Lead Scoring Case Study

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Problem Statement

An education company named X Education sells online courses to industry professionals. On any given day, many professionals who are interested in the courses land on their website and browse for courses.

The company markets its courses on several websites and search engines like Google. Once these people land on the website, they might browse the courses or fill up a form for the course or watch some videos. When these people fill up a form providing their email address or phone number, they are classified to be a lead. Moreover, the company also gets leads through past referrals. Once these leads are acquired, employees from the sales team start making calls, writing emails, etc. Through this process, some of the leads get converted while most do not. The typical lead conversion rate at X education is around 30%.

X Education Company requires us to build a model wherein we need to assign a lead score to each of the leads such that the customers with higher lead score have a higher conversion chance and the customers with lower lead score have a lower conversion chance. The CEO of the company has given the target of the conversion rate of 80 % here.

Proposed Solution

Selection Of Hot Leads:
- **Leads Clustering :** We cluster the leads into certain categories based on their tendency or probability to convert, thus, getting a smaller section of hot leads to focus more on.
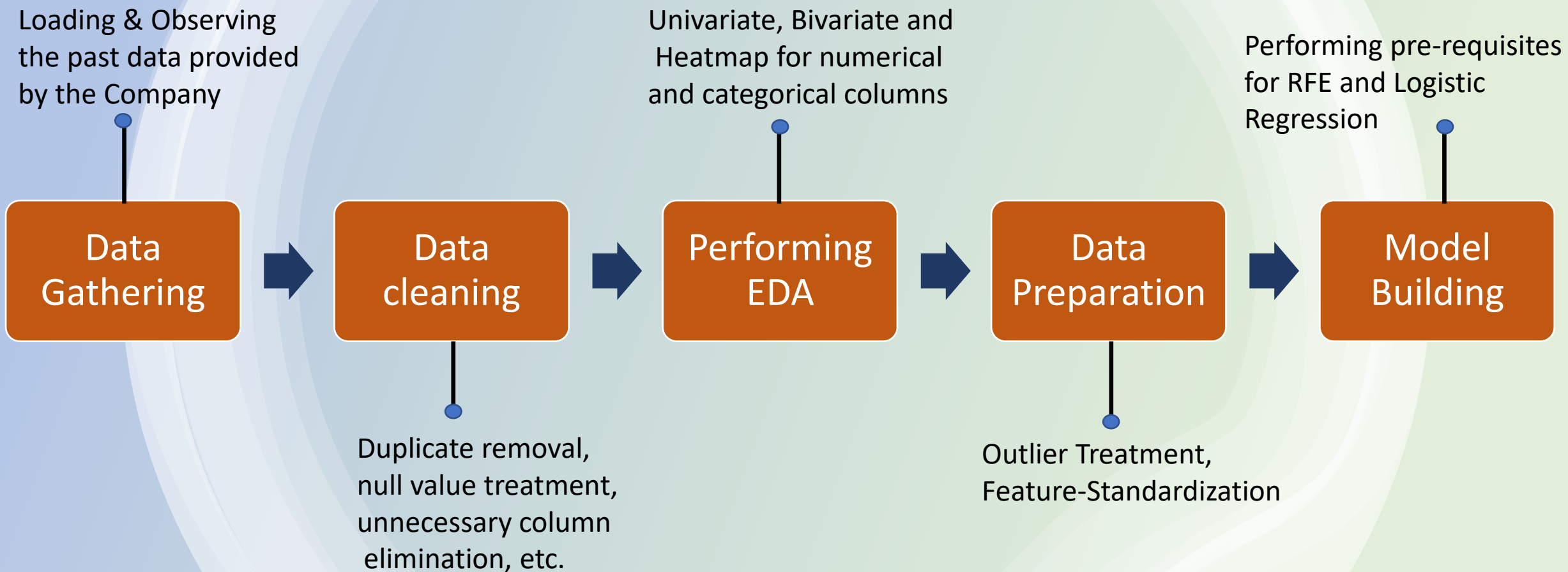
Communicating with Hot Leads:

- **Focus Communication :** Since we would have a smaller set of leads to have communication with, we might make more impact with effective communication.
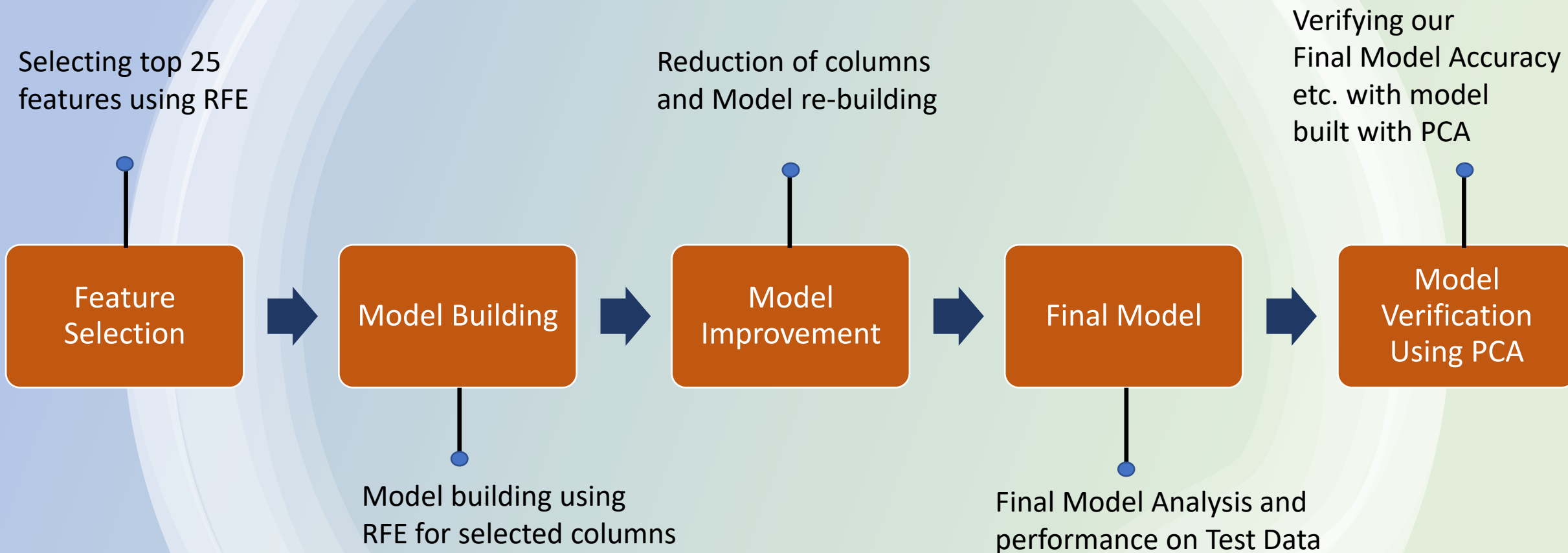
Conversion of Hot Leads:

- **Increase conversion :** Since we focused on hot leads, which were more probable to convert, we would have a better conversion rate, and hence we can achieve the 80% target.

# Flow Of Solution Approach

Flow Of Solution Approach

Selecting top 25
features using RFE

Reduction of columns
and Model re-building

Verifying our
Final Model Accuracy
etc. with model
built with PCA

Feature Selection → **Model Building** → **Model Improvement** → **Final Model** → **Model Verification Using PCA**

Model building using
RFE for selected columns

Final Model Analysis and
performance on Test Data

Various Plots and Visualizations:

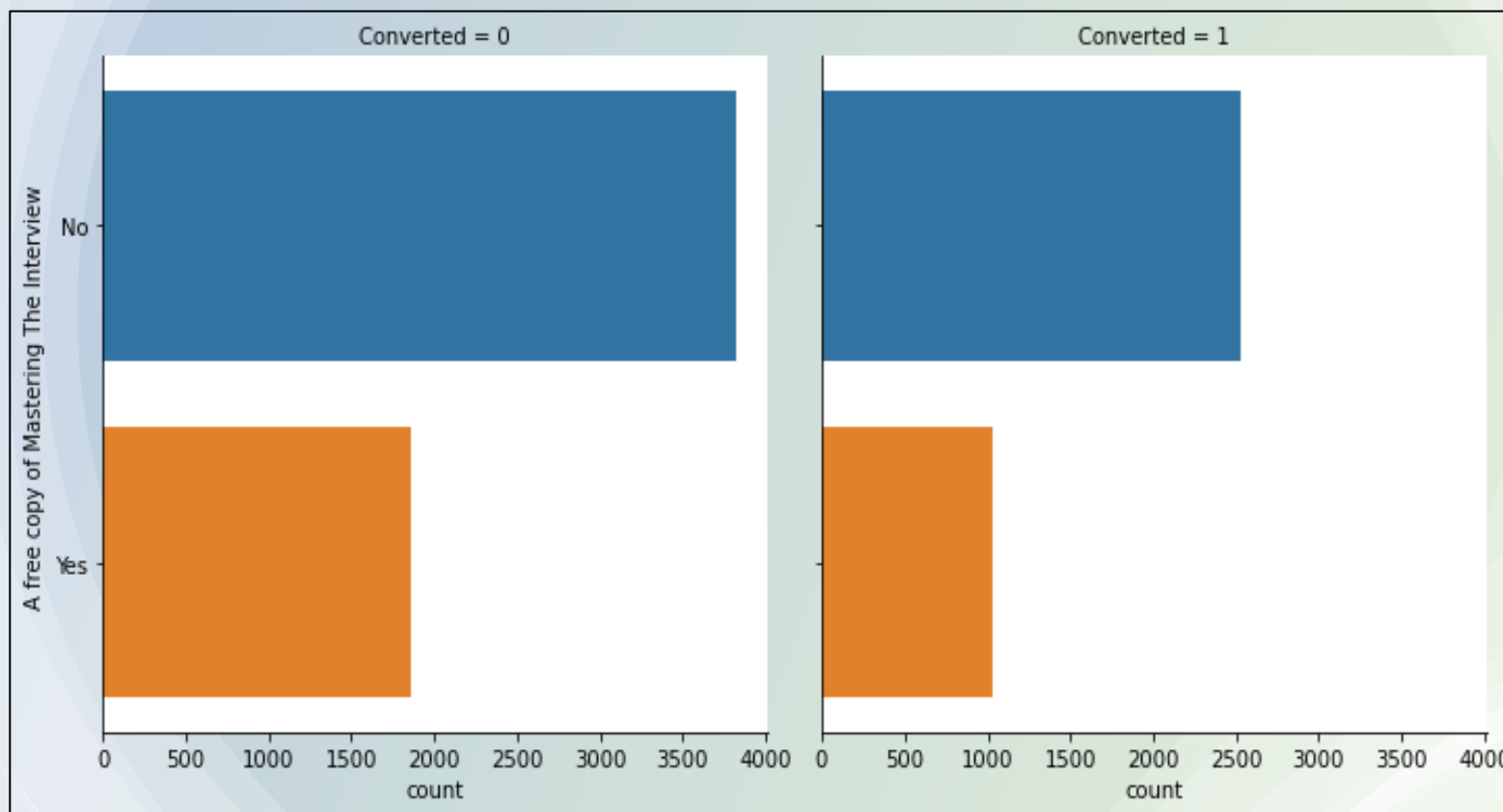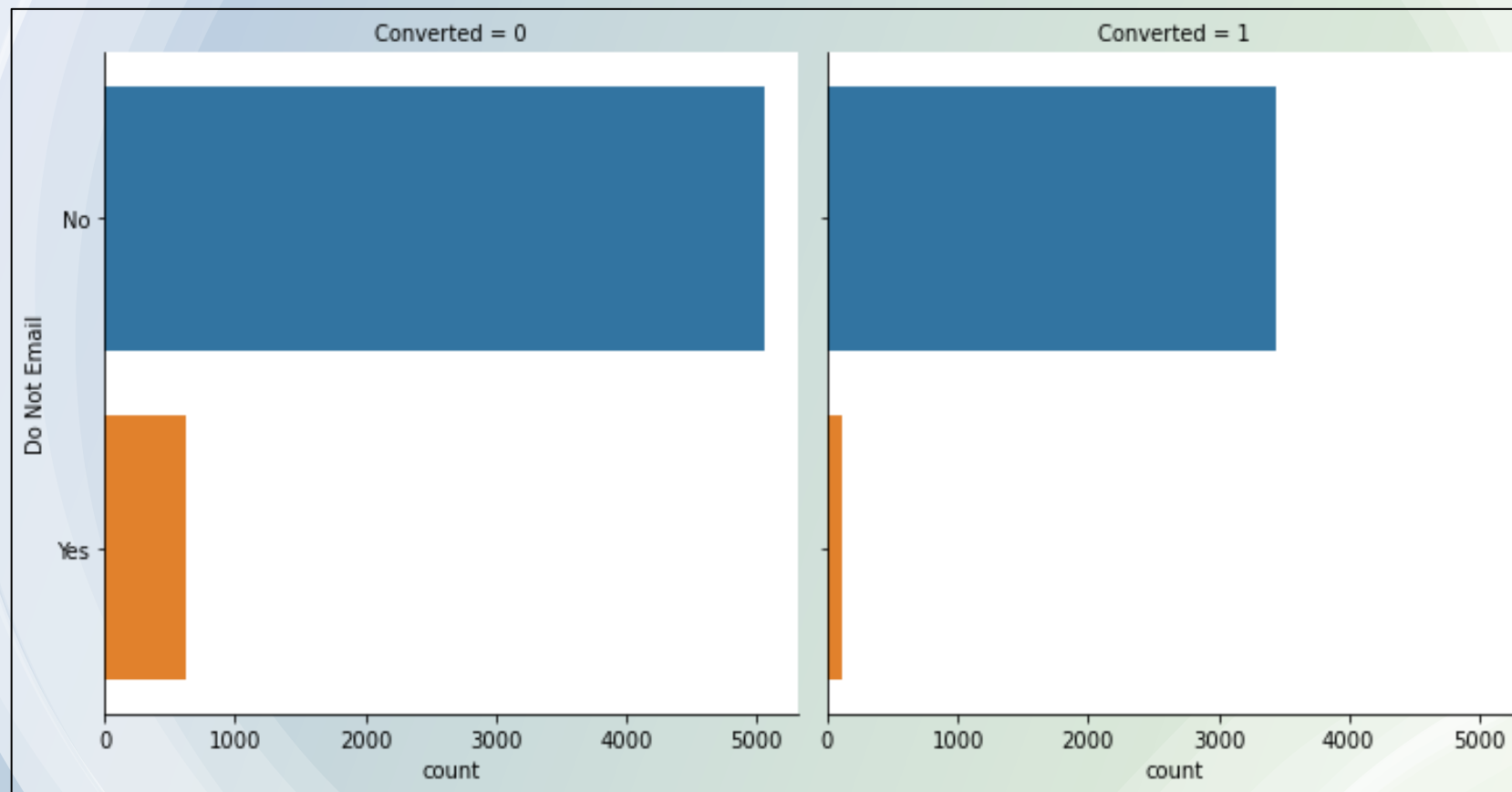EDA plots depicting variation in categorical column (Last Activity) for those who Converted and those who didn't.
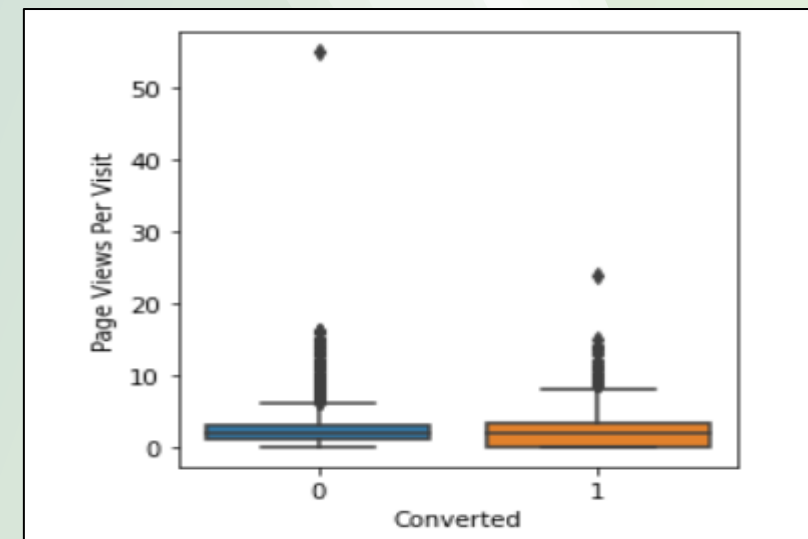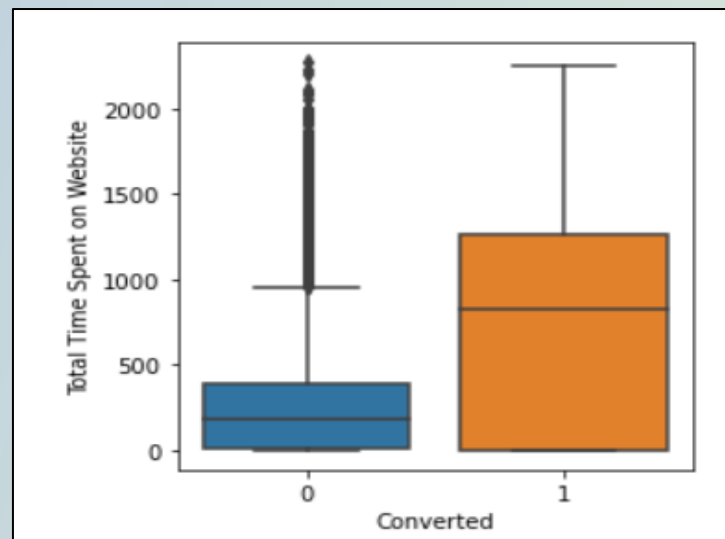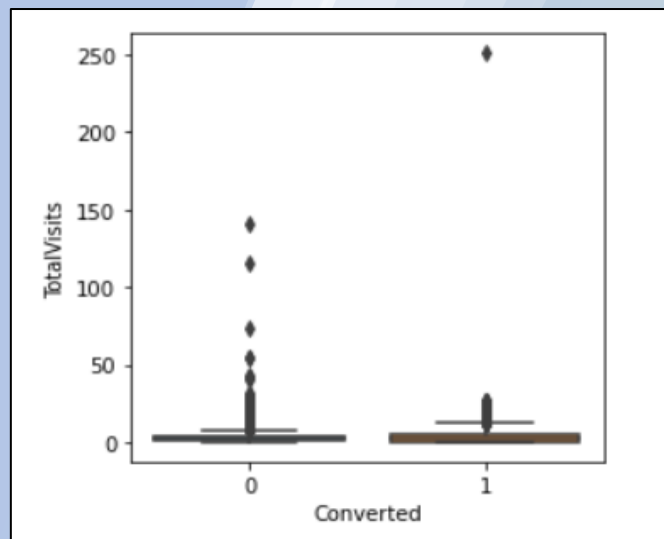
Various Plots and Visualizations:

EDA plots depicting variation in categorical column (Last Activity) for those who Converted and those who didn't.
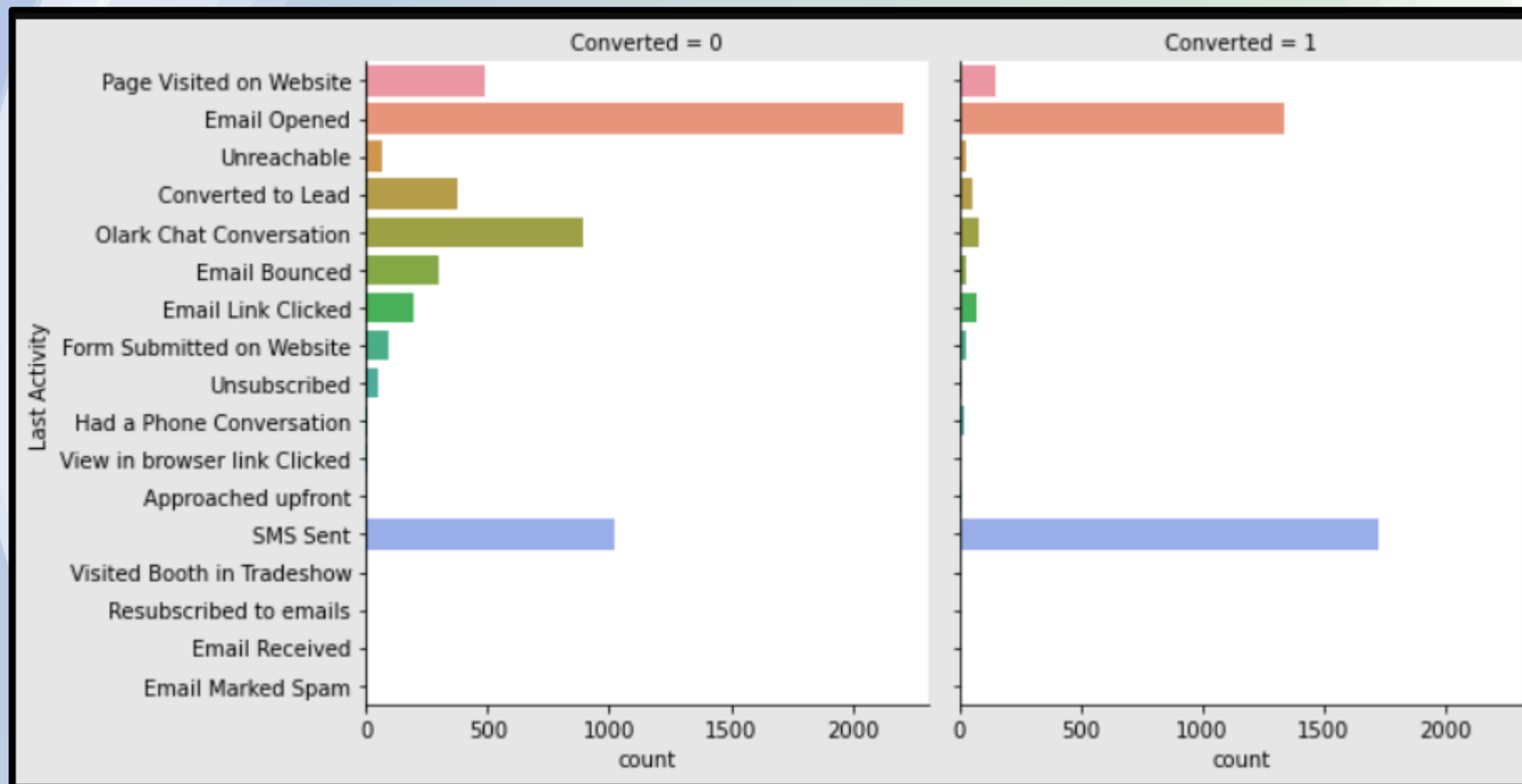
Various Plots and Visualizations:

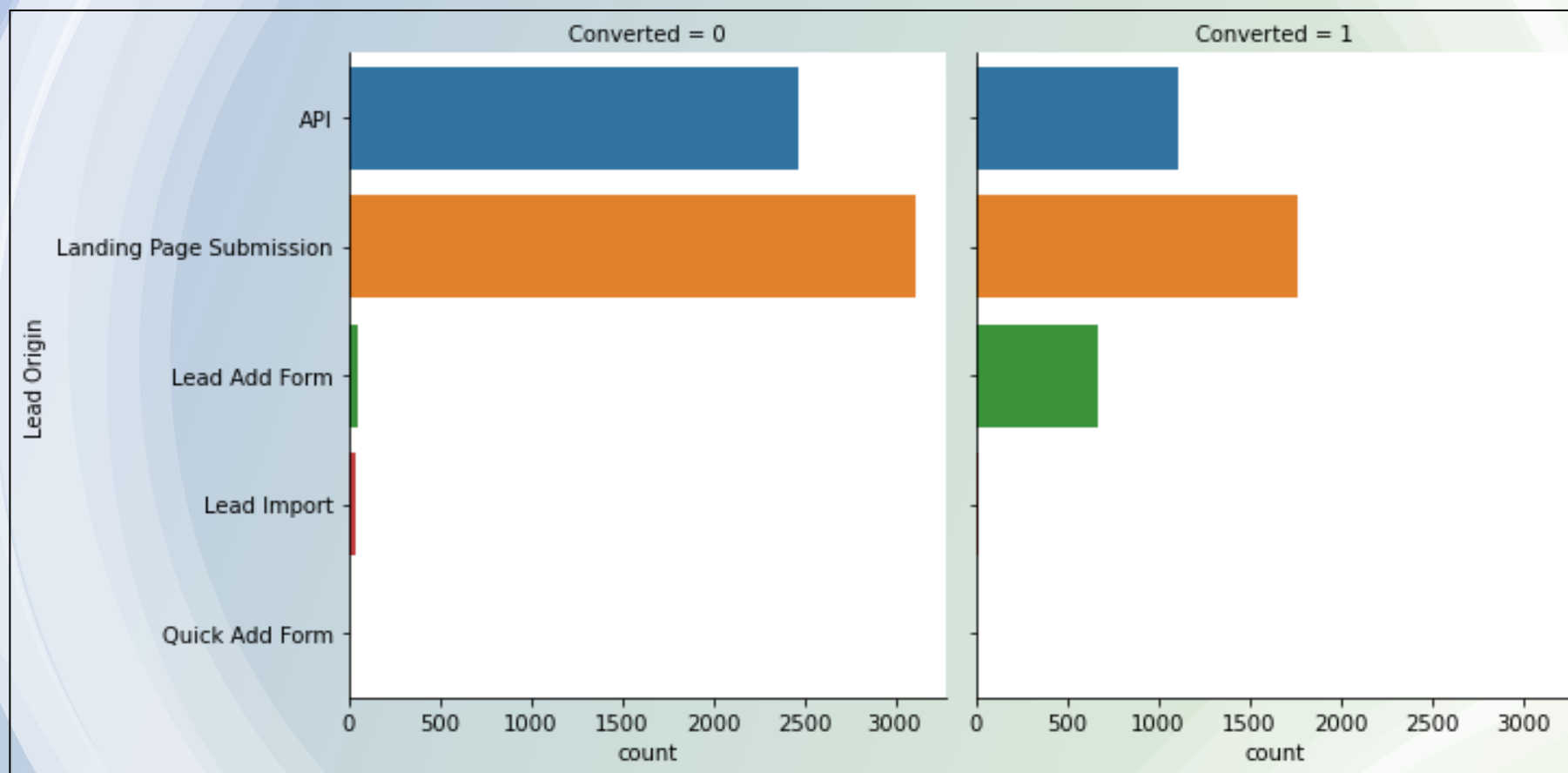EDA plots depicting variation in categorical column for those who were converted and those who didn't.

Various Plots and Visualizations:

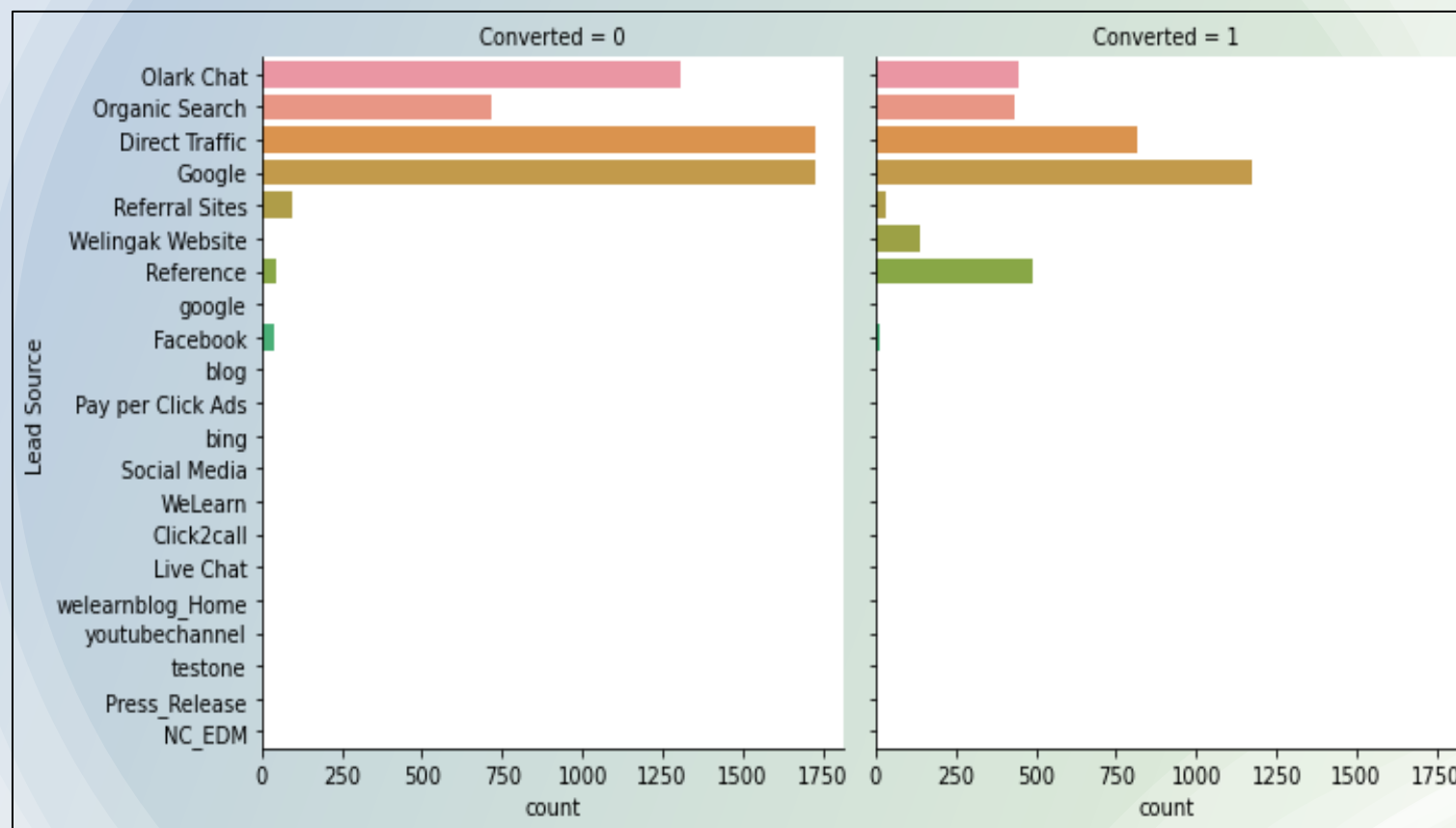EDA plots depicting variation in categorical column (Do Not Email) for those who Converted and those who didn't.

Various Plots and Visualizations:

EDA plots depicting variation in categorical column (Lead Origin) for those who Converted and those who didn't.
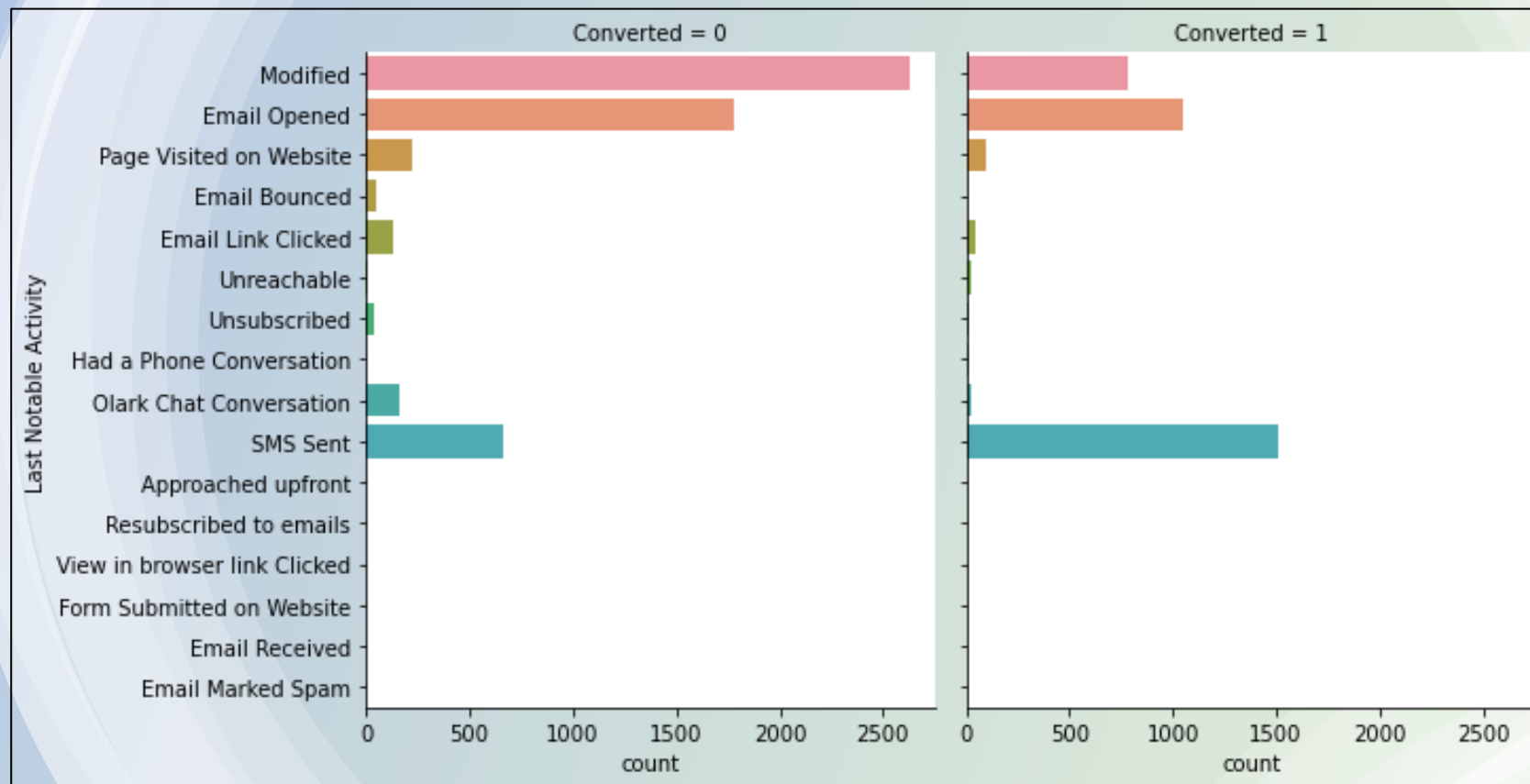
Various Plots and Visualizations:

EDA plots depicting variation in categorical column (Lead Source) for those who Converted and those who didn't.
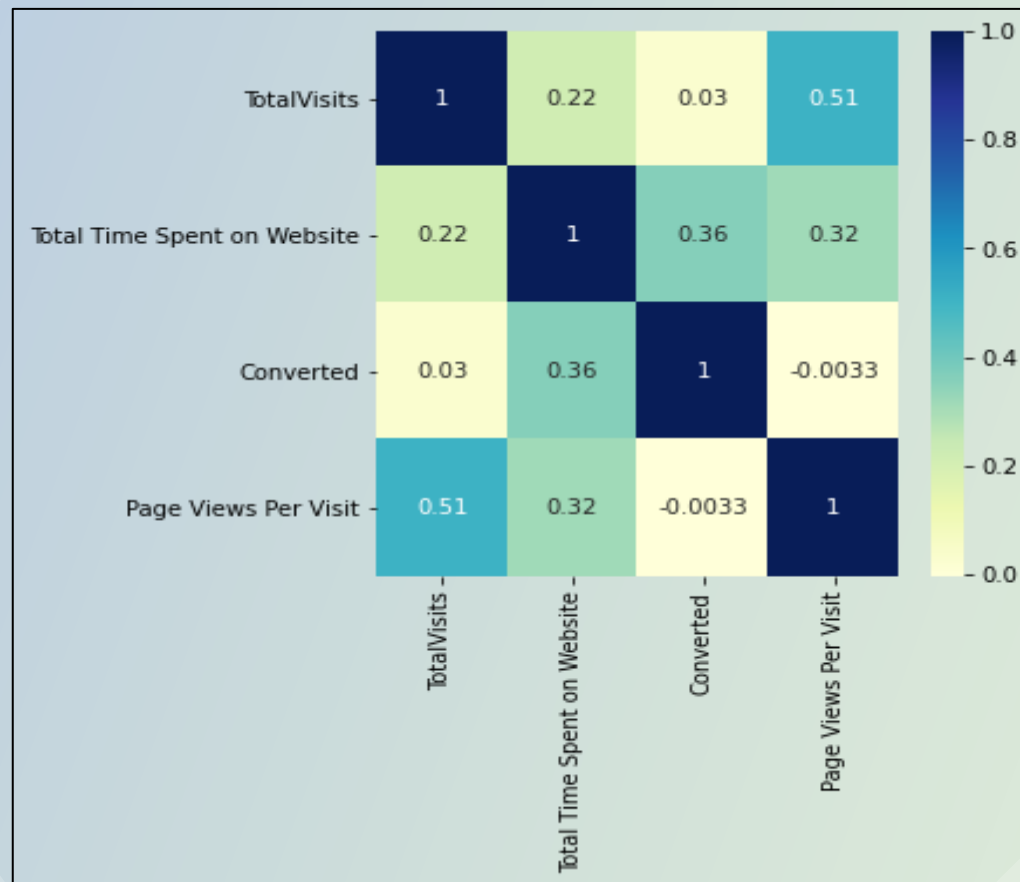
Various Plots and Visualizations:

EDA plots depicting variation in categorical column (Last Notable Activity) for those who Converted and those who didn't.
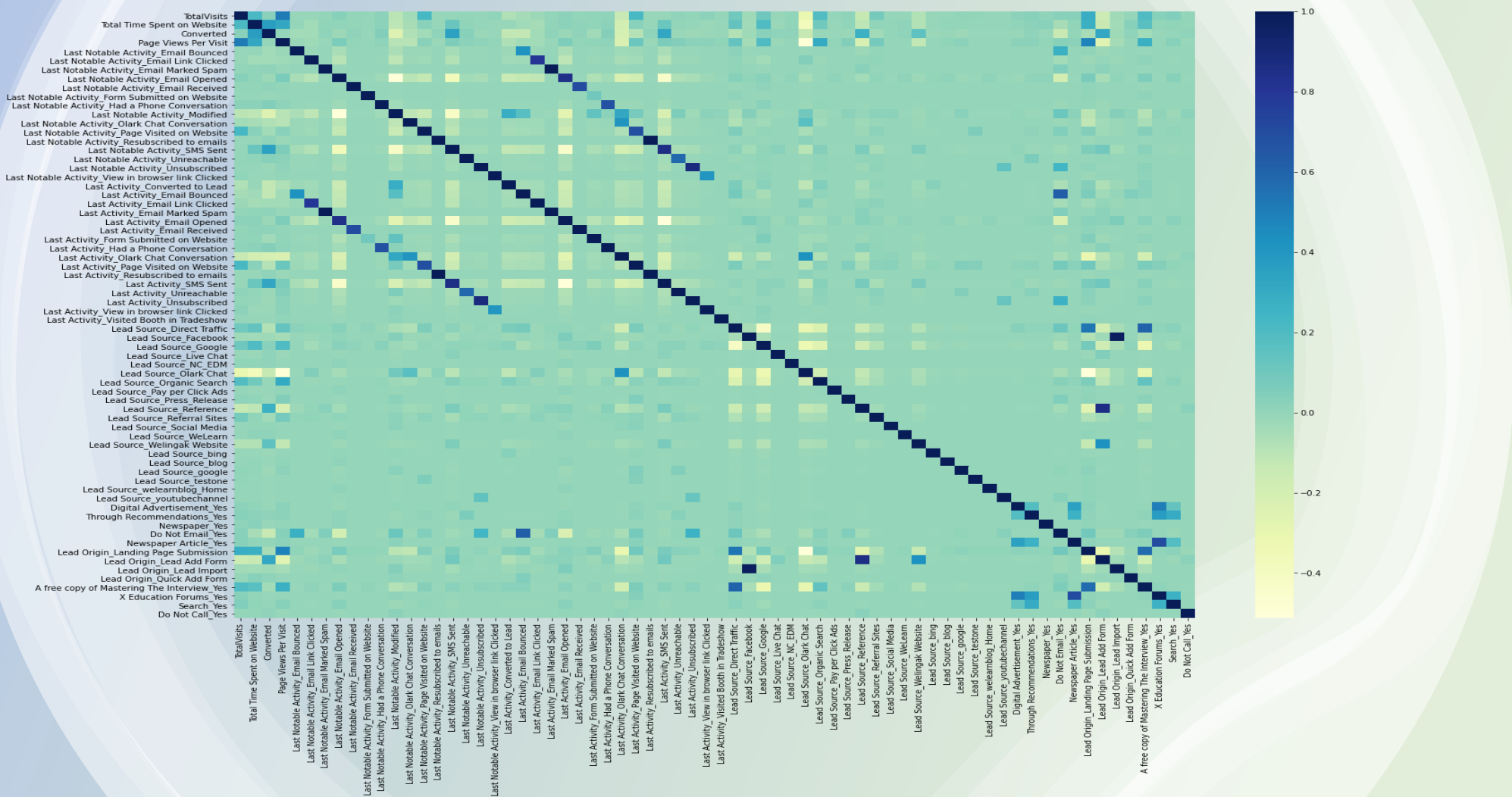
Heat Map to show the correlation:

EDA plots depicting correlation (Heat Map) of all selected numerical columns.

Heat Map to show the correlation:

EDA plots depicting correlation (Heat Map) of all selected columns (numerical columns and dummy columns).
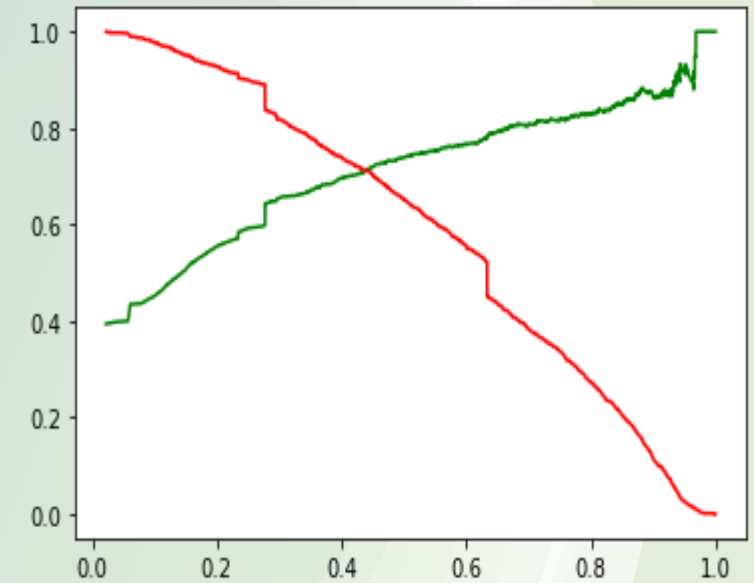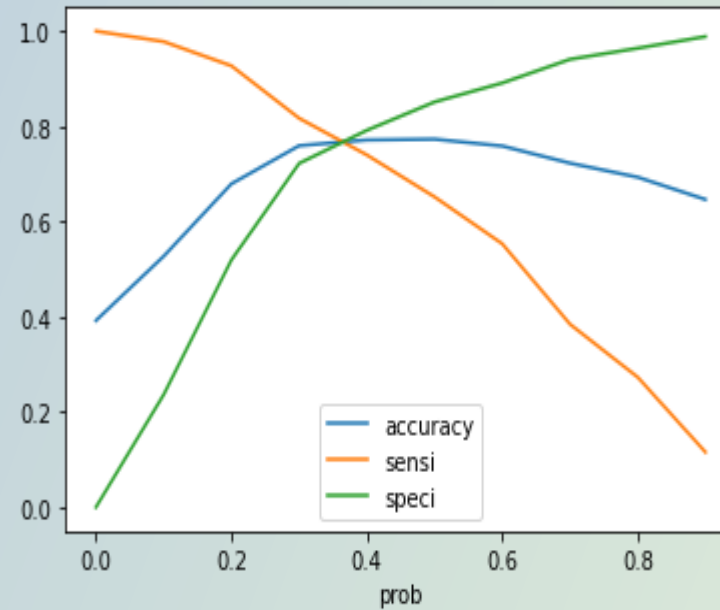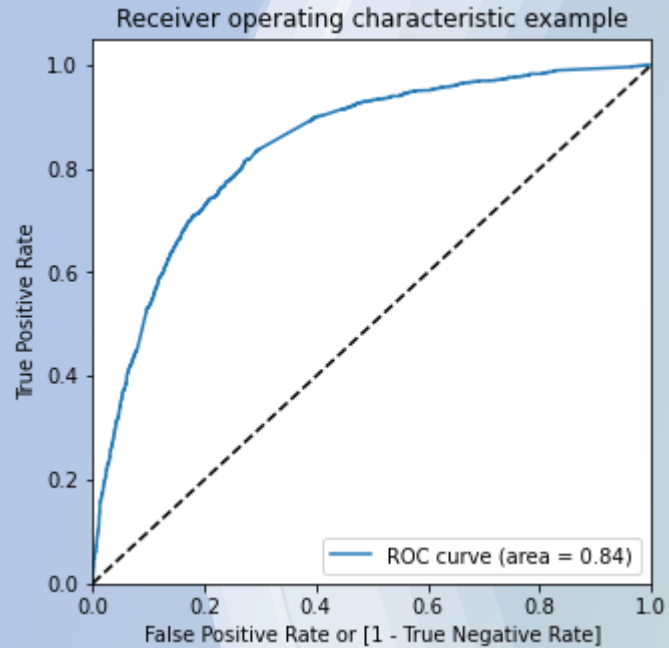
Various Curves:

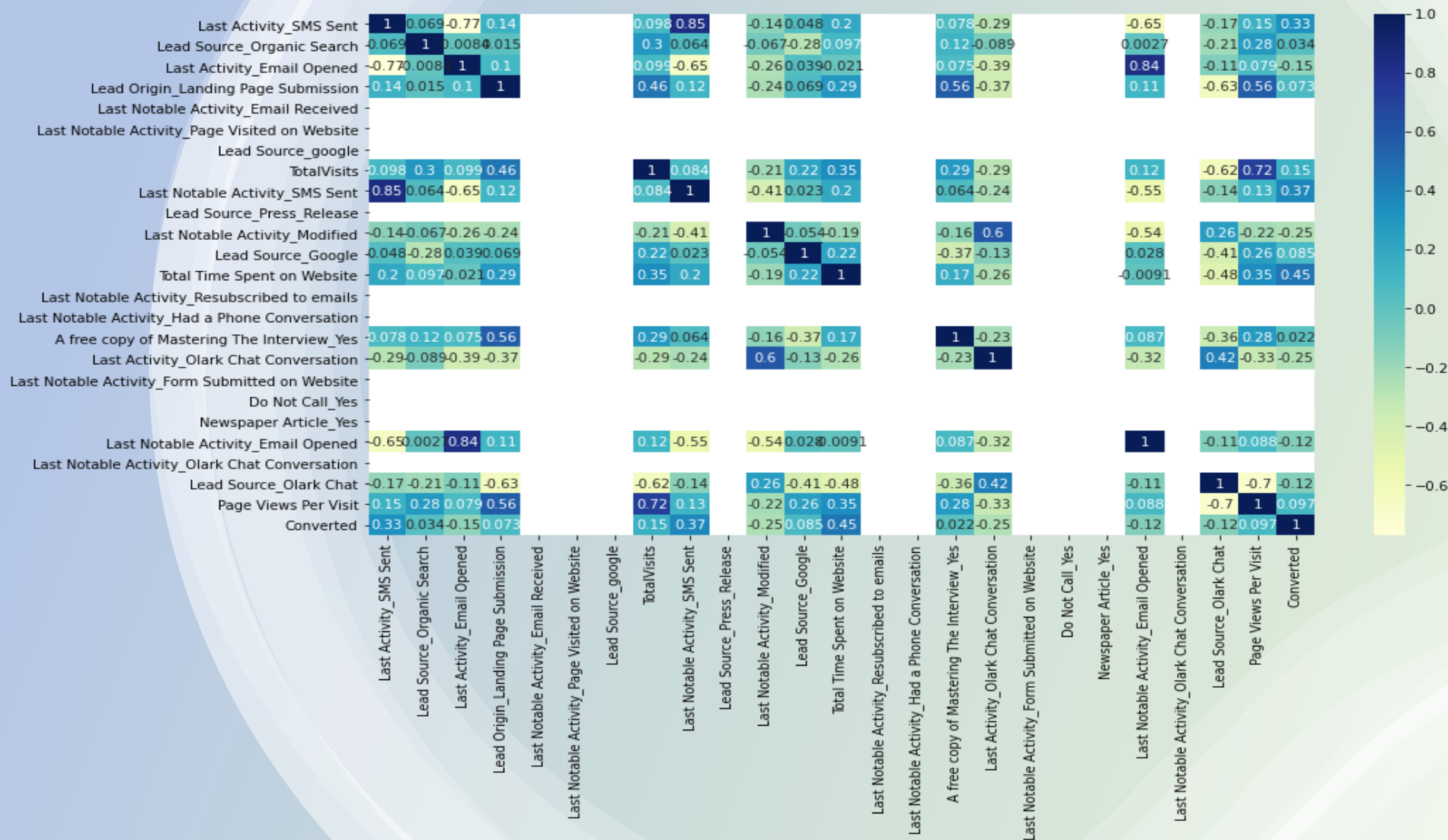Linear Regression Final Model Parameters
Area under ROC = 0.84
Intermediate cut-off = 0.35
Final cut-off = 0.42

Heat Map for the final data model:

EDA plots depicting correlation (Heat Map) of all selected columns (numerical columns and dummy columns) in our final Model.

Business Insights:

Business Insights Derived from our Model-

Top 3 variables in model, that contribute towards lead conversion are:

➢ Total Time Spent on Website

➢ Last Notable Activity SMS Sent

➢ Total Visits

Conclusions:

Recommendations

X Education Company needs to focus on following key aspects to improve the overall conversion rate:

❖ Increase user engagement on their website since this helps in higher conversion
❖ Increase on sending SMS notifications since this helps in higher conversion
❖ Get Total visits increased by advertising etc. since this helps in higher conversion
❖ Improve the Olark Chat service since this is affecting the conversion negatively