EDA MODULE

1. Which are the top three variables in your model which contribute most towards the probability of a lead getting converted?

Ans). To determine the top three variables contributing most to the probability of a lead getting converted, you would typically use feature importance techniques such as:

1. **Feature Importance Scores**: This can be calculated using algorithms like Random Forest, Gradient Boosting, or Decision Trees. The higher the score, the more important the feature is in predicting the target variable.
2. **Coefficients in Logistic Regression**: If you're using logistic regression, the coefficients associated with each feature can indicate their importance. Positive coefficients indicate a positive impact on the target variable, while negative coefficients indicate a negative impact.
3. **Correlation Analysis**: You can also analyze the correlation between each feature and the target variable. Features with higher absolute correlation coefficients are more influential.

These methods would help identify the top three variables contributing to lead conversion probability in your model.

2. What are the top 3 categorical/dummy variables in the model which should be focused the most on in order to increase the probability of lead conversion?

Ans). To identify the top categorical or dummy variables that should be focused on to increase the probability of lead conversion, you can apply techniques such as:

1. **Chi-square Test**: This statistical test assesses the independence between categorical variables and the target variable. Higher chi-square values

indicate stronger associations, suggesting variables that might have a greater impact on lead conversion.

2. **Information Gain or Mutual Information**: These metrics measure the reduction in uncertainty about the target variable after observing the value of a categorical variable. Variables with higher information gain or mutual information are more relevant for predicting the target.
3. **Feature Importance in Tree-based Models**: If you're using tree-based models like Random Forest or Gradient Boosting, you can examine the feature importance scores specific to categorical variables. These scores indicate the contribution of each categorical variable to the model's predictive performance.

By applying these techniques, you can identify the top categorical or dummy variables that are most influential in predicting lead conversion and prioritize efforts to optimize them.

3. X Education has a period of 2 months every year during which they hire some interns. The sales team, in particular, has around 10 interns allotted to them. So during this phase, they wish to make the lead conversion more aggressive. So they want almost all of the potential leads (i.e. the customers who have been predicted as 1 by the model) to be converted and hence, want to make phone calls to as much of such people as possible. Suggest a good strategy they should employ at this stage.

Ans). During this two-month period when X Education is particularly focused on aggressive lead conversion, the sales team can implement the following strategy:

1. **Prioritize High Probability Leads**: Utilize the predictive model to identify leads that have been predicted as 1 with a high probability of conversion. These are the leads most likely to convert, according to the model's predictions.
2. **Segmentation and Targeting**: Segment the potential leads based on their predicted probability of conversion. Focus the majority of

phone call efforts on leads with the highest predicted probabilities, as these are more likely to result in conversions.

3. **Personalized Communication**: Tailor phone call scripts and communication strategies to each segment of potential leads. Highlight the specific benefits or offerings that are most likely to appeal to each group based on their characteristics and predicted behaviors.
4. **Utilize Interns for Calling**: Assign interns from the sales team to make phone calls to potential leads. Provide them with training and guidance on effective communication strategies and handling objections.
5. **Follow-Up Mechanism**: Implement a systematic follow-up mechanism to ensure that all potential leads are contacted multiple times during the two-month period. Persistence in communication can increase the likelihood of conversion.
6. **Feedback Loop**: Establish a feedback loop between interns and senior sales team members to share insights and experiences from the phone calls. This can help refine the calling strategy and improve conversion rates over time.

By implementing this strategy, X Education can maximize their efforts during the two-month period and increase the conversion rate of potential leads, leveraging the predictive power of the model and the manpower of the intern team.

4. Similarly, at times, the company reaches its target for a quarter before the deadline. During this time, the company wants the sales team to focus on some new work as well. So during this time, the company’s aim is to not make phone calls unless it’s extremely necessary, i.e. they want to minimize the rate of useless phone calls. Suggest a strategy they should employ at this stage.

Ans). During the period when the company has already reached its quarterly targets ahead of schedule and wants to minimize unnecessary phone calls, the sales team can adopt the following strategy:

1. **Focus on Qualification**: Instead of making outbound calls indiscriminately, prioritize leads based on their quality and likelihood of conversion. Use lead scoring or qualification criteria to identify leads that are most likely to result in meaningful business outcomes.
2. **Automated Lead Nurturing**: Implement automated lead nurturing campaigns using email marketing or other digital channels. Provide valuable content, resources, and information to leads to keep them engaged and moving through the sales funnel without the need for direct phone calls.
3. **Optimize Lead Management Processes**: Streamline lead management processes to ensure that only qualified leads are being actively pursued. Regularly review and update lead status based on their interactions and behaviors, and allocate resources accordingly.
4. **Focus on Upselling and Cross-selling**: Shift the focus of the sales team towards upselling and cross-selling opportunities within the existing customer base. Identify additional products or services that could benefit current customers and allocate resources towards nurturing these opportunities.
5. **Invest in Relationship Building**: Use this period of reduced phone calls to invest in building stronger relationships with existing customers and prospects. Arrange virtual meetings, webinars, or networking events to engage with key stakeholders and decision-makers in a more meaningful way.
6. **Monitor and Adjust**: Continuously monitor the effectiveness of the strategy and adjust as needed based on real-time feedback and performance metrics. Stay agile and responsive to changes in the market or customer behavior.

By implementing this strategy, the company can maximize the efficiency of its sales team during periods when phone calls are not deemed necessary, while still maintaining momentum and driving business growth through other channels and activities.