Lead Scoring Case Study

X Education Company Pvt Ltd

Date : 21 March 2023

Credits :

James Alvin Joseph

Kishan Kumar Mitta

Sunny Sharma

Introduction

We are excited to present to you the results of our lead scoring case study analysis. The purpose of this study was to improve our lead scoring process by identifying the most important factors that contribute to a lead's likelihood to convert to a customer. As you know, lead scoring is a crucial step in our sales process, as it allows us to focus our sales efforts on the leads with the highest potential to become paying customers. Our analysis involved collecting and analyzing a large dataset of lead information, which we then used to develop a predictive model for lead scoring. In this presentation, I will share with you the methodology we used, the key findings from our analysis, and the implications for our overall business strategy. Thank you for your time, and I look forward to your feedback on our findings.

Problem Statement

X Education is an online education company that sells courses to industry professionals. The company generates leads by marketing its courses on several websites and search engines. When interested professionals land on the website, they browse the courses or fill out a form providing their contact information, thereby becoming leads. The company also receives leads through past referrals. However, the lead conversion rate at X Education is only around 30%, which means that most leads do not convert to paying customers.

To improve the lead conversion rate, the company wants to identify the most potential leads or 'Hot Leads.' By doing so, the sales team can focus on communicating with potential leads rather than making calls to everyone, thus making the process more efficient. This will involve nurturing potential leads through constant communication and education about the product, leading to a higher lead conversion rate.

X Education generates a lot of leads initially, but only a few of them convert to paying customers. Thus, identifying and nurturing potential leads is crucial to improving the lead conversion rate.

Expectations

X Education has appointed us to help them select the most promising leads, i.e. the leads that are most likely to convert into paying customers. The company requires us 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 has given a ballpark of the target lead conversion rate to be around 80%.

Current Lead Generation Framework

Strangers

Attract strangers to the business's website or other online platforms.

ATTRACT

01

Visitors

Fill up their contact information such as Email and Phone Numbers

CONVERT

02

Leads

Educating them about the business's products or services and nurturing them through constant communication.

CLOSE

03

Customers

Convert these leads into paying customers

DELIGHT

04

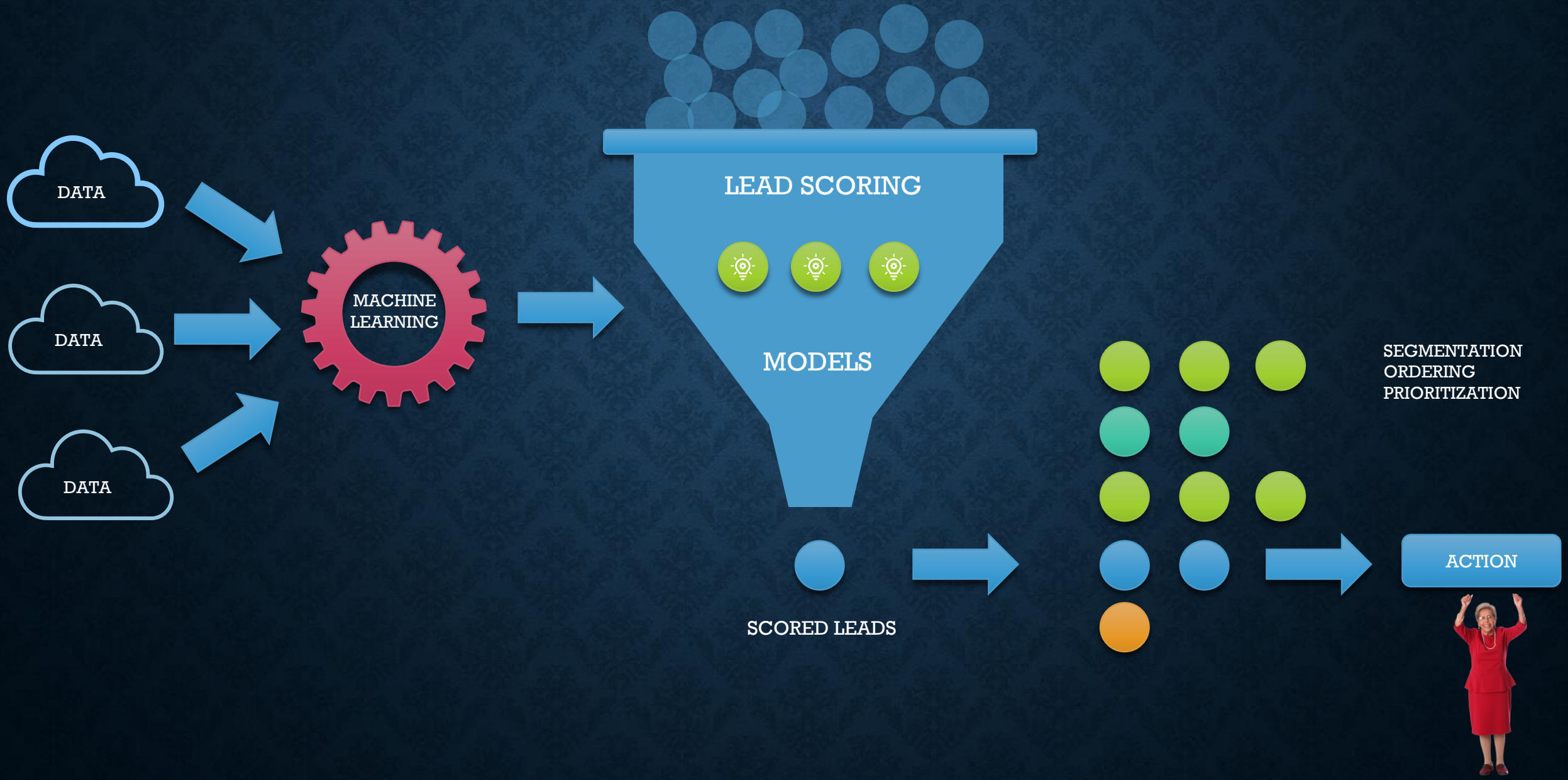
Promoters

Customers can then become advocates of the business, spreading the word about their positive experience.

30%
Conversion Rate

PROPOSED SOLUTION

Proposed Lead Generation Framework



Proposed Solution

IDENTIFICATION OF HOT LEADS

Build an AI model using a machine learning algorithm, which can learn from historical data to predict the likelihood of a lead converting. The algorithm is trained on a dataset of historical leads and their conversion outcomes, and it learns to identify patterns in the data that are associated with high conversion rates. The model can then be used to score new leads based on their likelihood of conversion.

COMMUNICATING WITH HOT LEADS

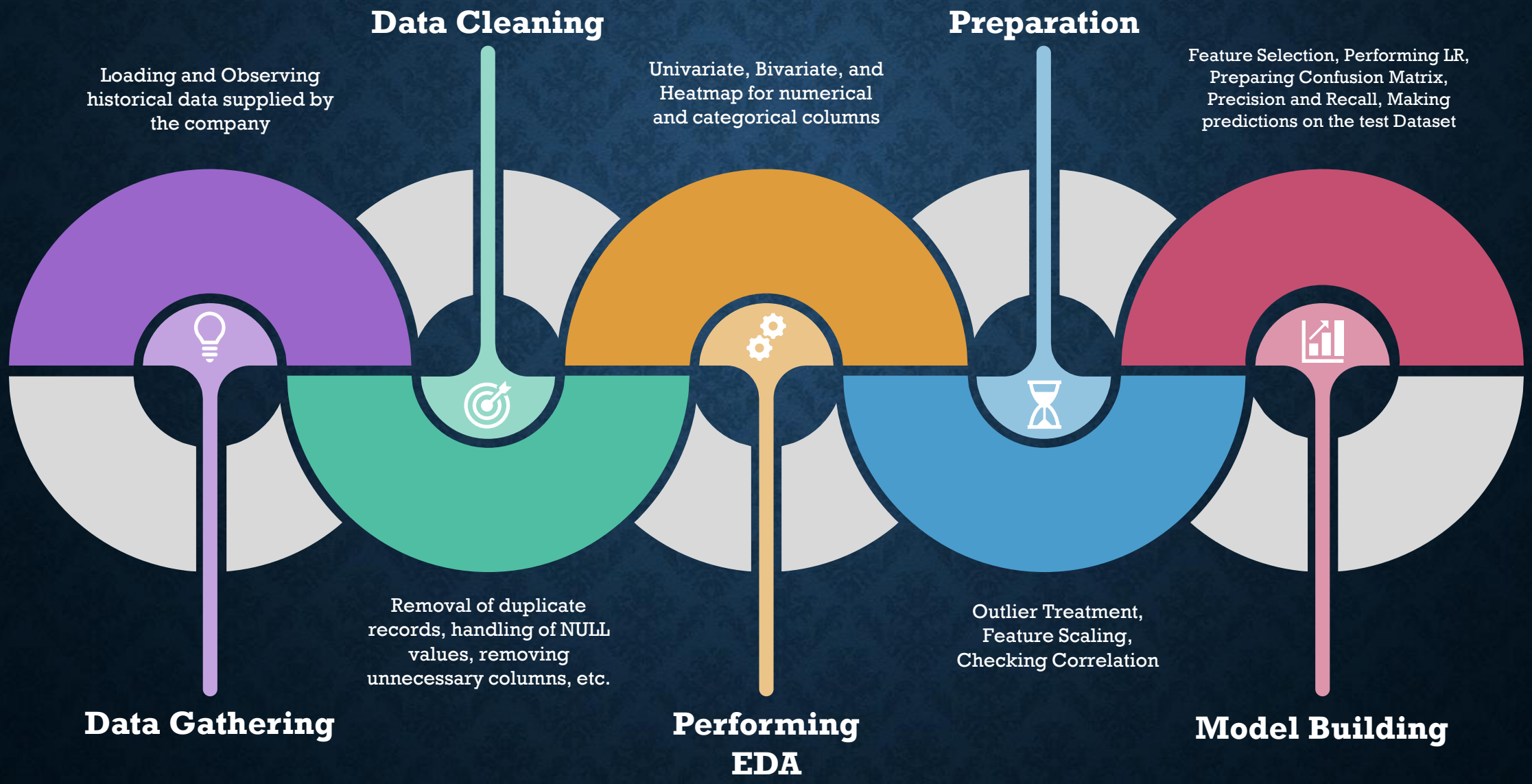
Effective way to communicate with hot leads is through personalized email marketing campaigns, social media platforms, phone calls, text messages, and other forms of communication. Regardless of the communication channel, it is important to personalize the message and provide value to the lead.

CONVERSION OF HOT LEADS

By prioritizing hot leads, which are more likely to convert, we can improve our conversion rate and ultimately reach our goal of 80%.

IMPLEMENTATION

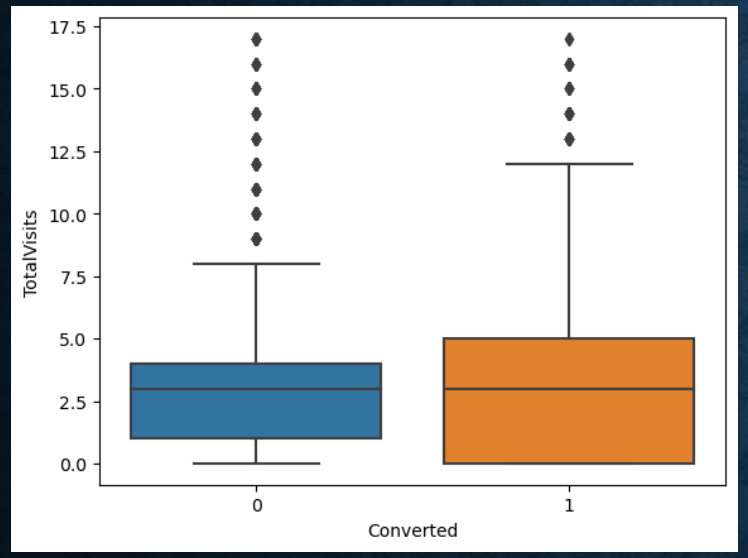
Proposed Solution



Visualizations

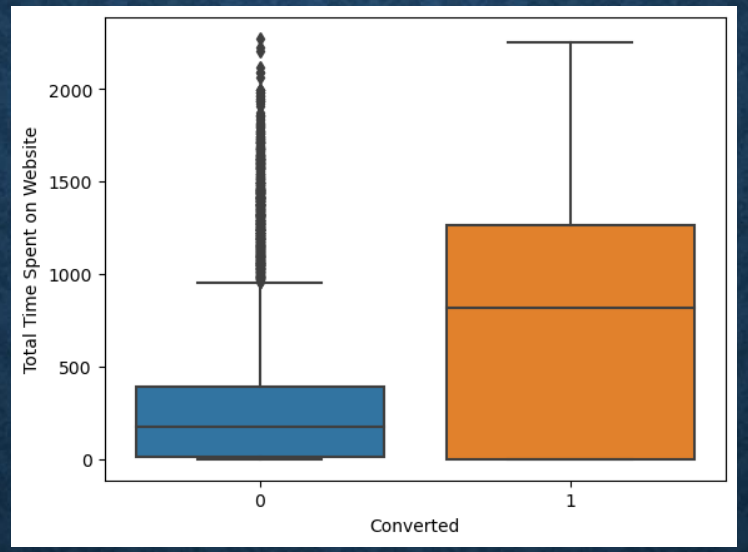
Analysis of Numeircal Features

Total Visits



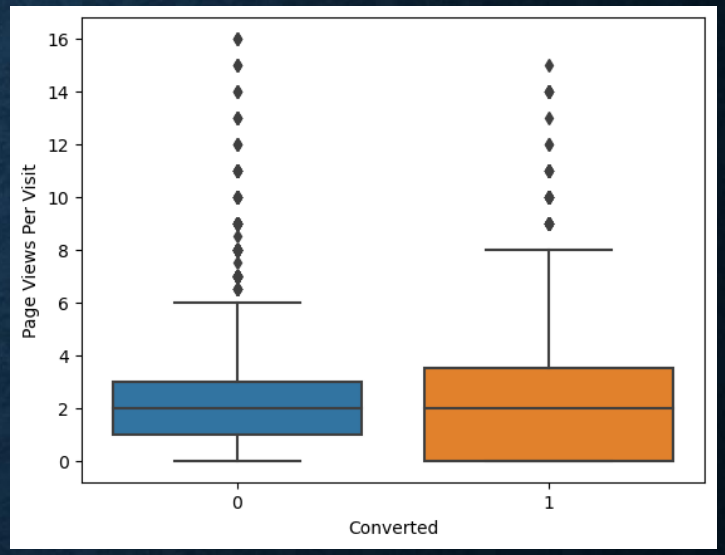
- Outliers which were above 0.99 percentile were removed and the rest of these outliers seems to be valid.
- Median of Converted and Not Converted are the pretty close.

Total Time Spent on Website



- People spending more time on the website are more likely to be converted.

Page Views Per Visit



- Even though there is an outlier, it is usual for a person to scan all the pages of the website, before making any purchase. So, let's not consider imputing the data.
- Median of Converted and Not Converted are the pretty close.

Visualizations

Analysis of Numeircal Features

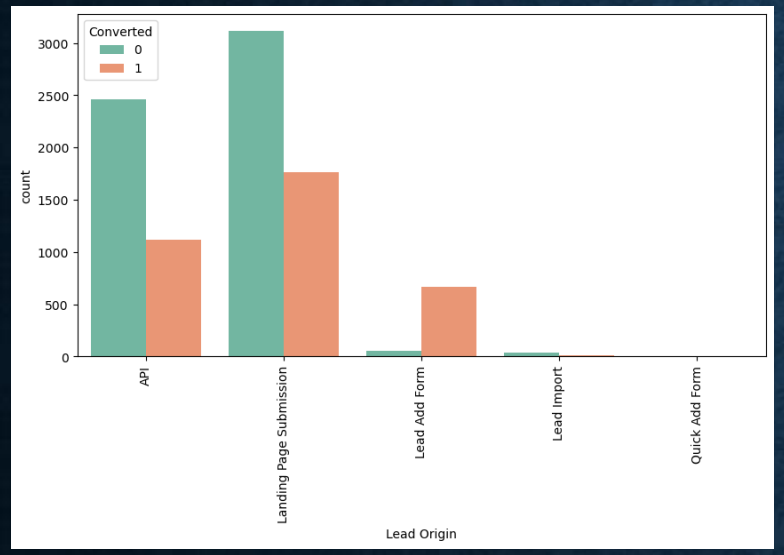
Correlation of Numerical Features with Target

- Total Visits and Total time spent of website have a positive correlation with the target.
- Whereas Page views per visit is negatively correlated.

Visualizations

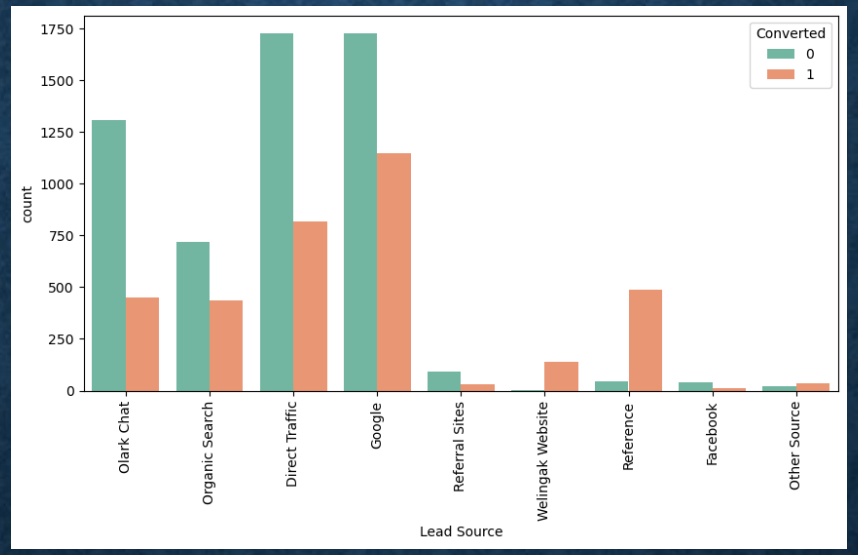
Analysis of Categorial Features

Lead Origin



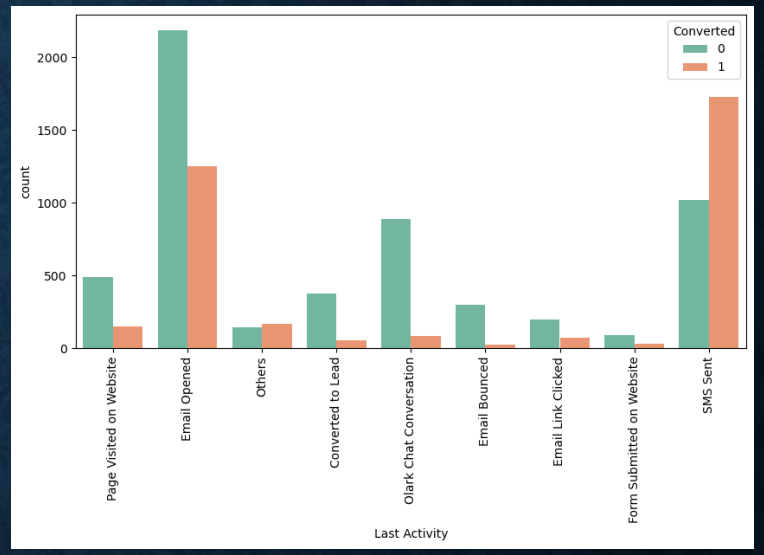
- Conversion Rate of label through Lead Add Form is high.
- API and Landing Page Submission conversion is also significant.

Lead Source



- Maximum number of conversion are generated by Google and Direct traffic.
- Conversion Rate of reference label and welingak website is high.

Last Activity

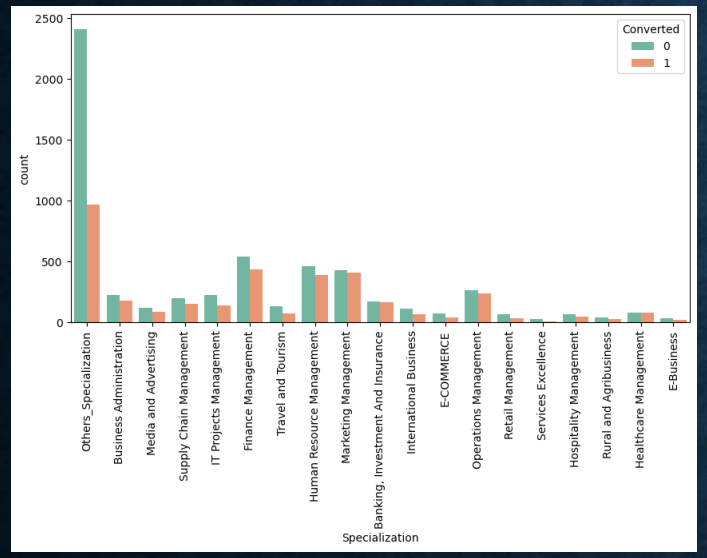


- Maximum number of conversion are generated by SMS Sent.

Visualizations

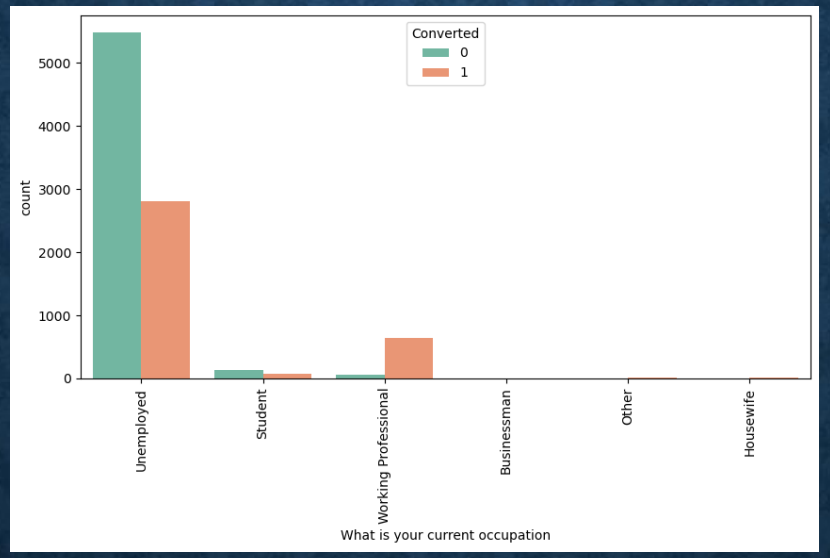
Analysis of Categorial Features

Lead Origin



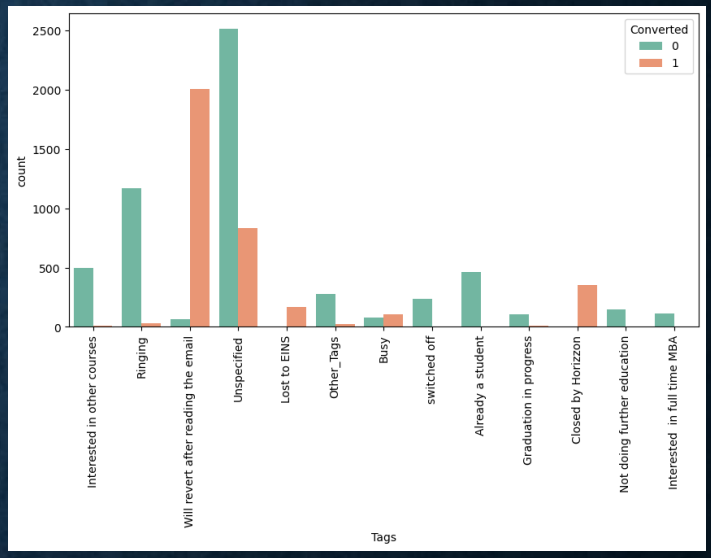
- Specialization in Management have higher conversion rate.

Lead Source



- Working Professionals have high chances of becoming hot leads.

Last Activity

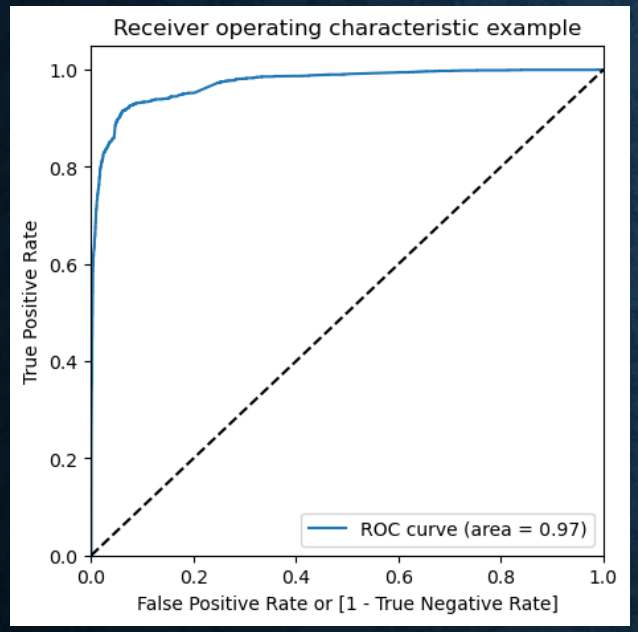


- We can clearly see that Tags with "Will revert after reading the email" and "Closed by Horizzon" have higher turn in ratio.

Visualizations

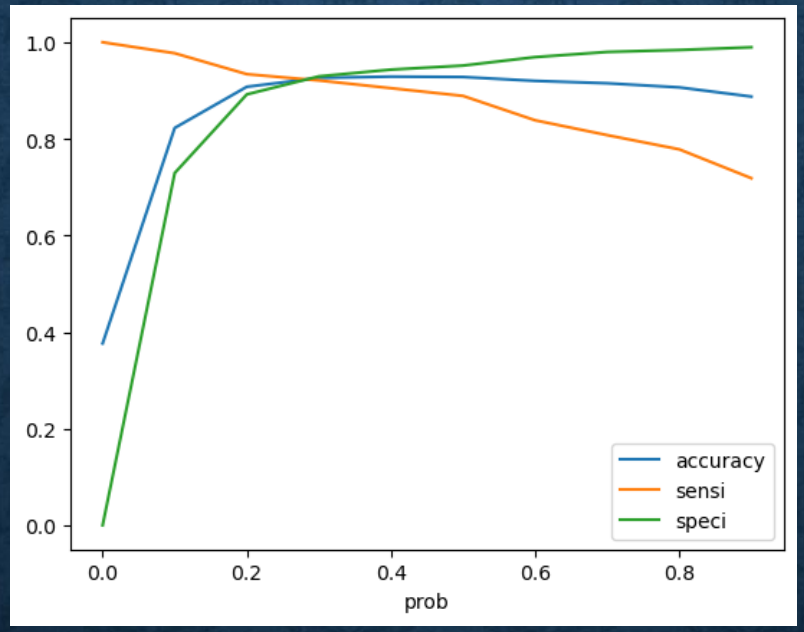
Analysis of Final Model

ROC Curve



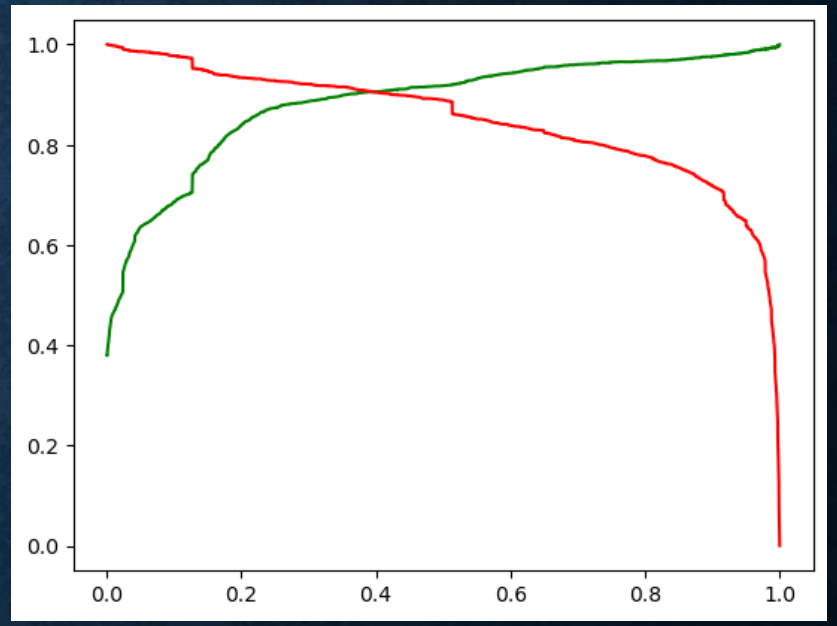
- We are getting a good ROC Curve value of 0.97 indicating a good predictive model.

Plot of Accuracy, Sensitivity and Specificity for various probabilities.



- From the curve above, 0.3 is the optimum point to take it as a cutoff probability.

Precision and Recall Tradeoff



Model Peformance

Training Dataset

Following are the observation after running the model on the Train Dataset

Accuracy : 92.61%
Sensitivity : 92.09%
Specificity : 92.93%
Precision Score : 88.73%
Recall Score : 92.09%

Test Dataset

Following are the observation after running the model on the Test Dataset

Accuracy : 92.42%
Sensitivity : 92.55%
Specificity : 92.34%
Precision Score : 88.42%
Recall Score : 92.55%

So, we have succeeded in achieving our objective of estimating the target lead conversion rate to be about 90%.
The model appears to be accurate in anticipating the conversion rates, thus we should be able to provide the management the confidence to make decisions based on this model, in order to achieve a higher lead conversion rate of more than 90%.

Important Features in our Final Model

Features which are Positively Correlated

Feature Name	Value
LeadSource_Welingak Website	3.464012
Tags_Closed by Horizzon	2.922821
LastActivity_SMS Sent	1.981879
Tags_Lost to EINS	1.815583
LeadOrigin_Lead Add Form	1.408620
CurrentOccupation_Working Professional	1.041405
Total Time Spent on Website	0.881318

Important Features in our Final Model

Features which are Negatively Correlated

Feature Name	Value
LeadSource_Direct Traffic	-0.729801
LastNotableActivity_Olark Chat Conversation	-1.211737
LastNotableActivity_Modified	-1.783098
Tags_Busy	-3.584180
Tags_Unspecified	-4.327468
Tags_Graduation in progress	-4.761242
Tags_Other_Tags	-6.104794
Tags_Interested in full time MBA	-6.152762
Tags_Interested in other courses	-6.240418
Tags_Not doing further education	-7.105775
Tags_Ringing	-7.750093
Tags_Already a student	-8.224946
Tags_switched off	-8.299805

RECOMMENDATIONS

Recommendations

Following are the Recommendations to the management

- The business **should call the leads** obtained from the **Lead Source "Welingak Websites"** as they are more likely to convert.
- The business **should call the leads** obtained from the **Last Activity was "SMS Sent"** as they are more likely to convert.
- The business **should call the leads** marked with **Tags "Closed by Horizzon" and "Lost to EINS"** as they are more likely to convert.
- The business **should call the leads** obtained from the **Lead Origin "Lead Add Form"** as they are more likely to convert.
- The business **should call the leads** obtained whose is **"Working Professionals"** as they are more likely to convert.
- The business **should call the leads** who **spent more time on the website** as they are more likely to convert.
- The business **should not make calls** to the leads whose **lead source is "Direct Traffic"** as they are not likely to get converted.
- The business **should not make calls** to the leads whose **last activity was "Olark Chat Conversation"** and "Modified" as they are not likely to get converted.
- The business **should not make calls** to the leads whose **lead source is "Direct Traffic"** as they are not likely to get converted.
- The business **should not make calls** to the leads whose **tag is "Busy", "Unspecified", "Graduation in progress", "Interested in full time MBA", "Interested in other courses", "Not doing further education", "Ringing", "Already a student", "switched off"** as they are not likely to get converted.

CONCLUSION

Conclusion

In conclusion, customer lead conversion is a critical process for any business that wants to grow its customer base and increase revenue. Through effective lead nurturing, businesses can establish a strong relationship with potential customers and guide them through the sales funnel, ultimately converting them into paying customers.

This AI-powered lead conversion model can be a game-changer for the company who is looking to grow their customer base and increase revenue. We can enhance this AI model to automate various aspects of the lead nurturing process, such as personalized follow-up emails and targeted content recommendations, to enhance customer engagement and guide them through the sales funnel more efficiently.

Overall, the integration of AI technology in the lead conversion process can significantly enhance customer acquisition efforts, improve conversion rates, and ensure long-term success for businesses.

THANK YOU