FLIP ROBO

E-retail factors for customer activation and retention

Submitted by:

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ACKNOWLEDGMENT

This includes mentioning of all the references, research papers, data sources, professionals and other resources that helped you and guided you in completion of the project.

User many online resource like google , geekforgeeks , analytical websites.

INTRODUCTION

- ## Business Problem Framing

Describe the business problem and how this problem can be related to the real world.

The data is collected from the Indian online shoppers. Results indicate the e-retail success factors, which are very much critical for customer satisfaction.

- ## Conceptual Background of the Domain Problem

Describe the domain related concepts that you think will be useful for better understanding of the project.

The data is collected from the Indian online shoppers. Results indicate the e-retail success factors, which are very much critical for customer satisfaction.

- ## Review of Literature

This is a comprehensive summary of the research done on the topic. The review should enumerate, describe, summarize, evaluate and clarify the research done.

Using above dataset we analysed many factors like any relation between two columns.

We get to know customer retention mostly dependent on below factors.

1. Customer Service
2. Website user friendly
3. Cash on delivery
4. Simplicity of website and product description. ☐

Motivation for the Problem Undertaken

Describe your objective behind to make this project, this domain and what is the motivation behind.

Customer satisfaction has emerged as one of the most important factors that guarantee the success of online store; it has been posited as a key stimulant of purchase, repurchase intentions and

customer loyalty. A comprehensive review of the literature, theories and models have been carried out to propose the models for customer activation and customer retention. Five major factors that contributed to the success of an e-commerce store have been identified as: service quality, system quality, information quality, trust and net benefit. The research furthermore investigated the factors that influence the online customers repeat purchase intention. The combination of both utilitarian value and hedonistic values are needed to affect the repeat purchase intention (loyalty) positively. The data is collected from the Indian online shoppers. Results indicate the e-retail success factors, which are very much critical for customer satisfaction.

Analytical Problem Framing

- ## Mathematical/ Analytical Modeling of the Problem

  Describe the mathematical, statistical and analytics modelling done during this project along with the proper justification.

- ## Data Sources and their formats

  What are the data sources, their origins, their formats and other details that you find necessary? They can be described here. Provide a proper data description. You can also add a snapshot of the data.

  We received dataset in the csv file format and mostly data is in object type.

```
In [2]: # Reading the dataset
        pd.set_option("display.max_columns",None)
        dataset = pd.read_excel("Datasets/customer_retention_dataset_raw.xlsx")
        dataset.head()

Out[2]:
```

	1Gender of respondent	2 How old are you?	3 Which city do you shop online from?	4 What is the Pin Code of where you shop online from?	5 Since How Long You are Shopping Online ?	6 How many times you have made an online purchase in the past 1 year?	7 How do you access the internet while shopping on-line?	8 Which device do you use to access the online shopping?	9 What is the screen size of your mobile device? \t\t\t\t\t	10 What is the operating system (OS) of your device? \t\t\t	11 What browser do you run on your device to access the website? \t\t\t	12 W cha did follo arri fav o stor the ti
0	Male	31-40 years	Delhi	110009	Above 4 years	31-40 times	Dial-up	Desktop	Others	Window/windows Mobile	Google chrome	Se Er

- Data Preprocessing Done

  What were the steps followed for the cleaning of the data? What were the assumptions done and what were the next actions steps over that?

  1. Data header is cleaned and unnecessary data removed from that column.

  2. Unknown values replaced with some good words. ☐ Data Inputs- Logic- Output Relationships

  Describe the relationship behind the data input, its format, the logic in between and the output. Describe how the input affects the output.

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

  Here, you can describe any presumptions taken by you.

- Hardware and Software Requirements and Tools Used

  Listing down the hardware and software requirements along with the tools, libraries and packages used. Describe all the software tools used along with a detailed description of tasks done with those tools.

- Windows 10
- Pendium Dual core
- 8gb ram
- 1tb Hard disk
- Jupyter Notebook
- Python,Numpy,Pandas,Stats,Seaborn

Model/s Development and Evaluation

- Identification of possible problem-solving approaches

(methods)

Describe the approaches you followed, both statistical and analytical, for solving of this problem.

- Testing of Identified Approaches (Algorithms)

  Listing down all the algorithms used for the training and testing.

- Run and Evaluate selected models

  Describe all the algorithms used along with the snapshot of their code and what were the results observed over different evaluation metrics.

- Key Metrics for success in solving problem under consideration

  What were the key metrics used along with justification for using it? You may also include statistical metrics used if any.
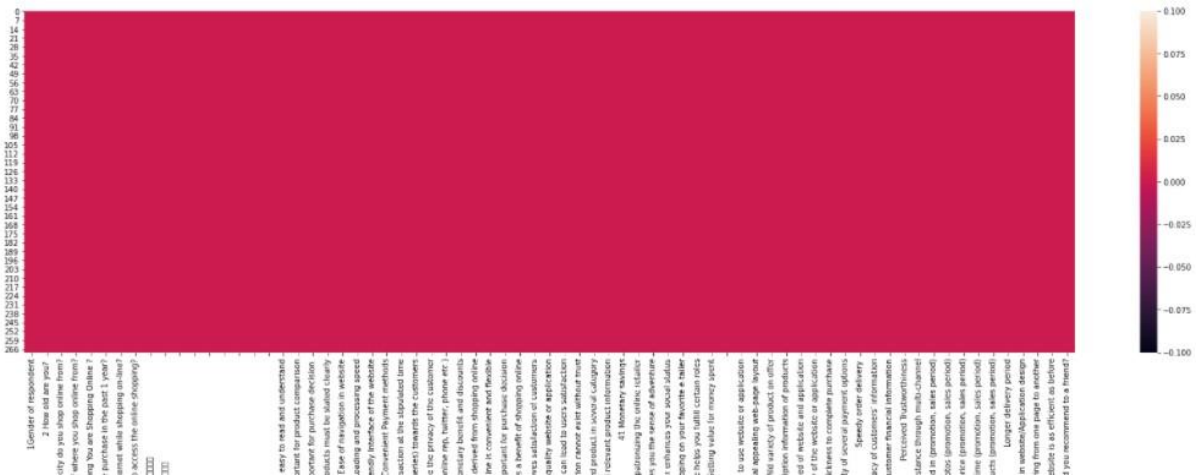
- Visualizations

  Mention all the plots made along with their pictures and what were the inferences and observations obtained from those. Describe them in detail.

  If different platforms were used, mention that as well.
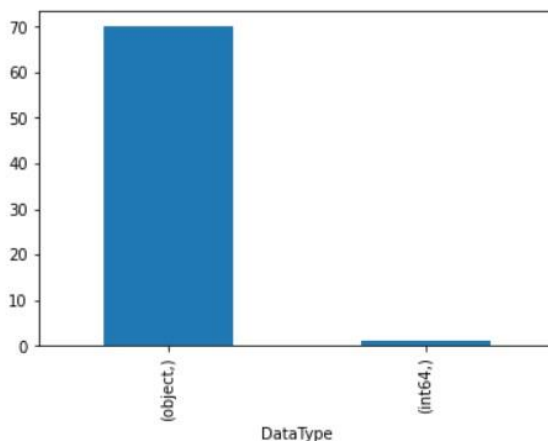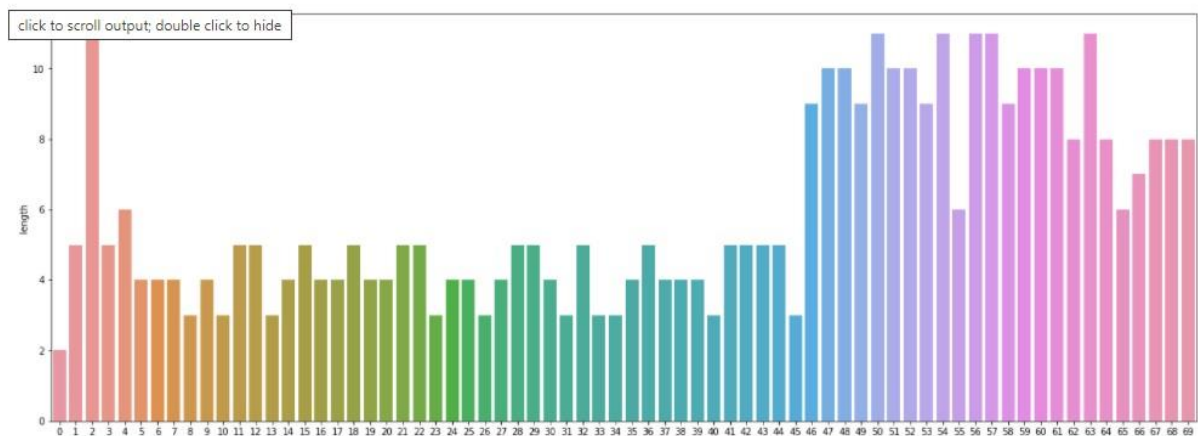

All value almost Object only but pincode is in integer as we know ML model only understand numerical value so we need to use some encoder to convert the string value to numerical form.
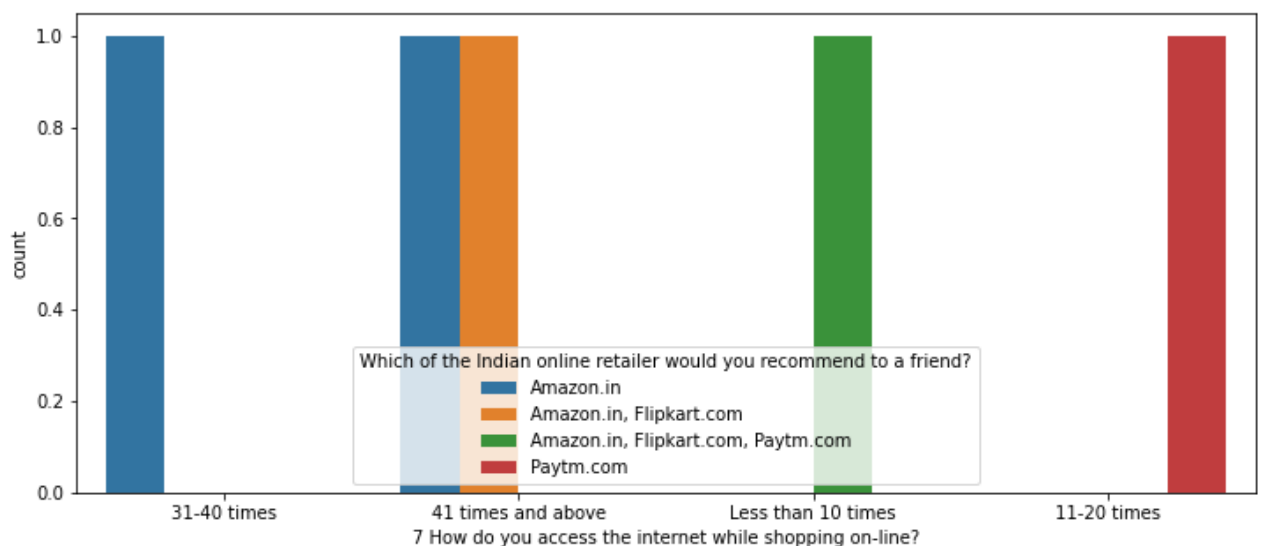
No Null values present in dataset.

Number of category in dataset

Most preferable device to purchase :

- Interpretation of the Results

Give a summary of what results were interpreted from the visualizations, preprocessing and modelling.

CONCLUSION

- Key Findings and Conclusions of the Study

  Describe the key findings, inferences, observations from the whole problem.

- Learning Outcomes of the Study in respect of Data Science

  List down your learnings obtained about the power of visualization, data cleaning and various algorithms used. You can describe which algorithm works best in which situation and what challenges you faced while working on this project and how did you overcome that.

- Limitations of this work and Scope for Future Work

  What are the limitations of this solution provided, the future scope? What all steps/techniques can be followed to further extend this study and improve the results.