Lead Score Case Study

Problem Statement

X Education has appointed you to help them select the most promising leads, i.e. the leads that are most likely to convert into paying customers. The company requires you to build a model wherein you need to assign a lead score to each of the leads such that the customers with a higher lead score have a higher conversion chance and the customers with a lower lead score have a lower conversion chance. The CEO, in particular, has given a ballpark of the target lead conversion rate to be around 80%.

Business Objective

Knowing the most promising leads

Build a model that identifies the hot

leads Deployment of the model for the

future use

Solution Methodology

1. Data Cleaning and

manipulation 2.EDA

3.Feature scaling and dummy variable creation

4.Classification technique

5.Validation of the

model 6.Model

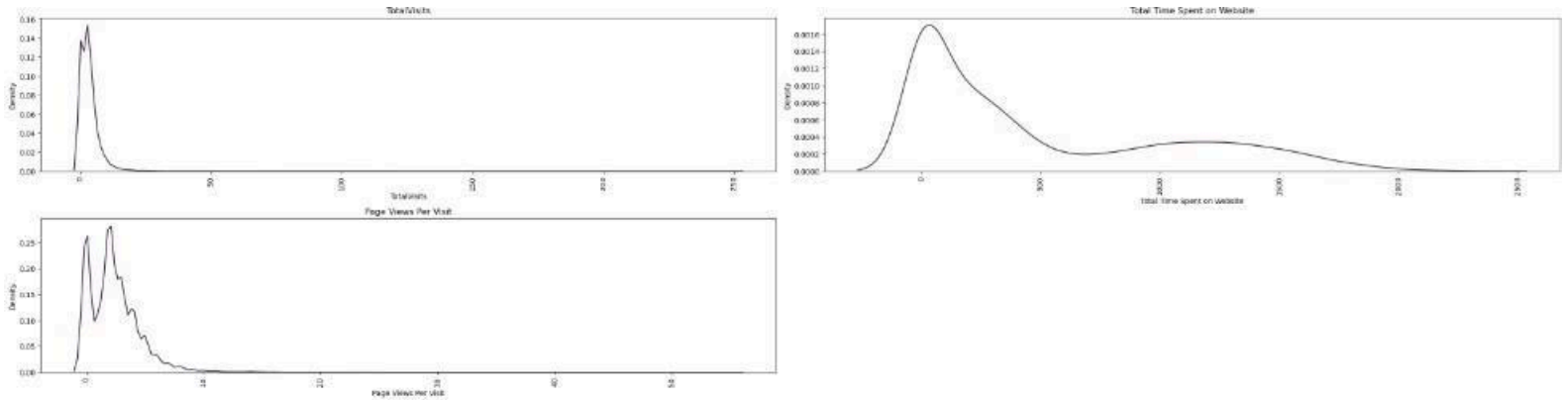
Presentation

7.Conclusions

Data Manipulation

1. Total number of rows =37 , Total number of columns = 9240,
2. Not so important columns have been dropped
3. Removing columns which are not required for the analysis
4. Features which do not have enough variance have been dropped.
5. Dropping columns having more than 35% missing values

EDA

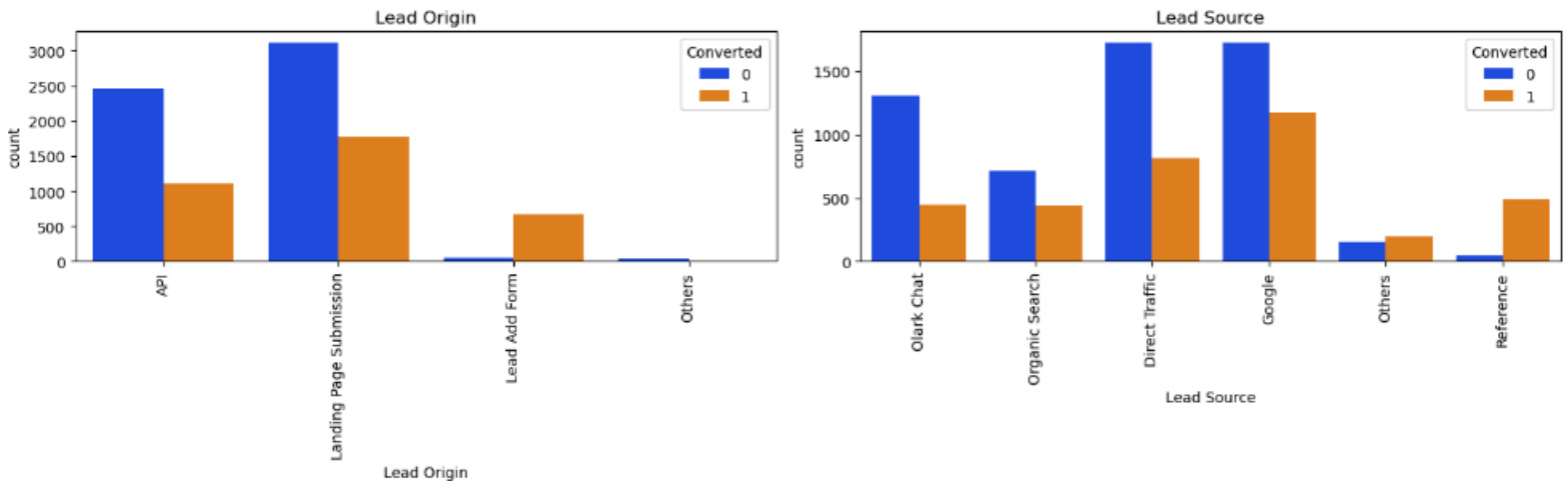


Observation :

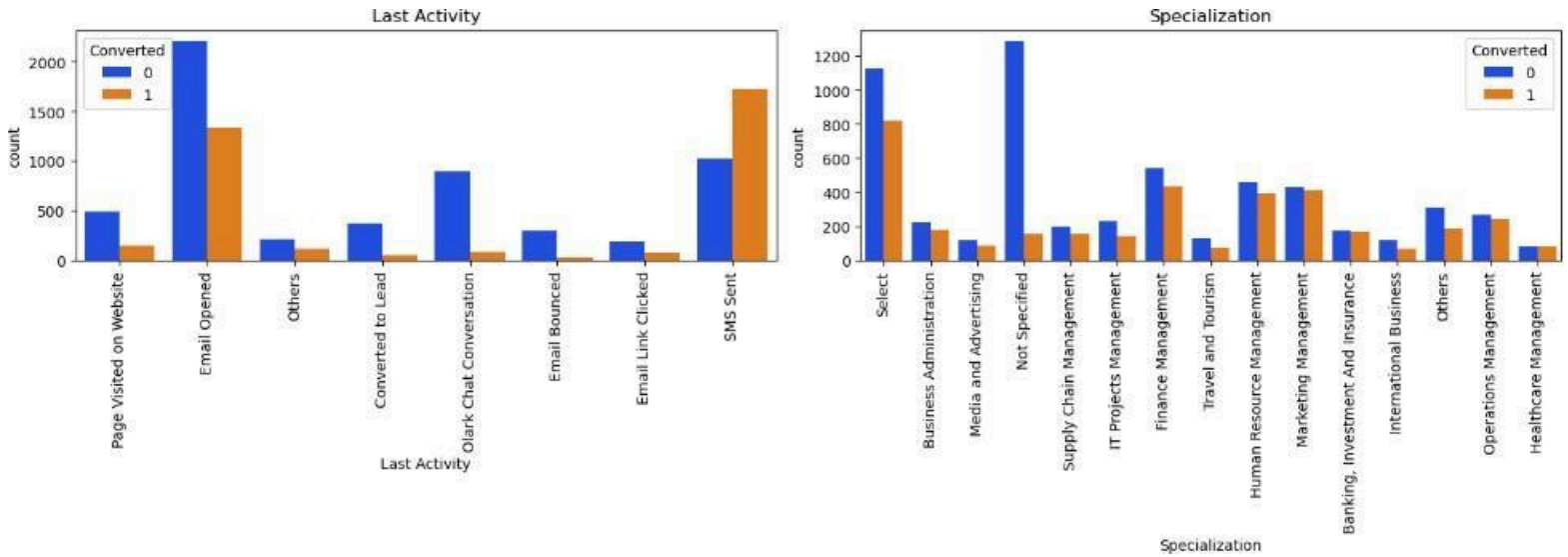
Uni-variate Analysis - Numerical values:

- The max probability for TotalVisits is found to be around 15-20. It increases initially but decreases further.
- The max probability for PageViewsPerVisit is found to be around to be 3-5
- The probability of time spent is found to be high for time between 0-300 seconds and decreases further.

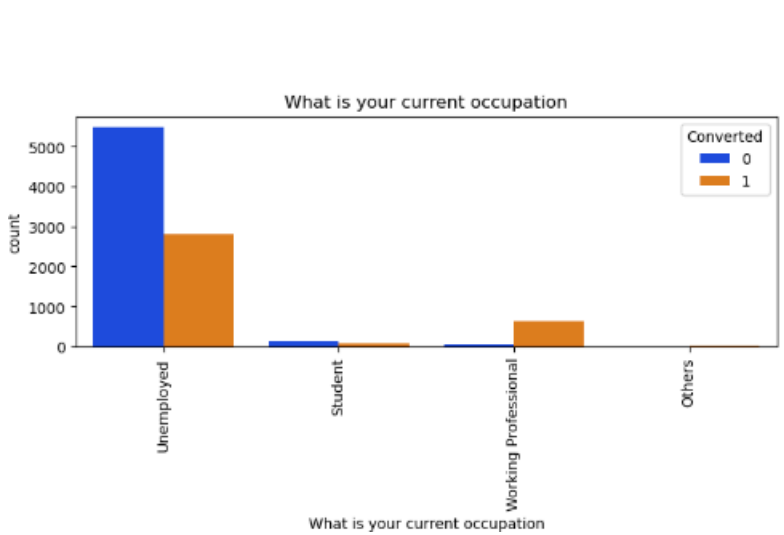
EDA

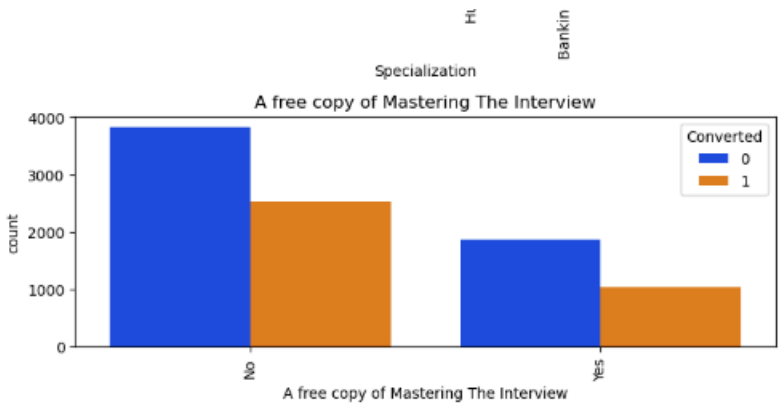

Lead Origin
Converted
0
1
count
3000
2500
2000
1500
1000
500
0
API
Landing Page Submission
Lead Add Form
Others
Lead Origin
Lead Source
Converted
0
1
count
1500
1000
500
0
Olark Chat
Organic Search
Direct Traffic
Google
Others
Reference
Lead Source

EDA

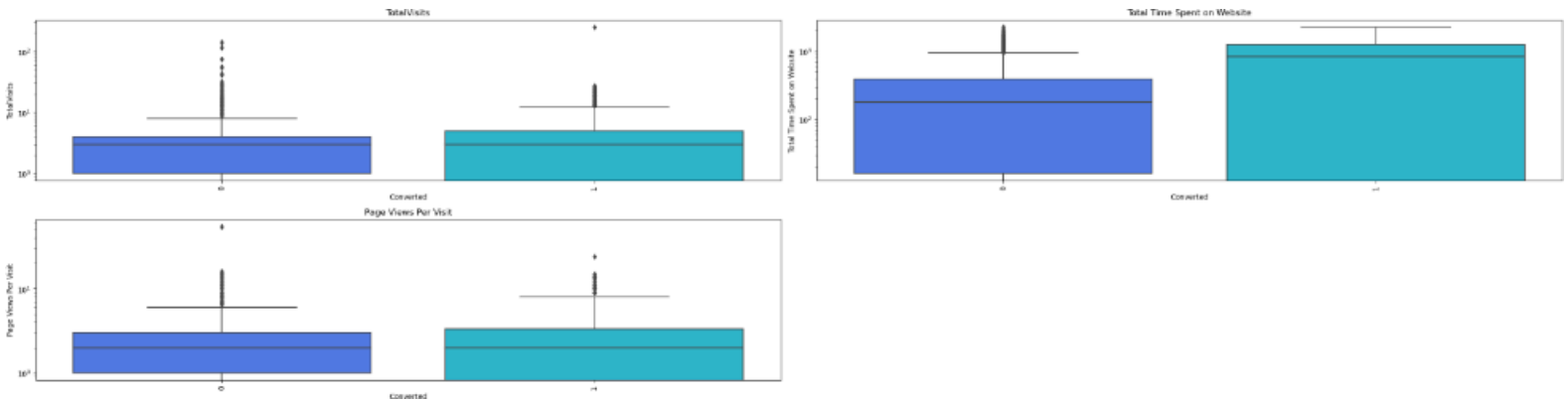

Last Activity
Converted
0
1
count
2000
1500
1000
500
0
Page Visited on Website
Email Opened
Others
Converted to Lead
Olark Chat Conversation
Email Bounced
Email Link Clicked
SMS Sent
Last Activity
Specialization
Converted
0
1
count
1200
1000
800
600
400
200
0
Select
Business Administration
Media and Advertising
Not Specified
Supply Chain Management
IT Projects Management
Finance Management
Travel and Tourism
Human Resource Management
Marketing Management
Banking, Investment And Insurance
International Business
Others
Operations Management
Healthcare Management
Specialization

EDA


What is your current occupation
Converted
0
1
count
5000
4000
3000
2000
1000
0
Unemployed
Student
Working Professional
Others
What is your current occupation


Hi
Bankin
Specialization
A free copy of Mastering The Interview
Converted
0
1
count
4000
3000
2000
1000
0
No
Yes
A free copy of Mastering The Interview

EDA


TotalVisits
Converted
Total Time Spent on Website
Converted
Page Views Per Visit
Converted

DATA Conversion

- Numerical Variables are normalised
- Dummy variables are created for object type variables
- Total rows for analysis 8792
- Total column for analysis 43

MODEL Building

- Splitting the dataset into training and test dataset
- The first basic steps for regression is performing a train test split
- Use RFE for feature for Feature selection
- Running RFE with 15 variables as output
- Buliding Model by removing the variables whose p-values are greater than 0.5 and vif greater than 5

MODEL Building

- Prediction on test data set
- Then measure the overall accuracy

Conclusion

- **Conversion Rate for hot leads is increases from 73% to 96%. This means they have a 96% probability of getting converted to a lead.**
- **Focusing on Hot Leads will increase the chances of obtaining more value to the business as the number of people we contact are less but the conversion rate is high.**

From our model, we can conclude following points :

- The customer/leads who fills the form are the potential leads.
- We must majorly focus on working professionals.
- We must majorly focus on leads whose last activity is SMS sent or Email opened.
- It's always good to focus on customers, who have spent significant time on our website.
- It's better to focus least on customers to whom the sent mail is bounced back.
- If the lead source is referral, he/she may not be the potential lead.
- If the lead didn't fill specialization, he/she may not know what to study and are not right people to target. So, it's better to focus less on such cases.

We know that the relationship between ln(odds) of 'y' and feature variable "X" is much more intuitive and easier to understand.

Recommendations

- It’s good to collect data often and run the model and get updated with the potential leads. There is a belief that the best time to call your potential leads is within few hours after the lead shows interest in the courses.
- Along with phone calls, it’s good to mail the leads also to keep them reminding as email is as powerful as cold calling.
- Reducing the number of call attempts to 2-4 and increasing the frequency of usage of other media like advertisements in Google, or via emails to keep in touch with the lead will save a lot of time.
- Focusing on Hot Leads will increase the chances of obtaining more value to the business as the number of people we contact are less but the conversion rate is high.

Acknowledgement

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