

# **X Education Lead Conversion Model**

By- Himani Mahotra



# Introduction

- **Background:**

- X Education, a leading online course provider, is dedicated to empowering individuals through education.
- Acknowledge X Education's commitment to delivering quality courses and fostering learning opportunities.

- **Challenge: Suboptimal Lead Conversion**

- Address the pressing issue: a current lead conversion rate hovering around 30%.
- Emphasize the significance of converting potential leads into active participants for sustainable growth.

- **The Need for a Data-Driven Solution:**

- Introduce the pivotal role of data in addressing challenges.
- Highlight the power of predictive analytics to transform the lead conversion landscape.

- **Objective: Boosting Efficiency**

- Stress the importance of implementing a data-driven solution.
- Outline the primary objective: developing a predictive model to identify and prioritize promising leads.

# Problem Statement

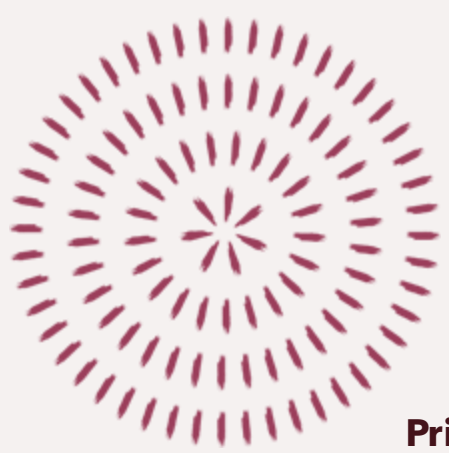
## Current Lead Conversion Rate: 30%

- Performance Overview:
  - X Education has demonstrated success in online education, reaching a diverse audience.
  - However, the current lead conversion rate stands at 30%, indicating room for improvement.
- Implications of a 30% Conversion Rate:
  - Address the significance of the current conversion rate.
  - Highlight missed opportunities, potential revenue growth, and the impact on overall business sustainability.
- Challenges Faced:
  - Identify challenges associated with the existing conversion rate.
  - Discuss factors that contribute to the suboptimal performance, such as lead identification and prioritization.

# Problem Statement

## The Need for a Predictive Model

- Limitations of Current Approach:
  - Discuss the limitations of the current approach to lead conversion.
  - Highlight challenges in efficiently identifying and prioritizing leads manually.
- Proactive Lead Conversion:
  - Introduce the concept of a predictive model as a solution.
  - Emphasize how a predictive model can proactively identify and prioritize leads with a higher likelihood of conversion.
- Key Objectives:
  - Streamlining the lead conversion process for increased efficiency.
  - Empowering the sales team with data-driven insights to focus efforts on high-potential leads.
- Overall Impact:
  - Summarize the potential positive impact of implementing a predictive model on lead conversion rates and business outcomes.



# Objective of the Project

## Primary Objective: Construct a Logistic Regression Model for Lead Scoring

- *Objective Overview:*
  - The primary goal of this project is to develop a robust logistic regression model.
  - This model will assign lead scores on a scale from 0 to 100, facilitating a nuanced approach to lead prioritization.
- *Significance of Lead Scoring:*
  - Discuss the importance of lead scoring in optimizing the conversion process.
  - Emphasize how assigning scores enables the sales team to focus on leads with the highest likelihood of conversion.
- *Target Lead Conversion Rate: 80%*
  - Establish an ambitious yet achievable target lead conversion rate of 80%.
  - Highlight the substantial improvement this represents from the current rate of 30%.
- *Strategic Impact:*
  - Illustrate how achieving an 80% conversion rate can lead to significant business growth and increased revenue.
  - Emphasize the strategic importance of this initiative for X Education.



# Key Steps in the Jupyter Notebook



## *Data Loading and Initial Exploration:*

- **Objective:** Understand the dataset structure.
- **Activities:** Loading the provided dataset and conducting initial exploratory analysis.

## *Data Cleaning and Preprocessing:*

- **Objective:** Ensure data quality and prepare for model training.
- **Activities:** Addressing missing values, converting 'Select' values to NaN, one-hot encoding for categorical variables, and handling outliers.

## *Data Visualization:*

- **Objective:** Identify patterns, trends, and potential insights.
- **Activities:** Creating visualizations such as histograms, scatter plots, and correlation matrices.

## *Train-Test Split:*

- **Objective:** Prepare the dataset for model evaluation.
- **Activities:** Dividing the dataset into training and testing sets.

## *Model Building:*

- **Objective:** Construct a logistic regression model for lead scoring.
- **Activities:** Training the model on the designated training data.



# Key Steps in the Jupyter Notebook



## *Model Evaluation:*

- **Objective:** Assess the model's performance on the testing set.
- **Activities:** Evaluating the model using relevant metrics to ensure robustness.

## *Lead Scoring:*

- **Objective:** Predict lead scores for all entries in the dataset.
- **Activities:** Applying the trained model to assign scores on a scale from 0 to 100.

## *Documentation and Interpretation:*

- **Objective:** Document critical features, coefficients, and their interpretations.
- **Activities:** Summarizing insights gained from the model for clarity.

## *Conclusion:*

- **Objective:** Summarize overall findings and outcomes.
- **Activities:** Presenting key metrics, such as accuracy, sensitivity, and specificity, and assessing the success of the model in achieving the target lead conversion rate.

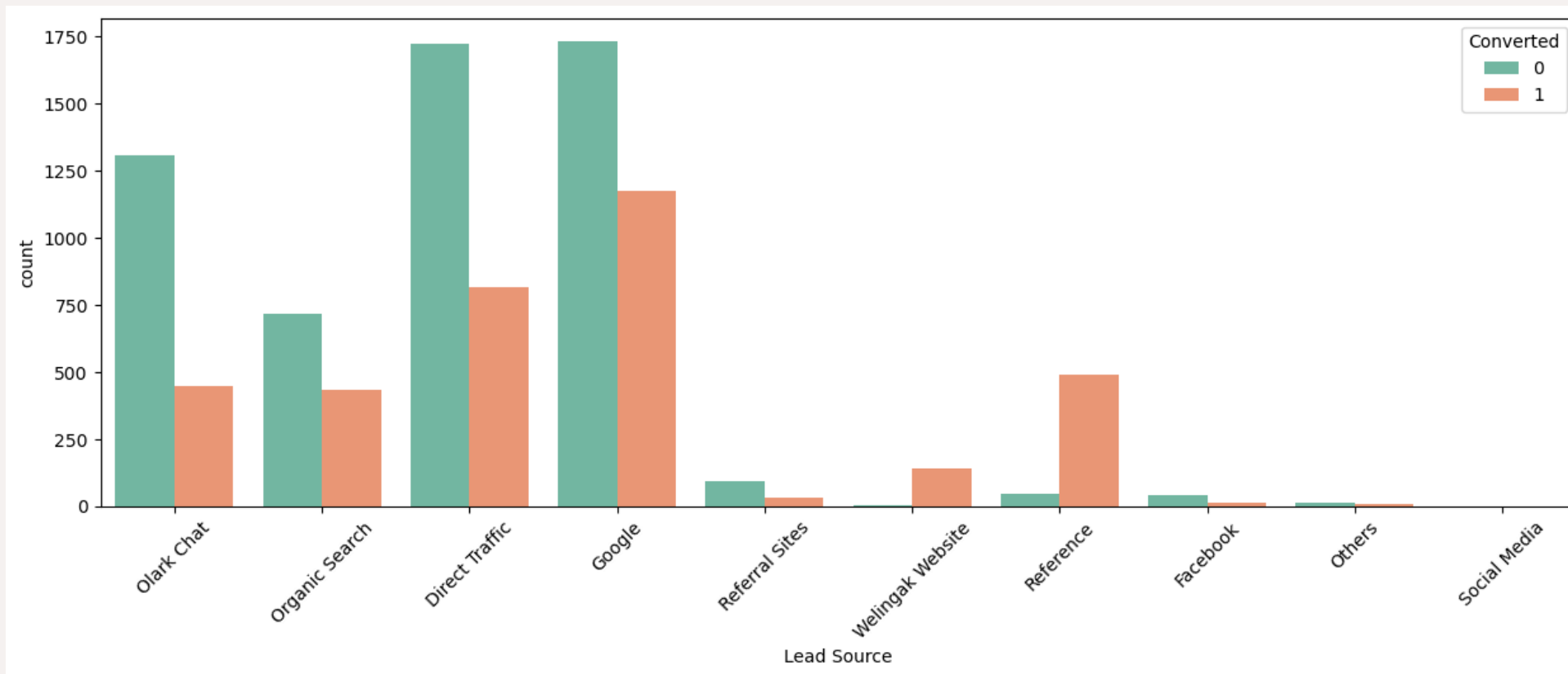
# Lead Generation Sources

## Insight:

- Majority of leads originate from Google and Direct Traffic.

## Recommendation:

- Allocate resources strategically to optimize and maximize leads from successful channels.





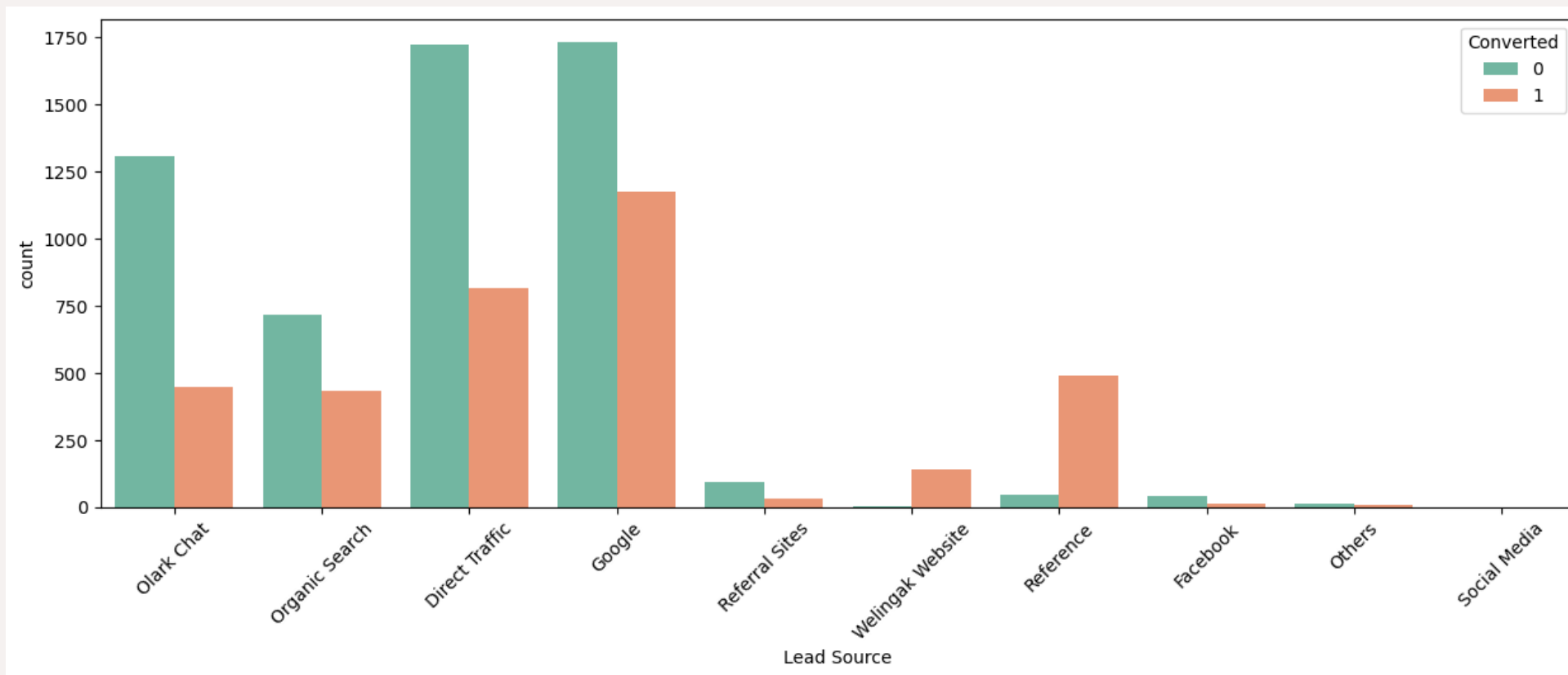
# High Conversion Rate for Specific Leads

## Insight:

- Leads from Reference and Welinkgak Website channels demonstrate an exceptionally high conversion rate.

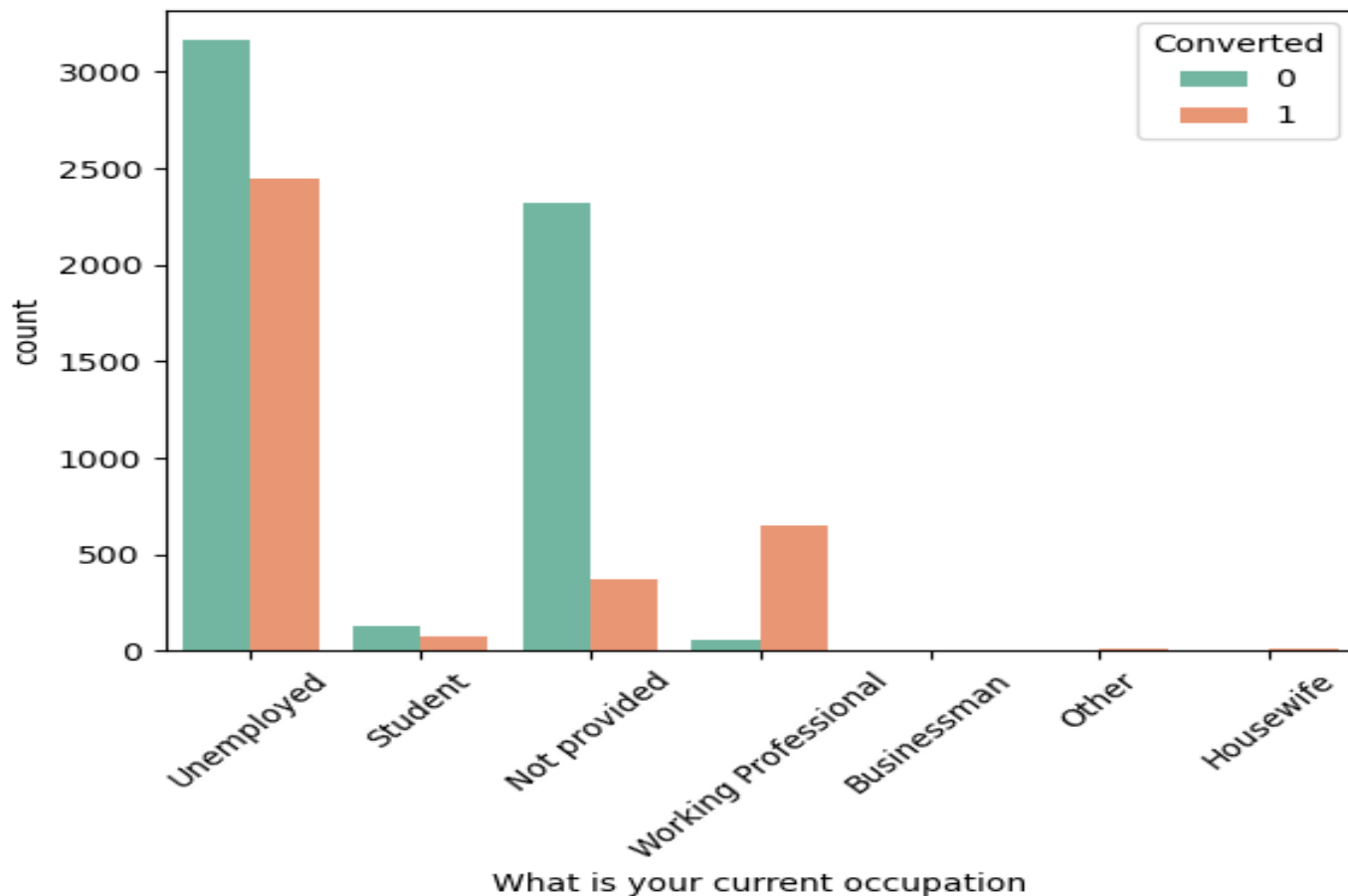
## Recommendation:

- Direct marketing efforts towards Reference and Welinkgak Website leads for higher conversion yield.



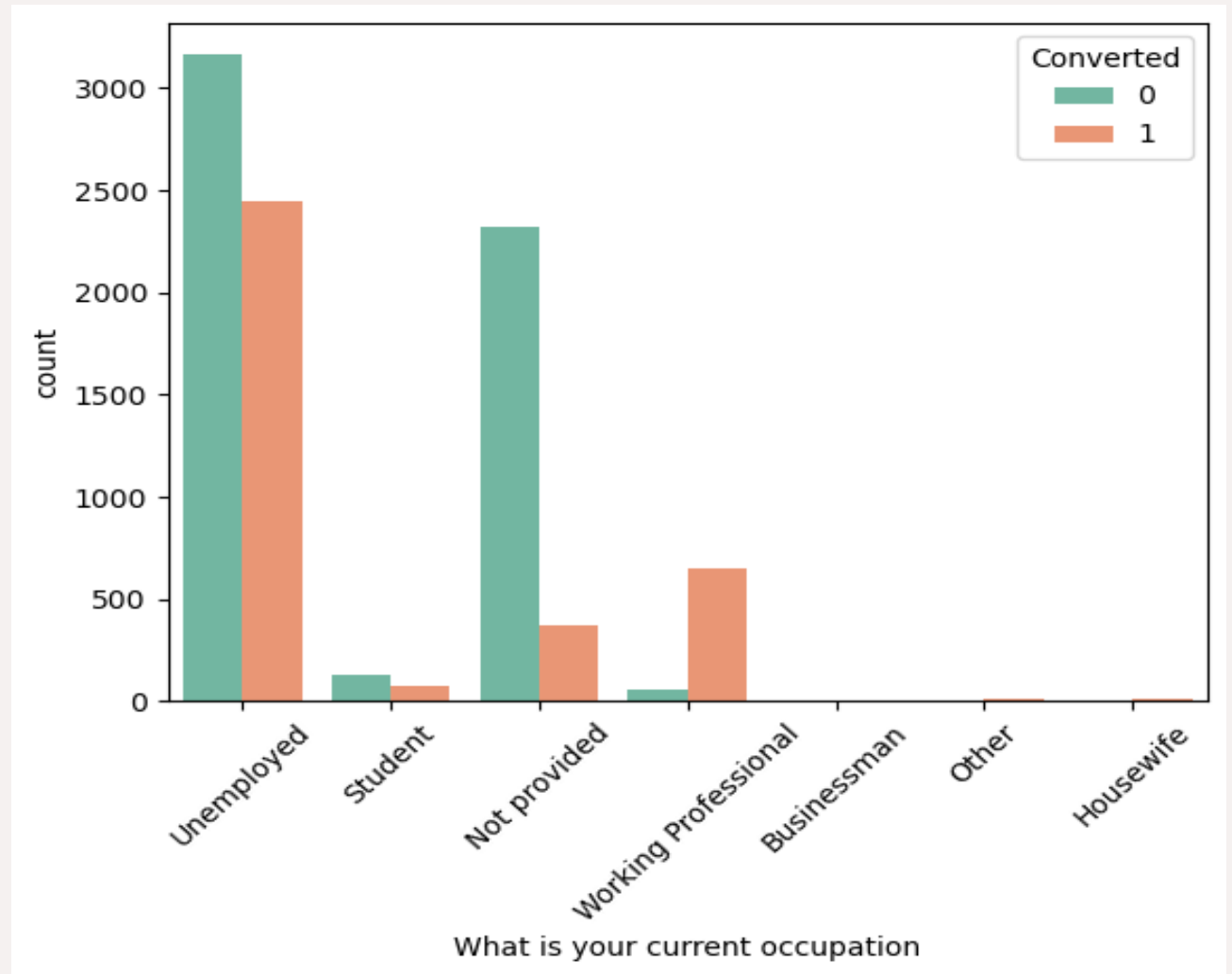
# Employment Status and Conversion Rate

- **Insight:**
  - Unemployed leads exhibit a conversion rate exceeding 50%.
- **Recommendation:**
  - Tailor marketing strategies to effectively engage and convert the unemployed demographic.



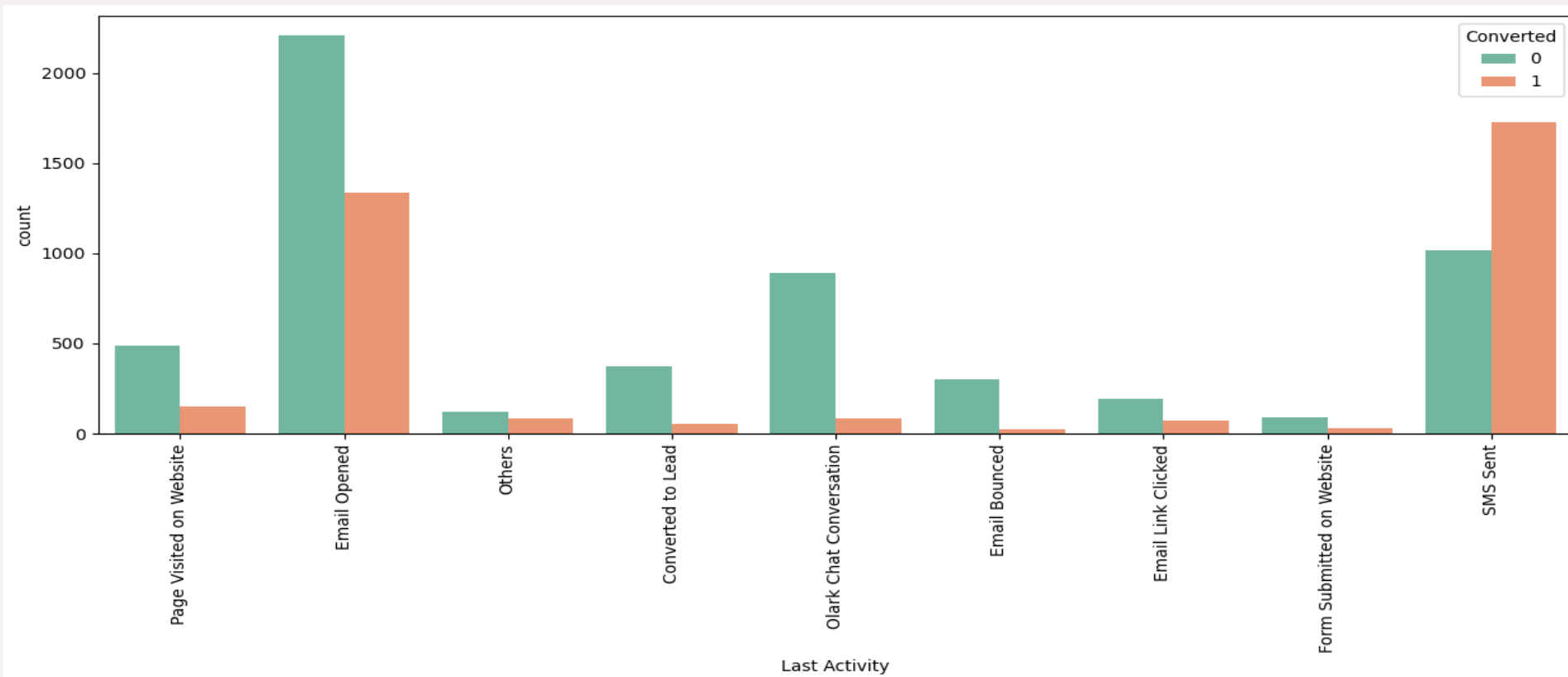
# High Conversion Rate for Working Professionals

- **Insight:**
  - Working professionals show a significantly higher conversion rate.
- **Recommendation:**
  - Develop targeted offerings and messaging to attract and convert working professionals.



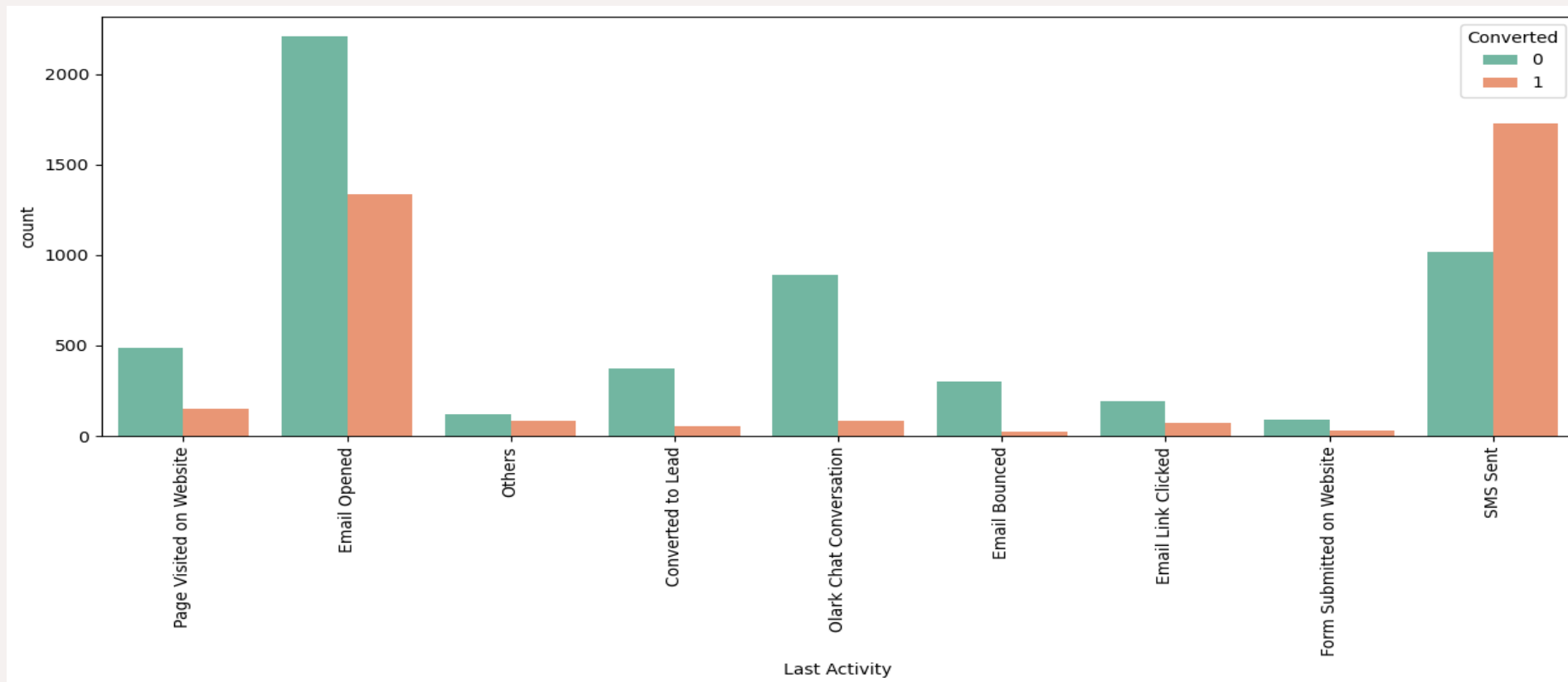
# Last Activity and Conversion Rate

- **Insight:**
  - Despite "Email opened" being the most common last activity, conversion rates are suboptimal.
- **Recommendation:**
  - Optimize email engagement strategies and explore alternative conversion pathways.



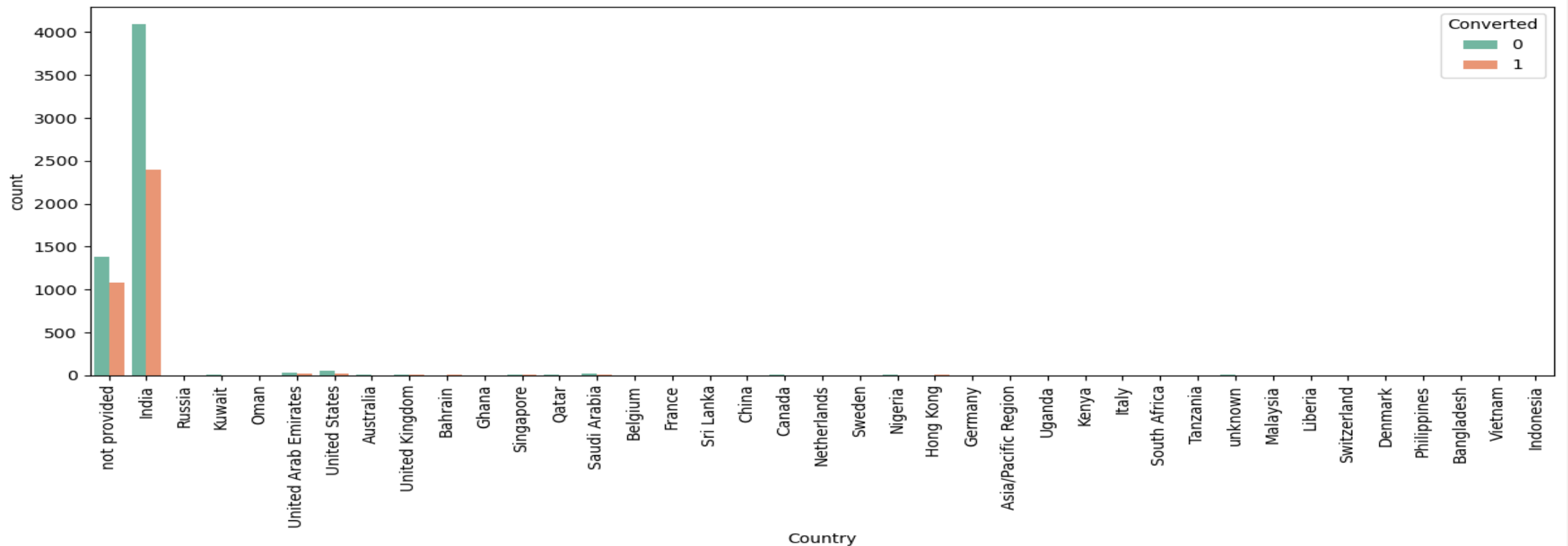
# SMS Engagement Impact

- **Insight:**
  - Leads with the last activity as "SMS sent" exhibit a notably high conversion rate.
- **Recommendation:**
  - Prioritize and integrate SMS communication as a key element of the lead nurturing strategy.



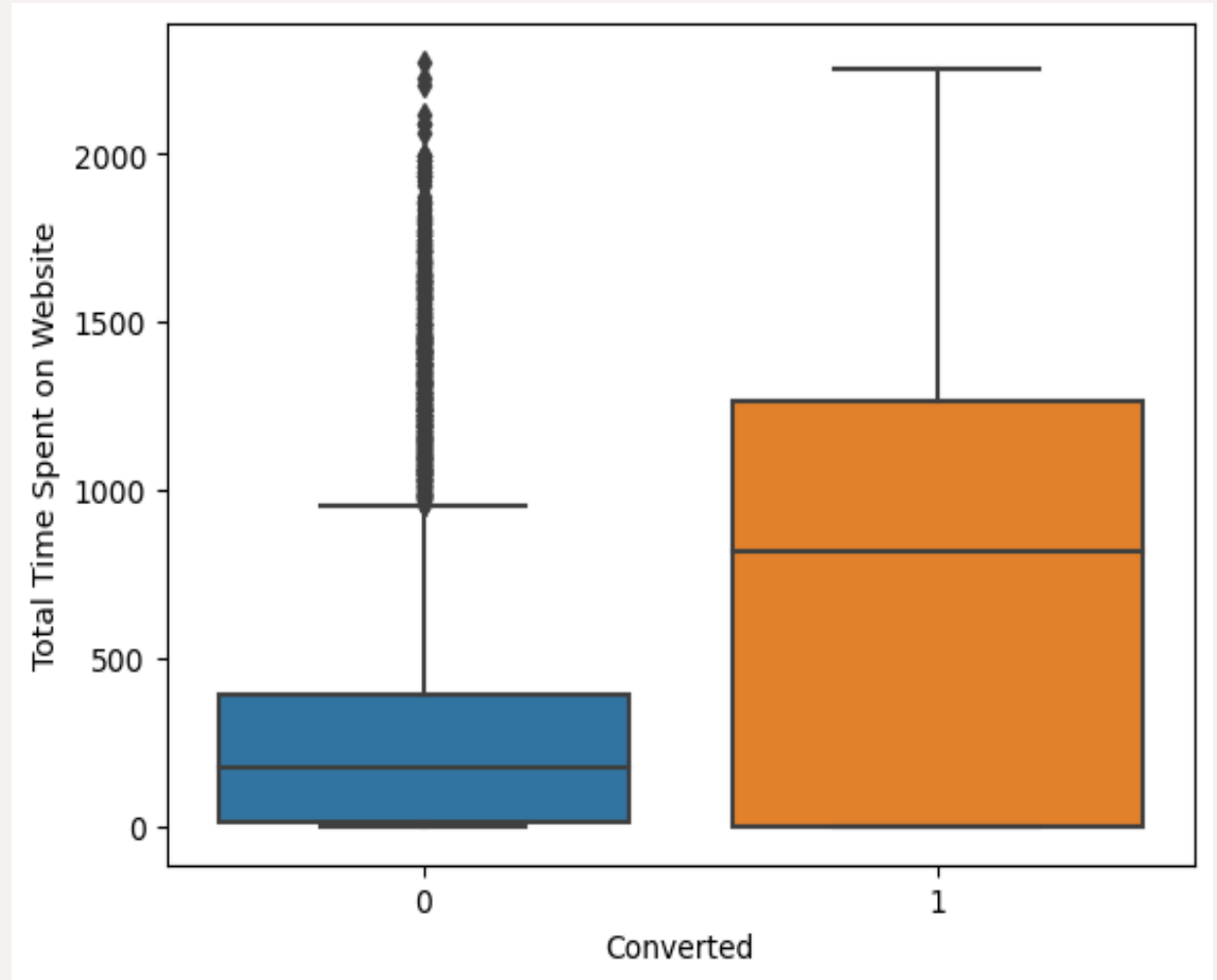
# Geographic Location - Country

- **Insight:**
  - The majority of leads are from India, providing limited information.
- **Recommendation:**
  - Consider dropping the "Country" column, as it contributes minimally to actionable insights.



# Time Spent on Website Impact

- **Insight:**
  - Leads spending more time on the website are more likely to convert.
- **Recommendation:**
  - Enhance website engagement features to prolong user interaction and boost conversion rates.



# Key Findings:

## Positive Predictors for HOT LEADS

- A customer with these TAGS assigned is a potential Lead: "Closed by Horizzon," "Lost to EINS," "Will revert after reading the email."
  - Tags\_Closed by Horizzon: 5.7010
  - Tags\_Lost to EINS: 4.3704
  - Tags\_Will revert after reading the email: 3.6220
- Lead sourced by "Welingak Website" is a Hot Lead.
  - Lead Source\_Welingak Website: 4.3909
- A customer who is currently a "Working Professional" or "Unemployed" is a Hot Lead.
  - What is your current occupation\_Working Professional: 1.9865
  - What is your current occupation\_Unemployed: 1.8385



# Key Findings:

## Negative Predictors for HOT LEADS

- A customer with these TAGS assigned is NOT a potential Lead: "Already a Student," "switched off," "Not doing further education," "Diploma holder (Not Eligible)," "Ringing," "Interested in other courses," "Interested in full-time MBA."
  - Tags\_Already a student: -4.0378
  - Tags\_switched off: -3.9105
  - Tags\_Not doing further education: -3.6396
  - Tags\_Diploma holder (Not Eligible): -3.3832
  - Tags\_Ringing: -3.3131
  - Tags\_Interested in other courses: -3.0180
  - Tags\_Interested in full-time MBA: -2.8539
- A customer whose Lead Quality is deemed as "Worst" is also NOT a Hot Lead.
  - Lead Quality\_Worst: -3.5416

## **Conclusion:**

The identified positive and negative predictors provide valuable insights into potential hot leads.

Leveraging these predictors in lead profiling can significantly enhance lead prioritization and conversion strategies.

Continuous monitoring and refinement of these predictors will contribute to an adaptive and effective lead management system.



# Recommendations: Optimizing Lead Conversion Strategies



## Leverage Positive Predictors:

- Prioritize leads with positive predictors such as "Closed by Horizon," "Lost to EINS," and "Will revert after reading the email."
- Focus marketing efforts on channels like "Welingak Website" that significantly contribute to hot leads.

## Target Specific Occupations:

- Direct marketing efforts towards "Working Professionals" and "Unemployed" individuals, identified as hot leads.

## Refine Communication Strategies:

- Tailor communication strategies based on lead behavior, emphasizing SMS engagement and personalized email approaches.

## Implement Lead Quality Checks:

- Regularly assess lead quality, avoiding those categorized as "Already a Student" or with a "Worst" lead quality.

## Continuous Monitoring and Adaptation:

- Establish a system for continuous monitoring and refinement of lead predictors.
- Stay adaptable to evolving trends and customer behaviors.



# Recommendations: Optimizing Lead Conversion Strategies



## Enhance Website Engagement:

- Invest in enhancing website features to encourage leads to spend more time, contributing to higher conversion rates.

## Strategic Resource Allocation:

- Allocate resources strategically based on successful lead sources to maximize conversion potential.

## Implement Outlier Treatment:

- Conduct outlier treatment, particularly for the "Page Views Per Visit" column, to improve data integrity.

## Explore Geotargeted Strategies:

- Considering the majority of leads are from India, explore geotargeted strategies for enhanced local engagement.

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**THANKYOU!**