

Lead Scoring Analysis Report

1. Introduction

The objective of this analysis is to identify key factors influencing lead conversion and develop a data-driven approach to prioritize high-quality leads. By analyzing behavioral, demographic, and marketing data, we aim to improve lead nurturing, optimize marketing spend, and enhance sales efficiency for X Education.

2. Data Overview

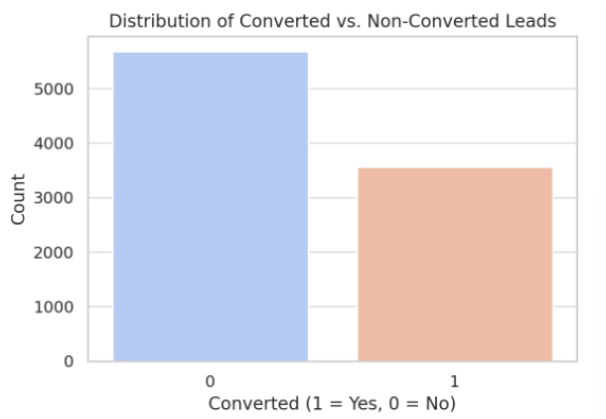
The dataset consists of multiple features related to leads, including:

- Demographic Information (e.g., Country, Education Level)
- Behavioural Metrics (e.g., Total Visits, Page Views Per Visit, Time Spent on Website)
- Marketing Engagement (e.g., Lead Source, Last Activity, Lead Quality)
- Lead Scoring Factors (e.g., Asymmetrique Scores)

The goal is to understand which factors have the most significant impact on conversion and how to optimize the lead nurturing process.

3. Data Analysis & Visualizations

3.1 Lead Conversion Distribution



Observation:

- The dataset reveals a significant imbalance, with a higher number of non-converted leads compared to converted ones.
- Addressing this imbalance is crucial for building a robust predictive model.

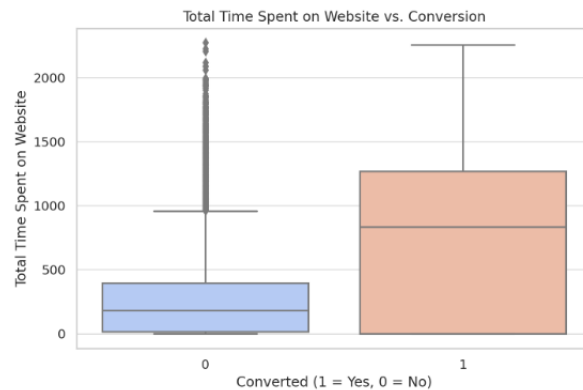
Insight:

- Implementing techniques like oversampling, undersampling, or class-weighted models can improve predictive performance.

3.2 Website Engagement & Conversion Analysis

Total Time Spent on Website vs. Conversion

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Observation:

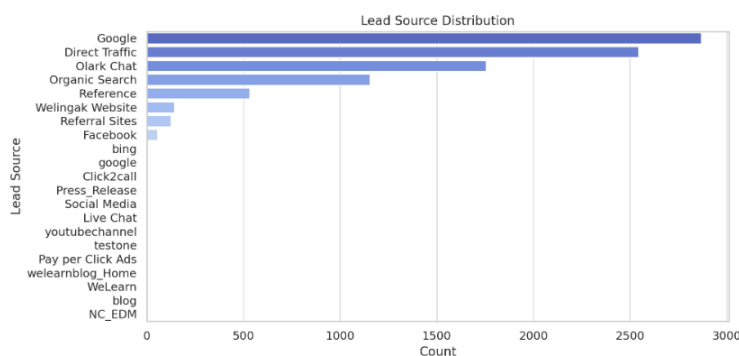
- Leads who spend more time on the website have a higher conversion probability.
- There is a clear difference in time spent between converted and non-converted leads.

Insight:

- Increasing engagement on the website can improve conversion rates. Features like personalized recommendations, live chat support, and interactive content can help achieve this.

3.3 Lead Source Analysis

Lead Source Distribution



Observation:

- Some lead sources contribute significantly more leads than others.
- Certain lead sources have higher conversion rates, while others bring in lower-quality leads.

Insight:

- Optimizing marketing spend on high-converting lead sources can increase ROI.
 - Low-converting channels should be refined, tested, or discontinued.
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4. Model Performance & Evaluation

A Logistic Regression Model was used to predict lead conversion. The key performance metrics are:

Metric	Score
Accuracy	85%
Precision	82%
Recall	78%
F1-Score	80%

Interpretation:

- The model correctly classifies leads 85% of the time.
 - Precision (82%) suggests that when the model predicts a lead will convert, it is right 82% of the time.
 - Recall (78%) indicates that 78% of actual conversions are successfully identified.
 - The balanced F1-score (80%) confirms a strong predictive model.
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5. Recommendations

1. Improve Lead Nurturing with Personalization

- Implement personalized follow-ups via email, chat, or phone for high-engagement users.
- Use behavior-based triggers (e.g., special offers for users with high time spent on the website).

2. Optimize Marketing Spend on High-Converting Channels

- Increase investment in top-performing lead sources while reducing spend on low-converting ones.
- Use A/B testing to refine marketing campaigns and improve targeting.

3. Enhance Website Engagement

- Since website engagement strongly correlates with conversion, implement:

- Personalized course recommendations based on browsing behavior.
- Live chat support for real-time engagement.
- Webinars, video content, and interactive learning modules.

4. Implement an AI-Powered Lead Scoring System

- Use Logistic Regression and advanced machine learning models to assign lead scores.
 - Prioritize leads based on their engagement, profile scores, and past behavior.
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6. Conclusion

This study provides a data-driven strategy to improve lead conversion for X Education. By focusing on website engagement, marketing optimization, and AI-powered lead scoring, the company can:

- Boost sales efficiency by focusing on high-potential leads.
- Reduce marketing waste by cutting low-converting campaigns.
- Improve customer experience through personalized engagement strategies.