Analysis of online shoppers intentions

What are the visitors's trends ?

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Introduction

Presentation of the dataset and problems identified

Online Shoppers Purchasing Intention

12 330
sessions

1
year

16.5%
Session that ends with a transaction

12
Variables with no missing values

Additional information

Nature of variables :

- Type of pages: *Administrative, Informational, ProductRelated*
- Time spent on these pages: *Administrative_Duration, Informational_Duration, ProductRelated_Duration*
- Metrics measured: *BouncesRates, ExitRates, PageValues*
- Information about the user: *OperatingSystems, Browser, Region, TrafficType, VisitorType*
- Information about the period of the visit: *Weekend, Month, SpecialDay*
- Transaction: *Revenue*

Note:

Missing information values (OS, Browser, Region, TrafficType)

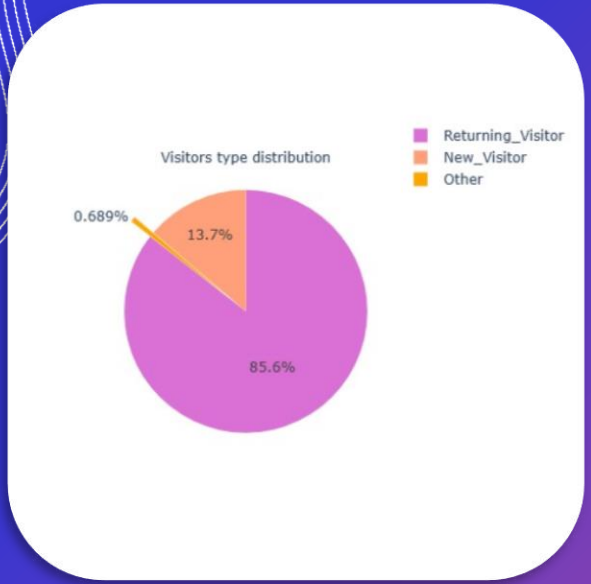
What are the visitors's trends ?

02

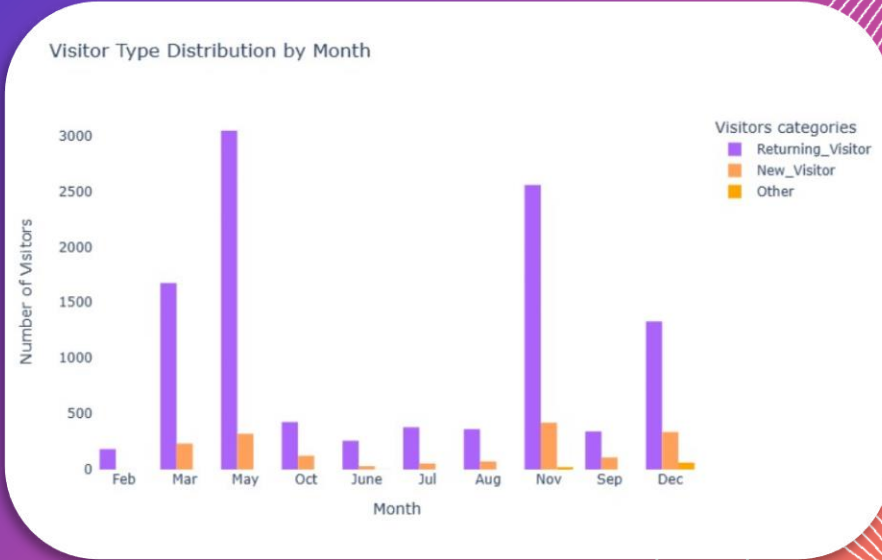
Data visualization

You can enter a subtitle here if you need it

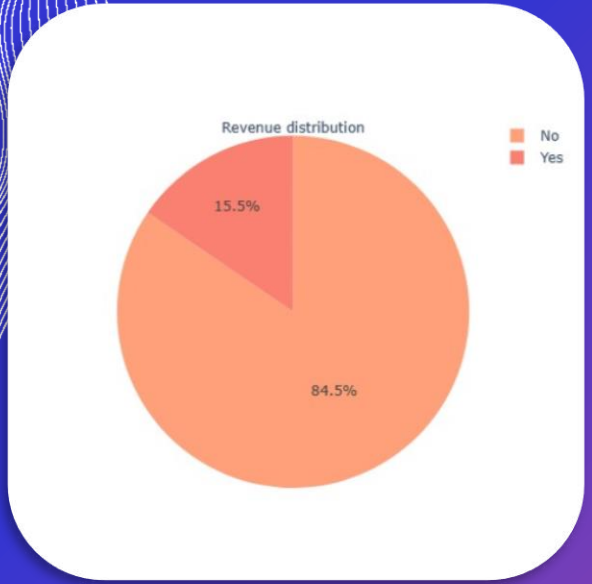
First sight on the shopper's types



- ❑3 categories : Returning, New and Other visitors
- ❑Only 10 months of the year represented
- ❑4 months on the top

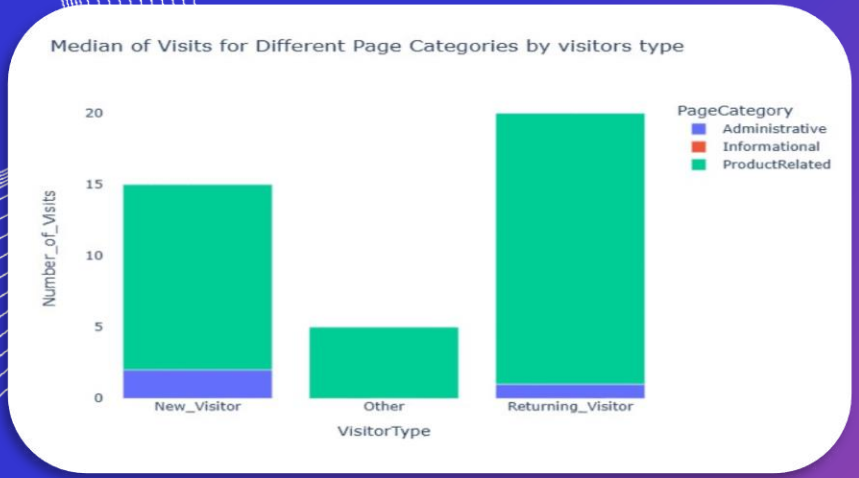


Transactions study

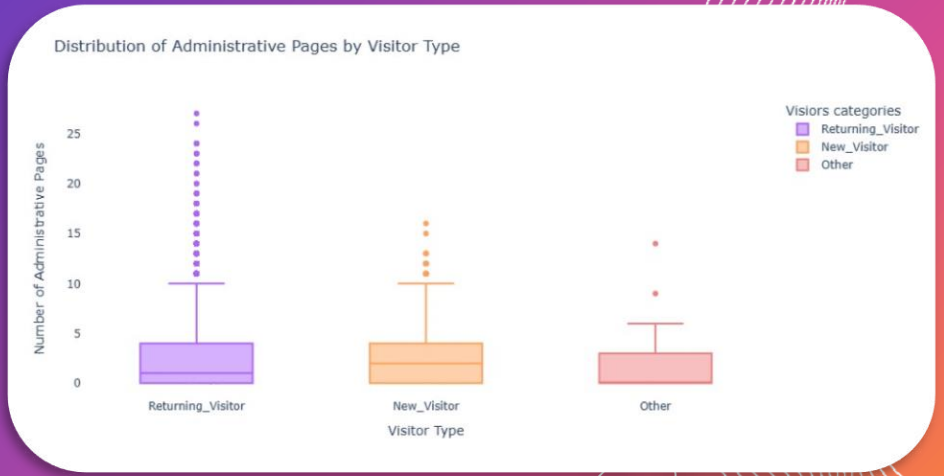


- Only 15,5% of visits led to a transaction.
- 21% of weekend visits led to transaction against 17% for weekday.

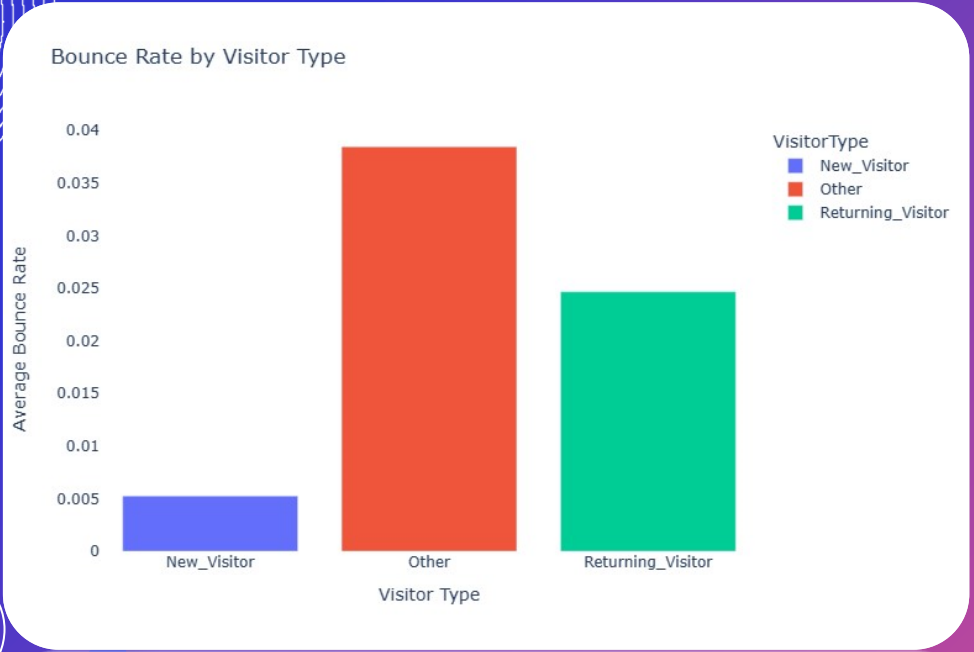
Is there any difference on pages visits?



- New visitors tend to visit slightly more administrative pages.
- Returning visitors tend to visit more product-related pages.



What for them to exit ?



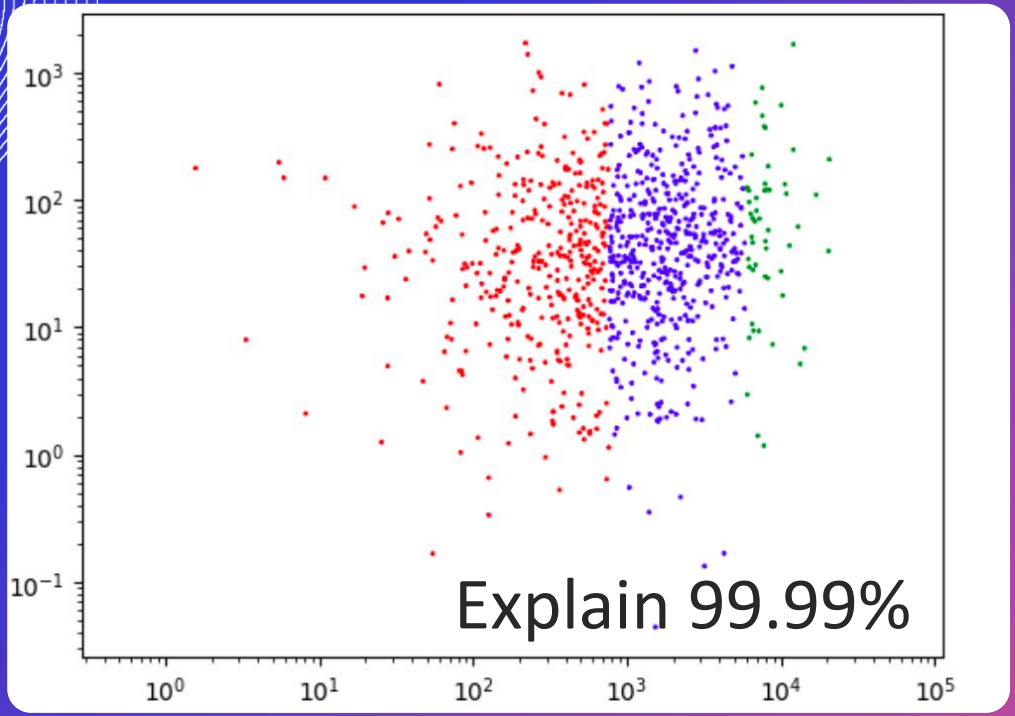
- ❑4% for other
- ❑2.4% For returning visitors
- ❑Only 0.5 for New ones

03

Our process

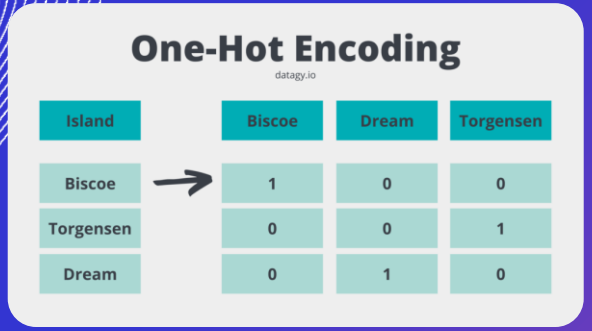
Data pre-processing and modeling

PCA



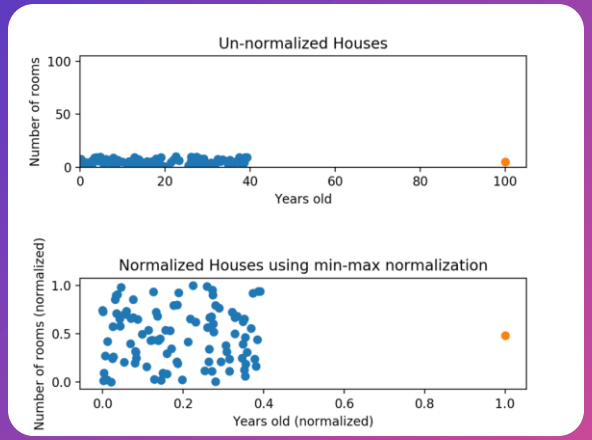
Clusters are not simple to define

Data Pre-processing used



Height
Tall
Medium
Short

Height
0
1
2

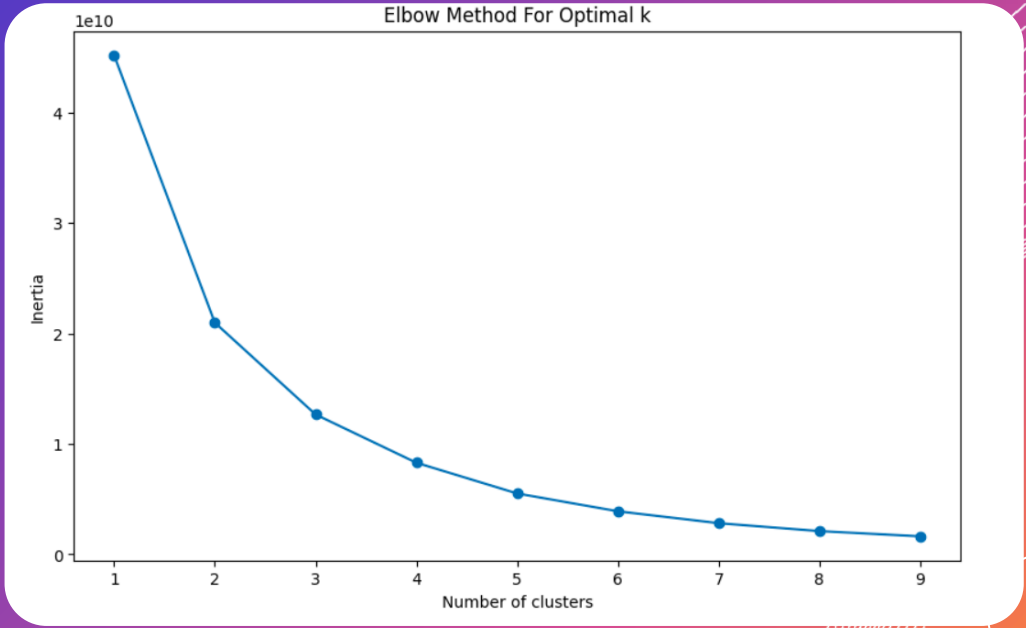


Identify visitor who spend money

K-Nearest Neighbors

```
Accuracy: 0.8503649635036497
Precision: 0.7404564795116085
Recall: 0.6231143552311436
F1 Score: 0.6504117857907106
Confusion Matrix:
 [[1981   74]
 [ 295  116]]
```

KMeans



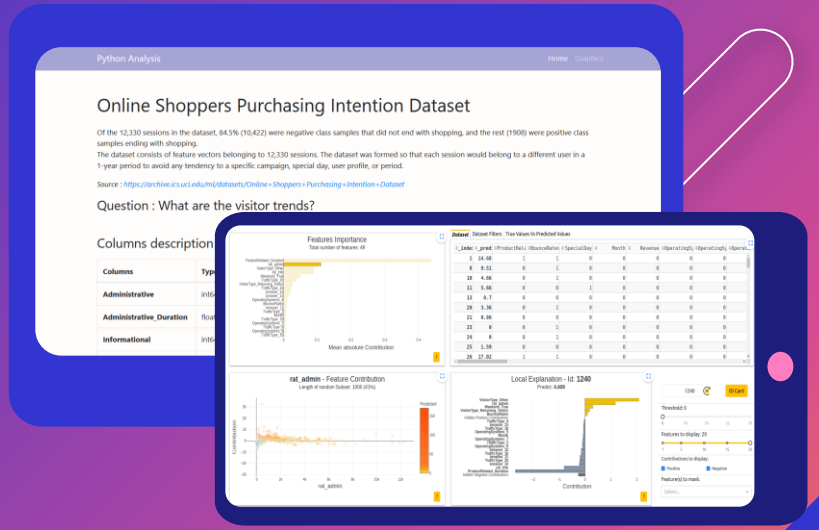
PageValues prediction

Grid Search Mean Error: 19.2

```
param_grid = {
    'regression__C': [0.1,10],
    'regression__gamma': [0.001,10],
    'regression__kernel': ['rbf'],
}
```

Demonstration

Let’s make a demo of the website and the Shapash report



Conclusion

Dataset

Data not very relevant
Lack of information on some data.

A clean data, already encoded.

Results

Differents behaviors shown by the dataviz regarding the category of visitors.

There are no significant clusters because of the uniformity of the dataset.

Thanks!

Do you have any questions?

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