

Lead Scoring Case Study: X Education

Overview:

X Education, a leading provider of online courses, faces a low conversion rate of 30%, despite generating many leads. To improve efficiency, the company aims to prioritize leads and increase the conversion rate to 80% using a data-driven approach. A logistic regression model will be built to score leads between 0 and 100, helping the sales team focus on high-potential leads most likely to convert into customers.

Problem Statement:

The goal is to improve X Education's conversion rate by accurately identifying "hot leads" through predictive modeling. The company provided historical data on leads, including demographic information, lead source, activity on the website, and previous interactions. The model built in this study aims to identify leads with the highest potential for conversion so that the sales team can allocate their resources efficiently.

Key Steps Taken:

1. **Dataset Exploration:** The dataset provided by X Education contains attributes influencing conversion rates. The data was cleaned by handling missing values and removing redundant columns.
2. **Exploratory Data Analysis (EDA):**
 - **Univariate Analysis:** Found that landing pages and Google searches are the primary sources of leads, while email engagement drives conversions.
 - **Bivariate & Multivariate Analysis:** Revealed key patterns, such as working professionals being more likely to convert and certain channels generating higher-quality leads.
3. **Model Building:** A **logistic regression model** was built using **Recursive Feature Elimination (RFE)** to select key features. The model's performance was evaluated using accuracy, precision, recall, and ROC-AUC score.
4. **Results:** The model achieved an accuracy of **81%**, with a **precision of 77%** and **recall of 66%**. The most important features driving conversions include **Total Time Spent on Website**, **Lead Add Form Origin**, and the **Working Professional** category.

Recommendations:

1. **Increase Website Engagement:** As total time spent on the website correlates strongly with conversion, efforts should be made to encourage leads to engage more deeply with the platform. This could involve improving the user experience, offering more valuable content, or utilizing interactive elements to keep users on the site for longer periods.

2. Leverage Lead Add Forms: Since leads generated from Lead Add Forms are more likely to convert, X Education should focus on optimizing these forms and increasing their visibility across the website and other channels.

3. Target Working Professionals: The data shows that working professionals have higher conversion rates. Marketing efforts should therefore be tailored to target this group more effectively, potentially by emphasizing professional development and career advancement in messaging.

4. Improve Email and SMS Campaigns: Proactive communication, such as Email Opened and SMS Sent, showed a positive impact on conversions. The company should continue to optimize its email marketing campaigns and explore new ways to engage leads via SMS.

Conclusion:

This study successfully built a logistic regression model that helps X Education prioritize high-potential leads, allowing the sales team to focus their efforts on the most promising opportunities. Key factors like Total Time Spent on Website, Lead Add Form Origin and Working Professional status were identified as significant predictors of lead conversion. By acting on the recommendations—such as increasing website engagement, targeting working professionals, and optimizing communication channels—X Education can work toward achieving its goal of an 80% conversion rate, significantly improving overall sales performance.