CUSTOMER RETENTION PROJECT

Submitted by:

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INTRODUCTION

- ## Business Problem Framing

  Nowadays, we are living in a society where we prefer online shopping . We have a dataset where we have taken several reviews from different shopping platforms. Retaining a customer is a major factor, so we have worked on a model to identify whether the customer will continue with the platform or not.

- ## Conceptual Background of the Domain Problem

  The data we received was a sort of feedback that we took from various members who are shopping online. We have gathered the data and we can see there are many features which would help us identifying and overcome the root cause of the problem where the user is not continuing with a particular platform.

- ## Review of Literature

  In order to build this project, we have done data visualization where we have plotted some graphs and identified the relations between the several columns.

- ## Motivation for the Problem Undertaken

  This is nowadays a big problem where the websites are working hard to retain their users. This data gave us a perception which we framed into a dataset and tried to overcome the situation.

Analytical Problem Framing

- Mathematical/ Analytical Modeling of the Problem

  We have the dataset in the categorical format hence we didn't have too much mathematics involved in this dataset.

- Data Sources and their formats

  The data was collected through a survey where we have contained users shopping on different platforms.

- Data Preprocessing Done

  In this part we first checked the shape of our dataset, checked for null values and also checked for the outliers. After that we have separated the columns of the dataset in order to separate all the platforms.

- Data Inputs- Logic- Output Relationships

  The dataset we had is in categorical format, all the columns are in object data type. We have checked the relationship between the genders and other columns.

- State the set of assumptions (if any) related to the problem under consideration

  No presumption were made in this case.

- Hardware and Software Requirements and Tools Used

  We have used python version 3.8.5 to write the code. Also, we have used intel icore i5 7^{th} gen machines to run python and google chrome. We have used selenium web drivers to automate the google chrome and extract the data. We have used several python libraries here to run and build this model like pandas, NumPy, matplotlib, seaborn, sk-learn etc.

Model/s Development and Evaluation

- Identification of possible problem-solving approaches (methods)

  We have a dataset where we don't have any output or label, hence, we have to use an unsupervised machine learning approach to solve this problem.

- Testing of Identified Approaches (Algorithms)

  None.

- Run and Evaluate selected models

  We haven't proceeded to this part. We completed the data visualization only.

- Key Metrics for success in solving problem under consideration

  None.

- Visualizations

  We have used the seabron library to visualize the dataset. We have used countplot, line plot and boxplot to identify the relation between various columns.

- Interpretation of the Results

  After completing the visualization plot we found that there are several columns which are having good correlation between other columns. We have done most of the visualization on the basis of gender columns.

CONCLUSION

- Key Findings and Conclusions of the Study

  We found that customer retention depends upon the best promotional offers and product information a website/app is offering. Also, other features that help to retain a customer is usage of the app, how well connected the app is, how well the UI is developed.

- Learning Outcomes of the Study in respect of Data Science

  We have learned that we can retain the customers using the appealing web page layout, limited payment option, late declaration, fast loading of the website, displaying quality approach and so on.

- Limitations of this work and Scope for Future Work

  There are some limitation here in this dataset. The data have some extra information and was upto the mark. This type of machine learning model are extremely helpful as this could give a good boost to online shopping business.