How Can We Increase Marketing Campaign Response Rate

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Agenda

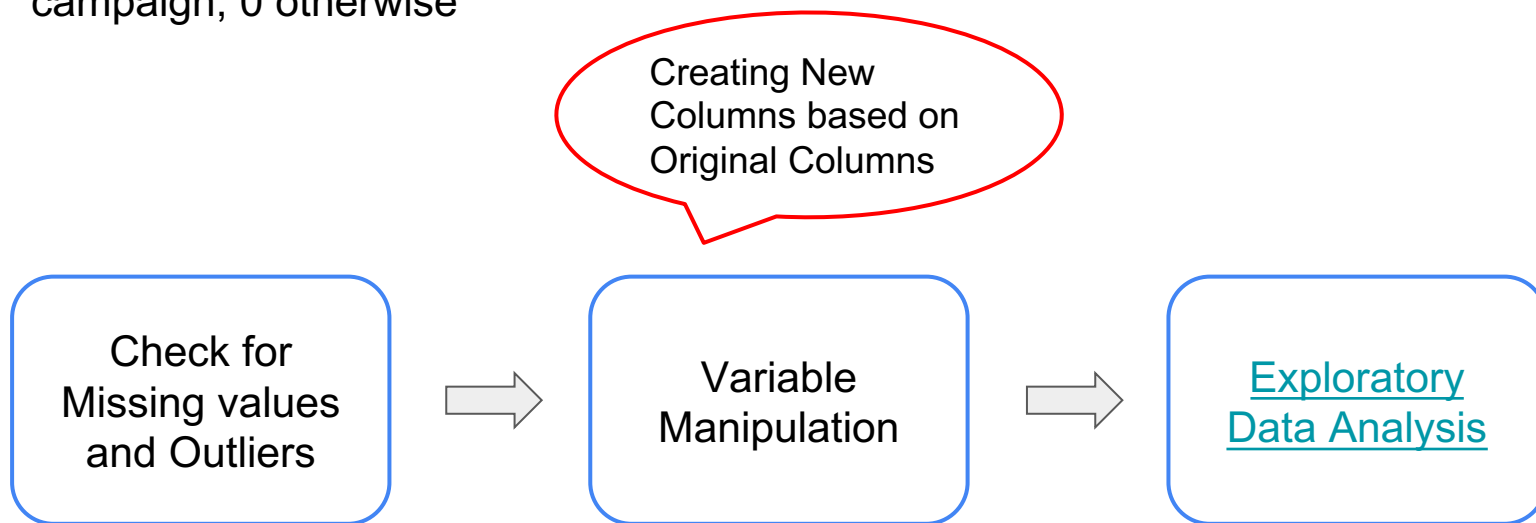| Define Objective	Data Cleaning and Preparation	EDA	Modeling	Evaluation

Objective

Design a Model-Based Targeting Strategy to Target the Right Customers

Data Preparation & EDA

Kaggle with 2240 observations and 29 variables

Dependent Variable: Response, 1 if the customer accepts the offer in the last campaign, 0 otherwise

Creating New Columns based on Original Columns

Check for Missing values and Outliers → Variable Manipulation → Exploratory Data Analysis

Modeling

Training Dataset and Test Dataset
Lasso Variable Selection
Post-Lasso Models

Evaluation

Confusion Matrix

For Logistic Regression:

```
             Response
pred     0      1
   0    352    58
   1     30     8
[1]  0.8035714
```

For Decision Tree:

```
             Response
pred     0      1
   0    369    49
   1     13    17
[1]  0.8616071
```

For Random Forest:

```
             Response
pred     0      1
   0    366    42
   1     16    24
[1]  0.8905357
```

Previous Campaign Response Rate, Recency, Amount of Meat, Gold and Fruit Purchases are important predictors.

Risks & Limitations

Things to Consider...

- ❖ **Observational Data rather than Controlled Experiments**

- ❖ **Type I error V.S. Type II error**

- ❖ **Data Collection Bias**

- ❖ **Modeling Costs**

- ❖ **Ethical Considerations**

Thank you so much for listening!