

Lead Scoring Analysis & Business Recommendations

Technical and Business Insights

Problem Statement

Company

- X Education sells online courses to the industry professionals.

Context

- X Education gets a lot of leads, its lead conversion rate is very poor. For example, if, say, they acquire 100 leads in a day, only about 30 of them are converted.

Problem statement

- Build a model assigning lead score, such that customer with high lead score will have a higher conversion chance as With only 30% of leads converting, sales efforts are inefficient. Identifying 'Hot Leads' will streamline focus, enhance efficiency, and boost conversion rates

Data Overview

- The dataset contains 9240 entries with 37 columns, including lead source, customer interaction details, and conversion status.
- With only 30% of leads converting, sales efforts are inefficient. Identifying 'Hot Leads' will streamline focus, enhance efficiency, and boost conversion rates.

Data Cleaning

- Missing values were handled, and redundant or less relevant features were removed.

Exploratory Data Analysis

- Visualizations and statistical summaries were used to understand key patterns, such as lead source effectiveness and conversion rates.

Feature Engineering

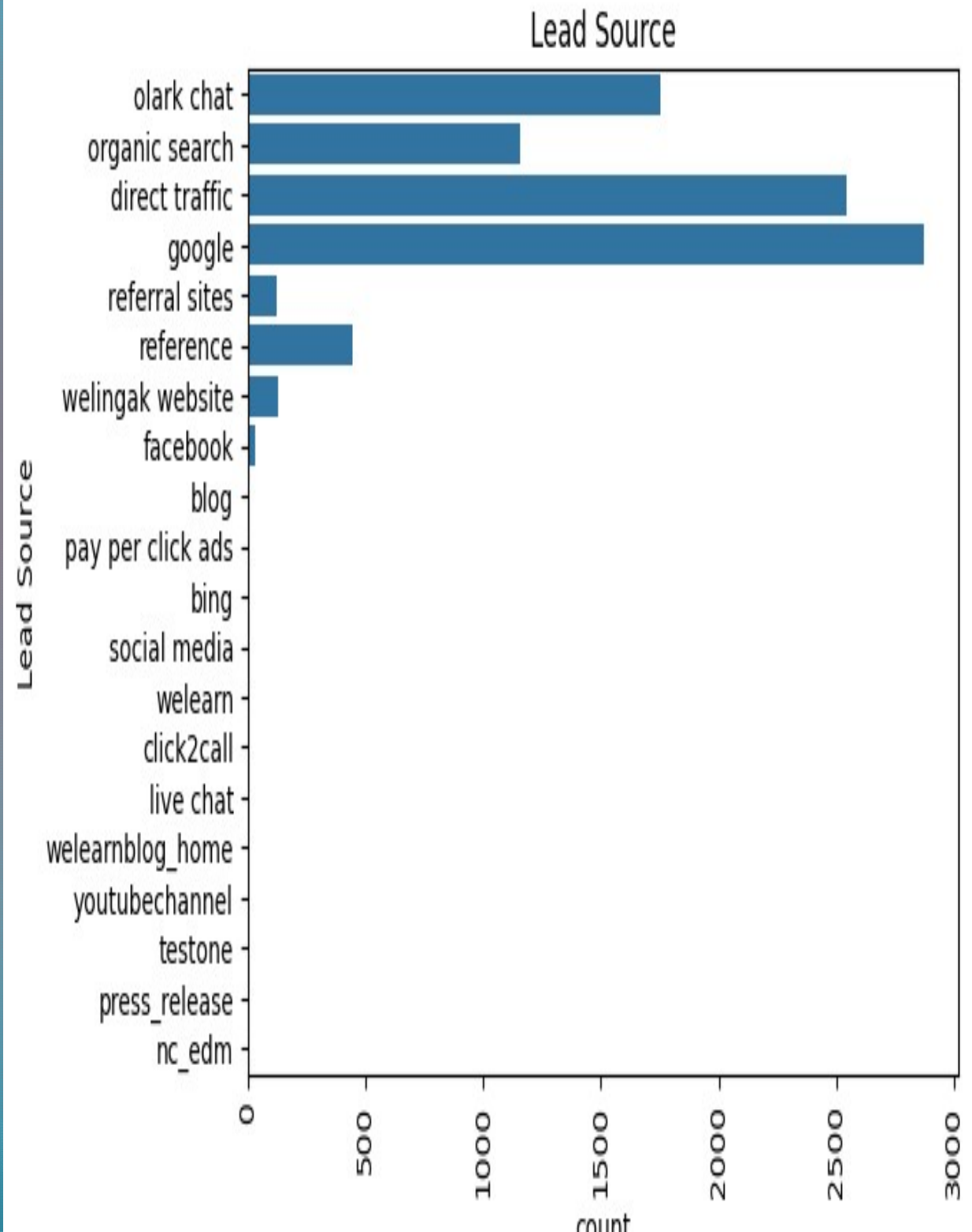
- New features were created to improve model performance, such as interaction scores and categorical encoding.

Modelling Approach

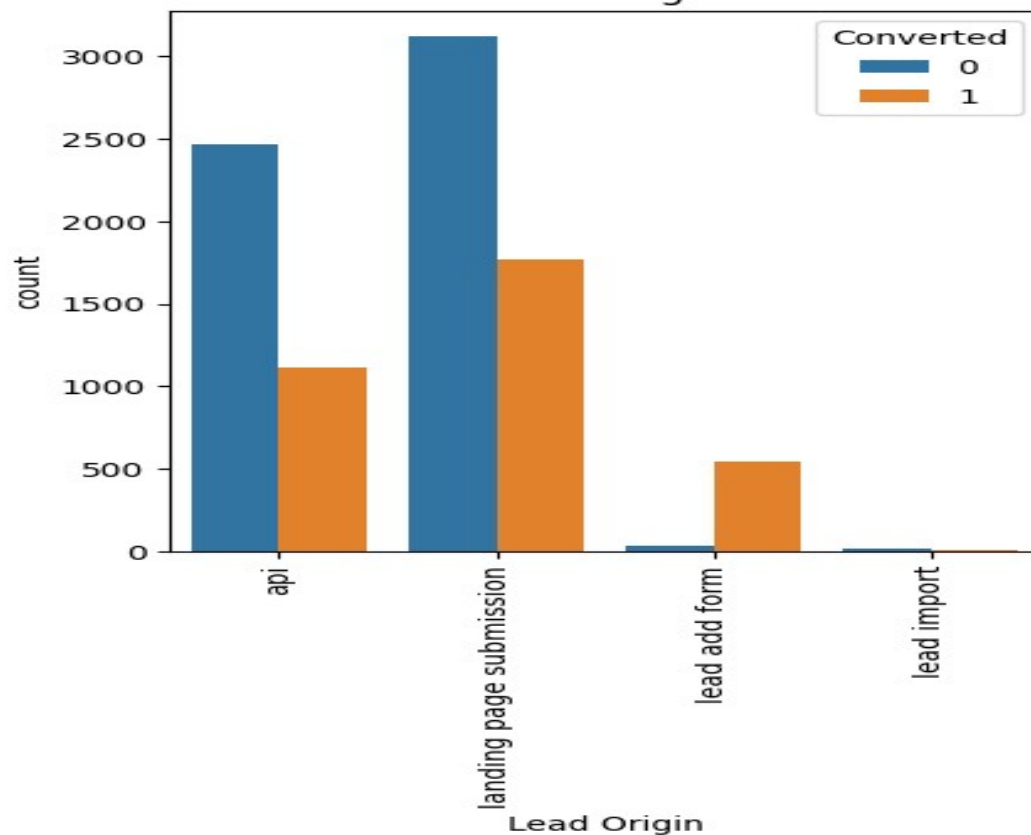
- Different machine learning models were tested, including logistic regression and decision trees, to predict lead conversion probability.

Lead Source

- Google and Direct Traffic generate the highest number of leads.
- Olark Chat and Organic Search contribute a fair share of leads.
- Facebook, Referral Sites, and Social Media have minimal impact



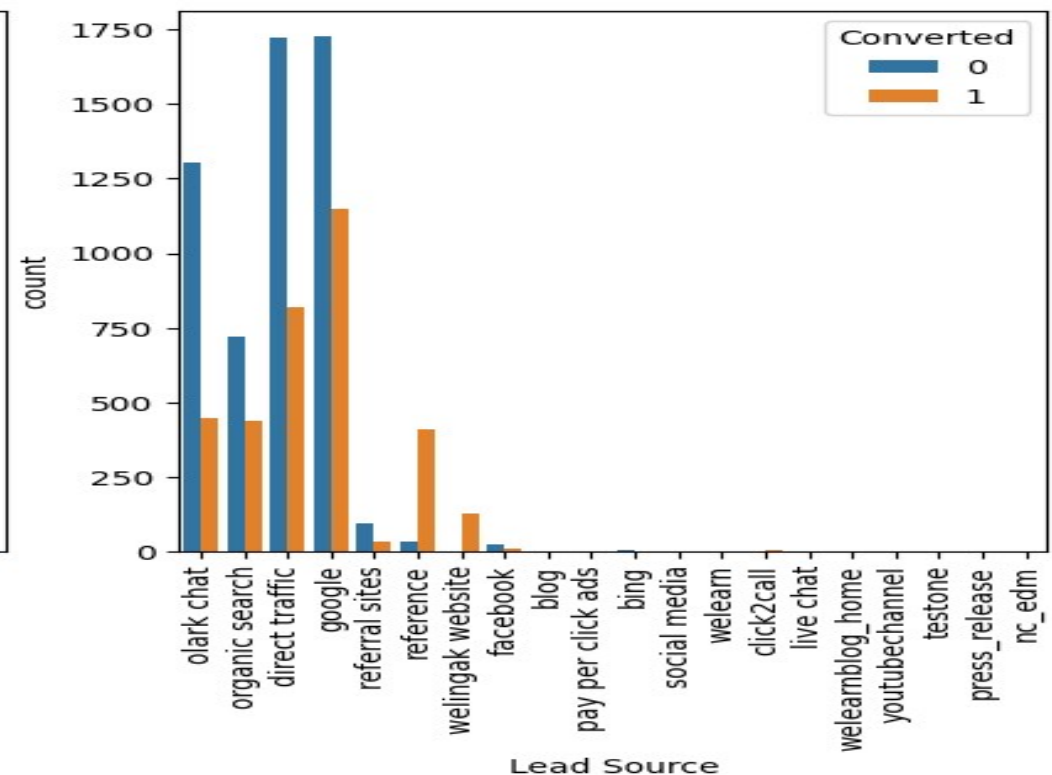
Lead Origin



Lead Origin:

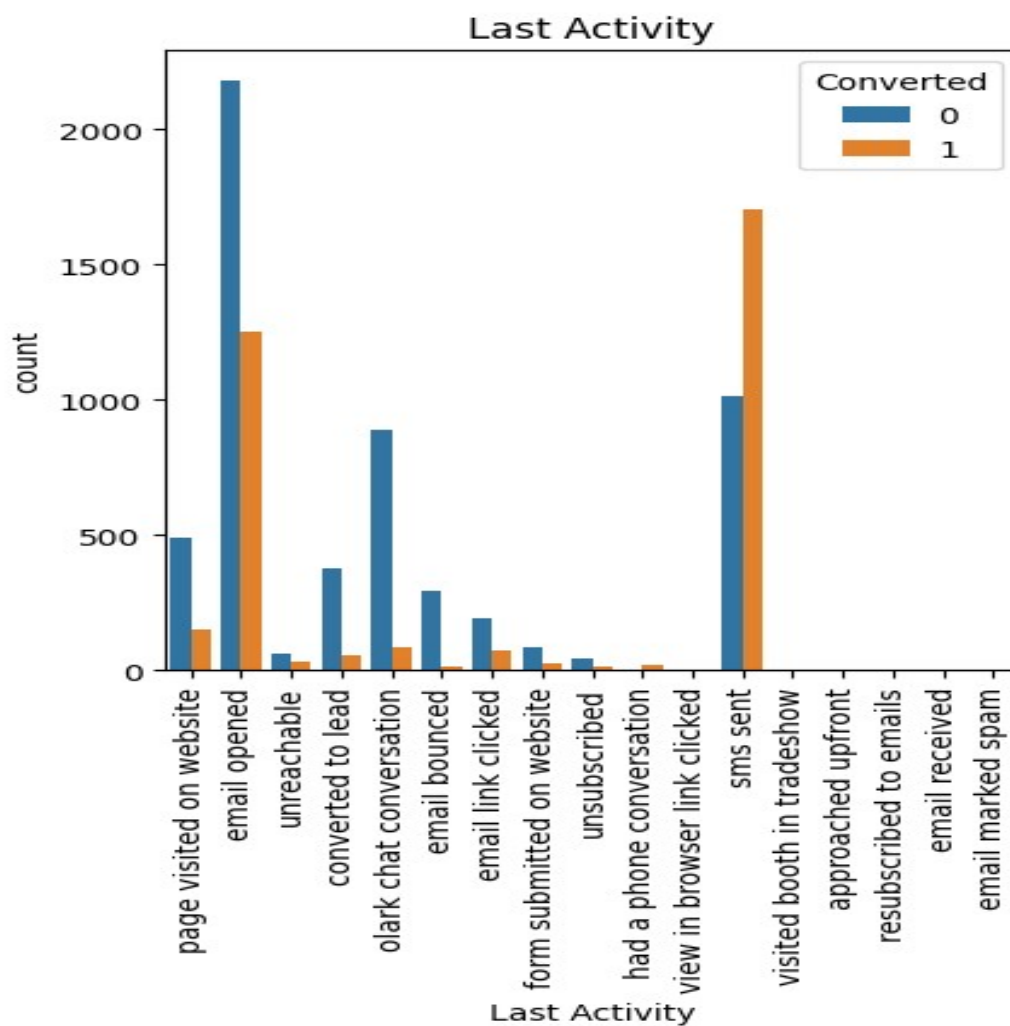
- Landing Page Submission Leads to High Conversions – Most conversions come from this source, making it the most effective channel.
- API Generates a Large Volume, but Conversion is Lower – While API brings in many leads, conversion rates are lower compared to landing page submissions.
- Lead Add Form Shows Moderate Success – Although the volume is lower, it contributes to a steady number of conversions.

Lead Source



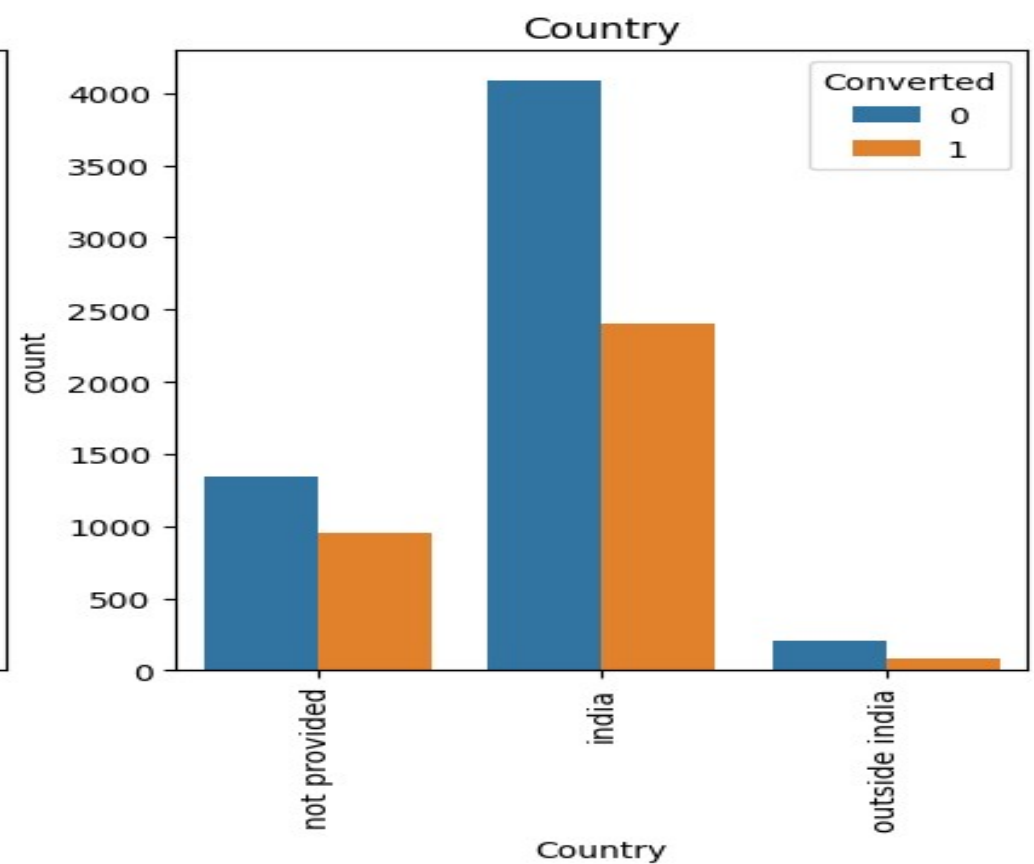
Lead Source:

- Google & Direct Traffic Drive the Most Conversions – These sources generate a high number of successfully converted leads.
- Organic Search Performs Well – It brings in engaged users who convert at a decent rate.
- Welingak Website Has a Strong Conversion Rate – Though fewer in number, the quality of leads from this source is high.



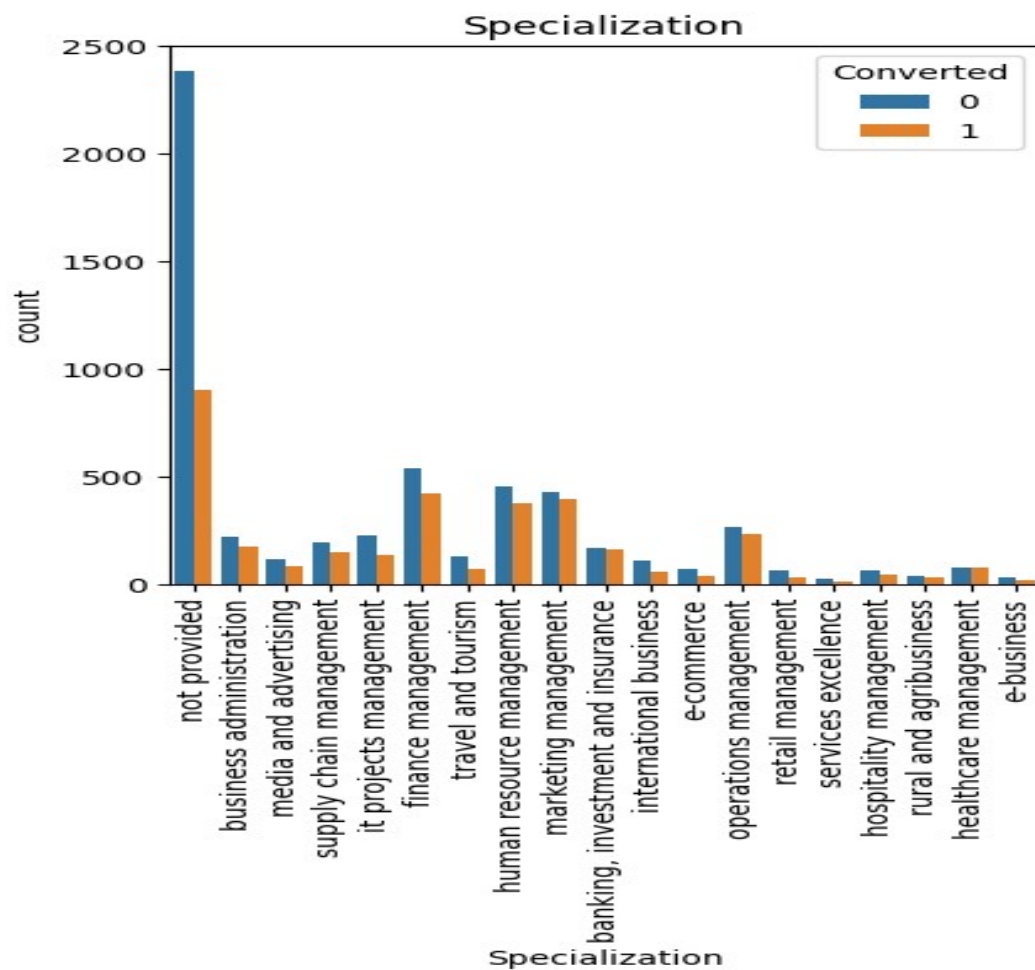
Last Activity:

- 1."SMS Sent" drives the highest conversions, indicating strong engagement with this channel.
- 2."Email Opened" and "Page Visited on Website" show high engagement but lower conversion rates, suggesting the need for further follow-ups.
- 3.Phone and chat interactions lead to moderate conversions, highlighting their potential for personalized lead nurturing.



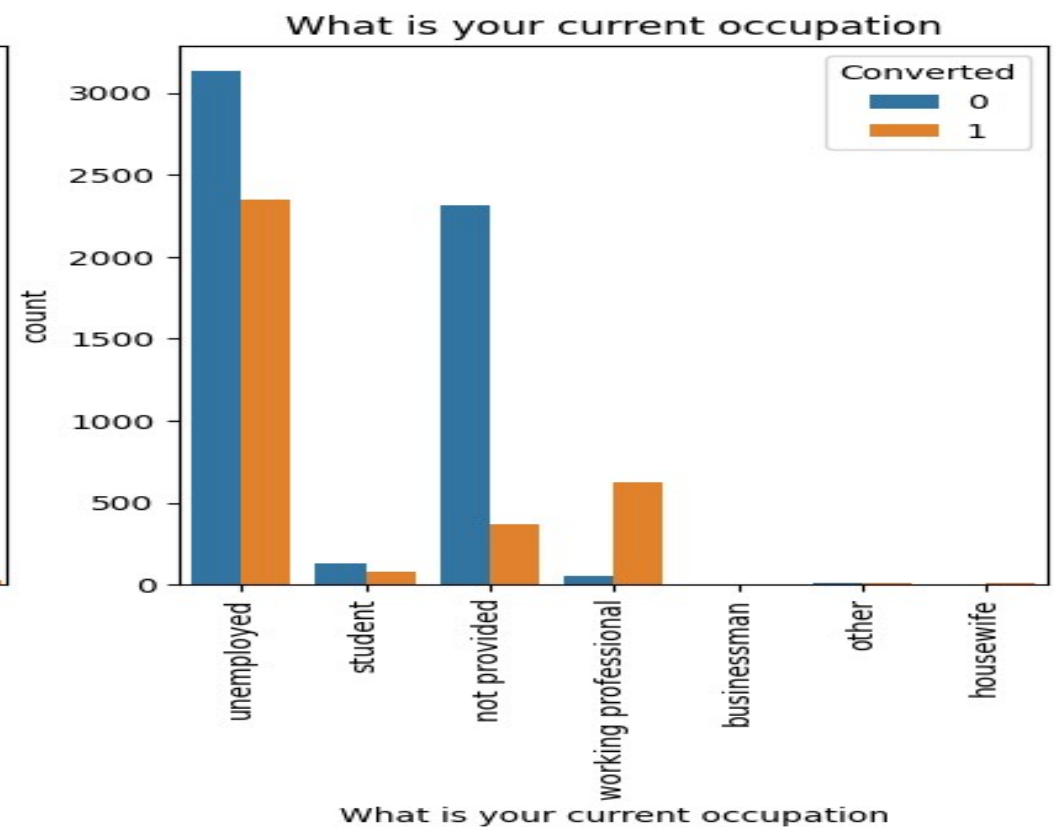
Country:

- 1.India generates the highest number of leads and conversions, making it the strongest market.
- 2.Leads with "Not Provided" country details still show a decent conversion rate, suggesting unidentified but engaged audiences.
- 3.Leads from "Outside India" are minimal and have low conversion rates, indicating a lower impact in international markets.



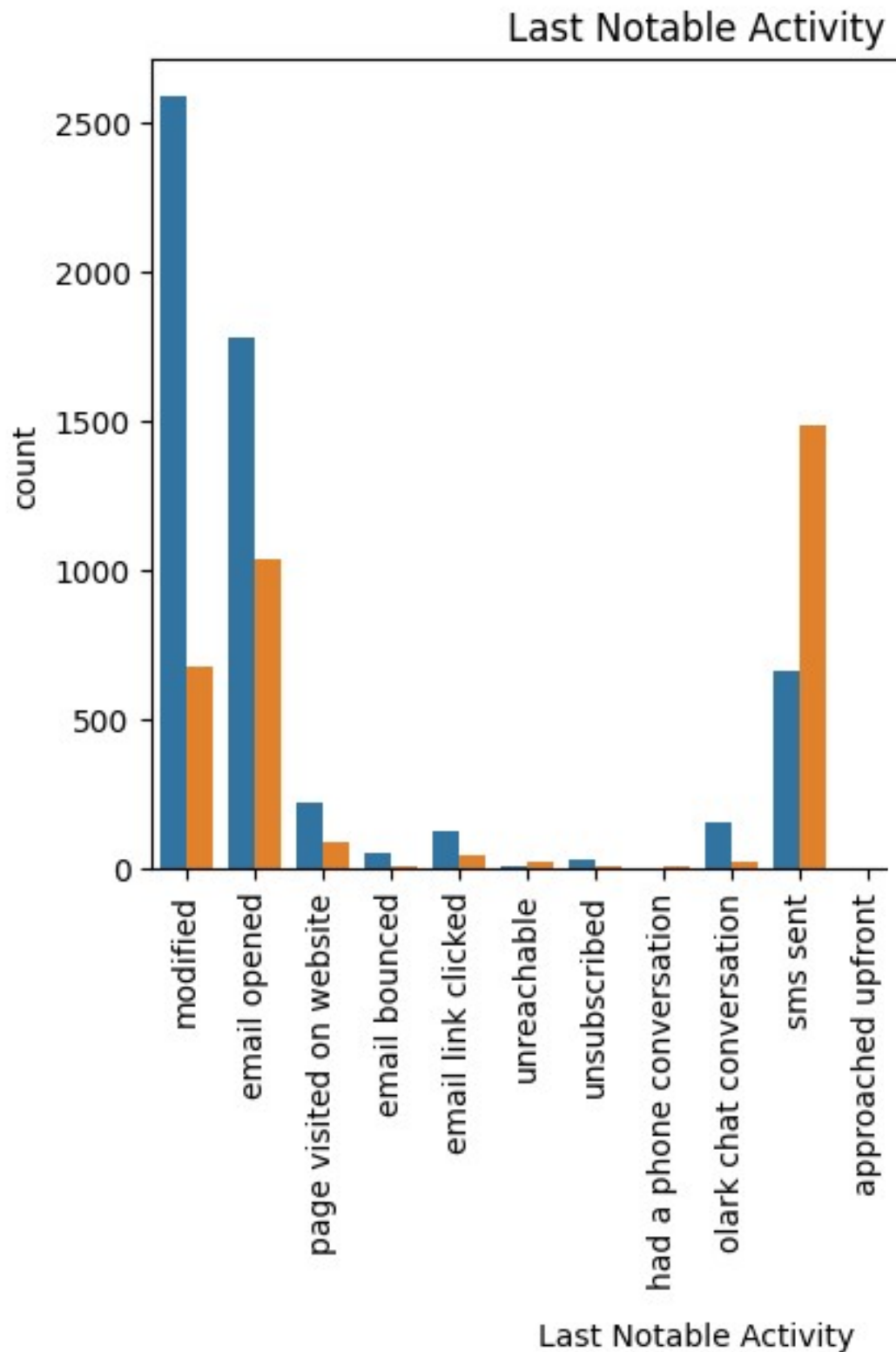
Specialization:

1. "Not Provided" has the highest count, suggesting missing data that could impact insights.
2. Finance, HR, Marketing, and Operations Management have relatively high conversions, indicating strong interest from these fields.
3. Niche specializations like Healthcare, E-business, and Retail Management have fewer leads and conversions, implying lower demand from these sectors.



Current Occupation:

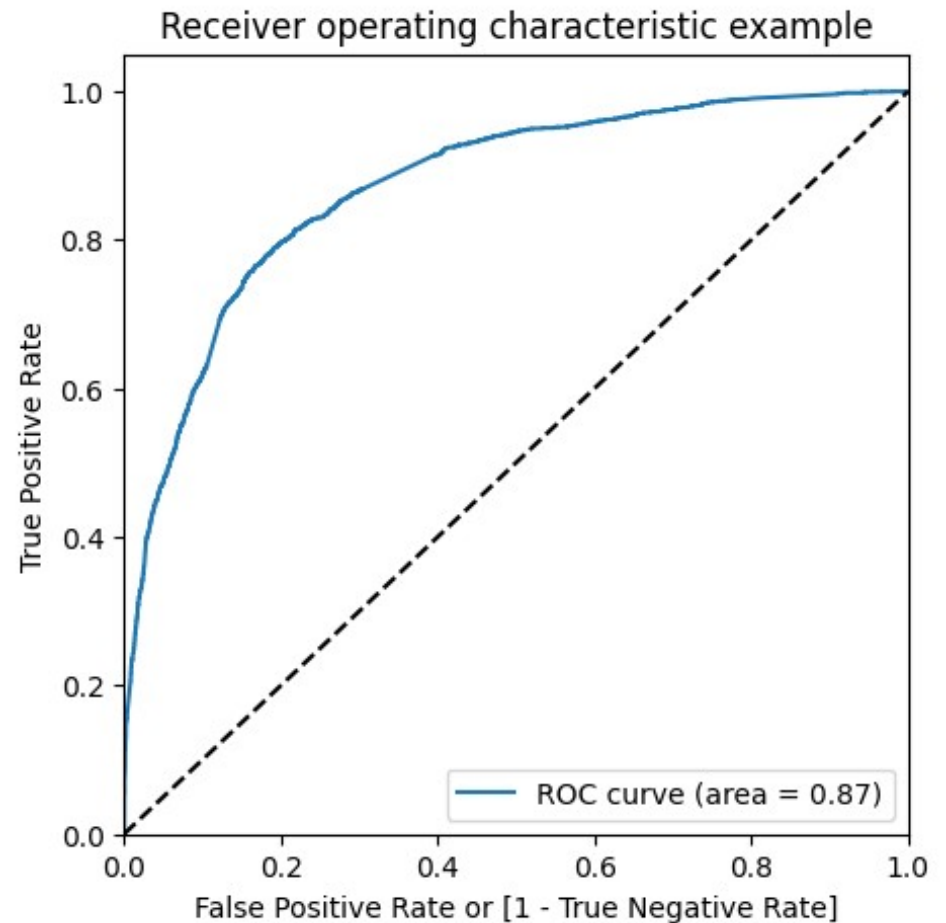
1. Unemployed individuals generate the highest number of leads and conversions, likely due to their active job-seeking status.
2. Students show a strong conversion rate, suggesting high interest in further education or skill development.
3. Working professionals have moderate conversions, indicating they may need more tailored engagement strategies to convert.



Last Notable Activity Insights:

- "Modified" has the highest count but low conversions, indicating it might not directly impact lead conversion.
- "Email Opened" and "SMS Sent" show strong conversion rates, suggesting engaged leads respond well to these interactions.
- Other activities like "Page Visited on Website" and "Olark Chat Conversation" have lower numbers, meaning they may require additional follow-ups to drive conversions.

ROC Curve Evaluation: The **AUC of 0.87** suggests that the predictive model is highly effective in distinguishing potential leads from non-converting ones.



Key Findings

Most Influential Factors for Potential Buyers:

- Total time spent on the website and total number of visits play a crucial role in lead conversion. Higher engagement on the website increases the likelihood of conversion.
- Lead Source Matters: Leads coming from Google, Direct Traffic, Organic Search, and the Welingak website show a higher probability of conversion. These channels should be prioritized for marketing and ad spending.
- Last Activity is a Key Indicator: Leads who engaged through SMS and Olark chat conversations have a significantly higher conversion rate, indicating that direct and interactive communication drives more sales.
- Lead Origin from Lead Add Format: This type of lead generation appears to bring in serious potential buyers, making it a valuable source for acquiring quality leads.
- Current Occupation - Working Professionals Convert More: Data suggests that working professionals are more likely to purchase courses, possibly due to career growth aspirations.

Business Recommendations



Focus on High-Performing Channels: Invest more in **Google ads, Direct Traffic, and Organic Search** since these sources bring in high-quality leads.



Enhance SMS and Chat Engagement: Since these activities correlate with higher conversions, automated **chatbots** and **personalized SMS campaigns** could help nurture leads effectively.



Target Working Professionals Aggressively: Since they convert more, marketing campaigns should be tailored to emphasize career growth benefits.



Prioritize Hot Leads: Using data-driven lead scoring (as validated by the ROC curve), the sales team should **prioritize outreach** to high-potential leads instead of spreading efforts too thin.