication:** Emails, calls, and webinars should be tailored to high-scoring leads to maximize conversions.

Conclusion

By integrating this predictive model, X Education can enhance its sales efficiency, improve targeting, and significantly increase lead conversion rates. Moving forward, continuous monitoring, refinement, and A/B testing of engagement strategies will further optimize results.