01

TRAVEL INSURANCE PREDICTION

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Presentation Outline

I. Business Objective

A Tour & Travel company is offering Travel Insurance package to their customer. The new Insurance Package also include covid cover.

Based on the Database History the company requires to know which customer would be interested to buy the new insurance package.

Find the target customer

Implement the right marketing strategy

II. Data Run-through


```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 1987 entries, 0 to 1986
Data columns (total 10 columns):
 #   Column                 Non-Null Count  Dtype
---  ------                 --------------  -----
 0   Unnamed: 0             1987 non-null   int64
 1   Age                    1987 non-null   int64
 2   Employment Type        1987 non-null   object
 3   GraduateOrNot          1987 non-null   object
 4   AnnualIncome           1987 non-null   int64
 5   FamilyMembers          1987 non-null   int64
 6   ChronicDiseases        1987 non-null   int64
 7   FrequentFlyer          1987 non-null   object
 8   EverTravelledAbroad    1987 non-null   object
 9   TravelInsurance        1987 non-null   int64
dtypes: int64(6), object(4)
memory usage: 155.4+ KB
```

05

Data Cleaning processing

Drop the 'Uname' column with we won't use.

```
data = data.drop('Unnamed: 0', 1)
```

```
data.head(5)
```

	Age	Employment Type	GraduateOrNot	AnnualIncome	FamilyMembers	ChronicDiseases	FrequentFlyer	EverTravelledAbroad	TravelInsurance
0	31	Government Sector	Yes	400000	6	1	No	No	0
1	31	Private Sector/Self Employed	Yes	1250000	7	0	No	No	0
2	34	Private Sector/Self Employed	Yes	500000	4	1	No	No	1
3	28	Private Sector/Self Employed	Yes	700000	3	1	No	No	0
4	28	Private Sector/Self Employed	Yes	700000	8	1	Yes	No	0

Data Cleaning processing

Change the:

- 0 to No
- 1 to Yes

In ChronicDiseases and TravelInsurance column

```
data['TravelInsurance'] = data['TravelInsurance'].replace([0,1],['No','Yes'])
data['ChronicDiseases'] = data['TravelInsurance'].replace([0,1],['No','Yes'])
data.head(5)
```


```
data['TravelInsurance'] = data['TravelInsurance'].replace([0,1],['No','Yes'])
data['ChronicDiseases'] = data['TravelInsurance'].replace([0,1],['No','Yes'])
data.head(5)
```


	Age	Employment Type	GraduateOrNot	AnnualIncome	FamilyMembers	ChronicDiseases	FrequentFlyer	EverTravelledAbroad	TravelInsurance
0	31	Government Sector	Yes	400000	6	No	No	No	No
1	31	Private Sector/Self Employed	Yes	1250000	7	No	No	No	No
2	34	Private Sector/Self Employed	Yes	500000	4	Yes	No	No	Yes
3	28	Private Sector/Self Employed	Yes	700000	3	No	No	No	No
4	28	Private Sector/Self Employed	Yes	700000	8	No	Yes	No	No

Data Preparation

```
data.isnull().sum()
```

```
Age                    0
Employment Type        0
GraduateOrNot          0
AnnualIncome           0
FamilyMembers          0
ChronicDiseases        0
FrequentFlyer          0
EverTravelledAbroad    0
TravelInsurance        0
dtype: int64
```

Checking if the data is missing or not.

```
data.head(5)
```

	Age	Employment Type	GraduateOrNot	AnnualIncome
0	31	Government Sector	Yes	400000
1	31	Private Sector/Self Employed	Yes	1250000
2	34	Private Sector/Self Employed	Yes	500000
3	28	Private Sector/Self Employed	Yes	700000
4	28	Private Sector/Self Employed	Yes	700000

FamilyMembers	ChronicDiseases	FrequentFlyer	EverTravelledAbroad	TravelInsurance
6	No	No	No	No
7	No	No	No	No
4	Yes	No	No	Yes
3	No	No	No	No
8	No	Yes	No	No

Data Dictionary

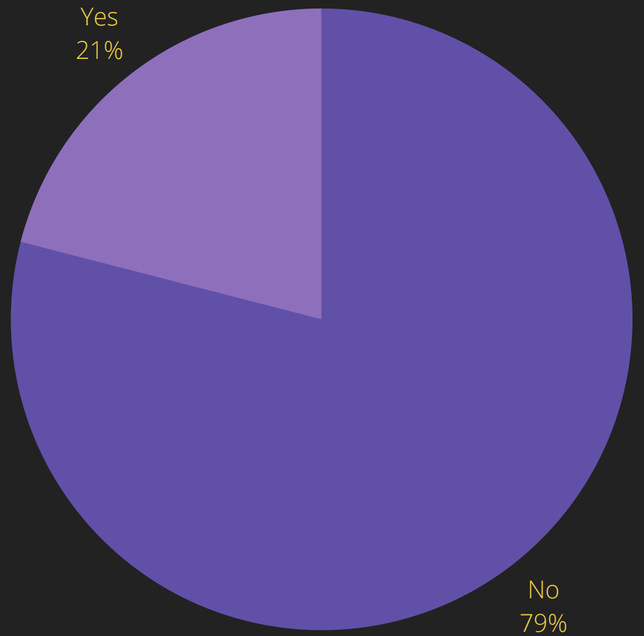
- Age:- Age of the customer
- Employment type- The sector in which customer is employed
- GraduateOrNot- Whether The Customer Is College Graduate Or Not
- AnnualIncome- The Yearly Income Of The Customer In Indian Rupees
- FamilyMembers- Number Of Members In Customer's Family
- ChronicDisease- Whether The Customer Suffers From Any Major Disease
- FrequentFlyer- Data Based On Customer's History Of Booking Air Tickets
- EverTravelledAbroad- Has The Customer Ever Travelled To A Foreign Country
- TravelInsurance- Did The Customer Buy Travel Insurance Package in previous fly

III. Data Analysis

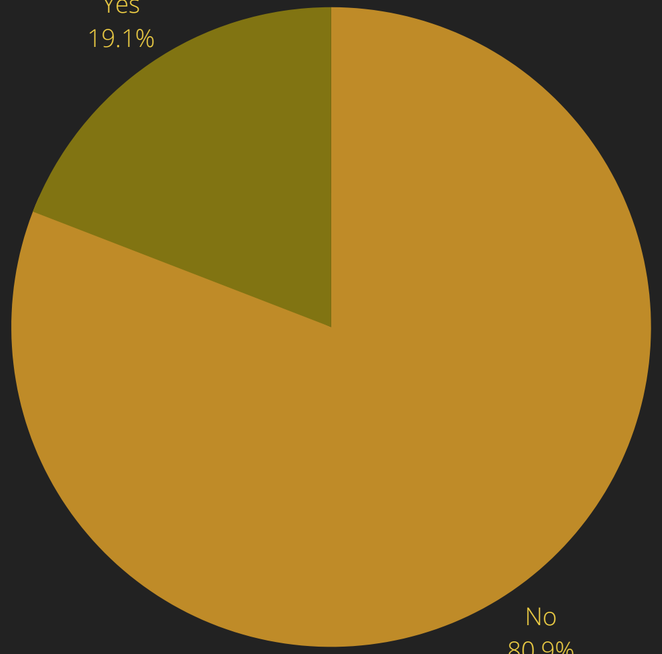
Univariate Analysis

Bivariate Analysis

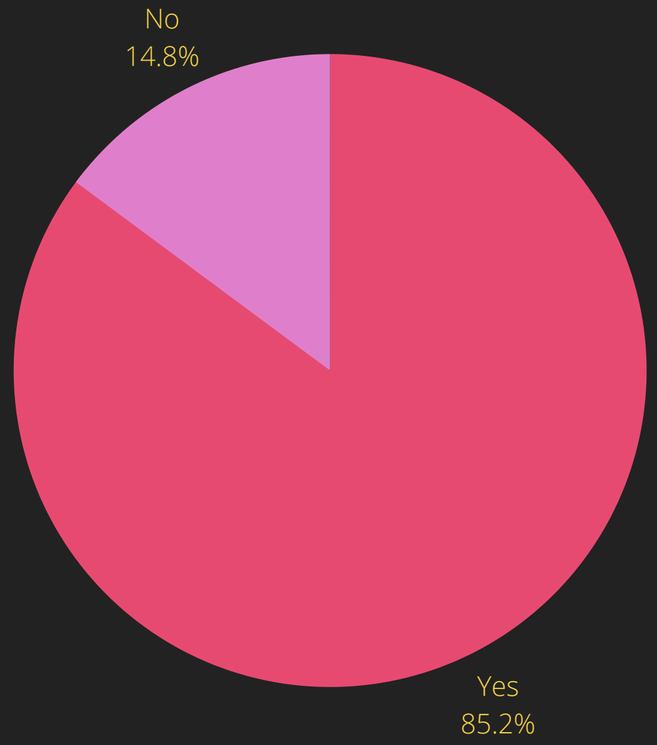
Univariate Analysis



Frequent Flyer

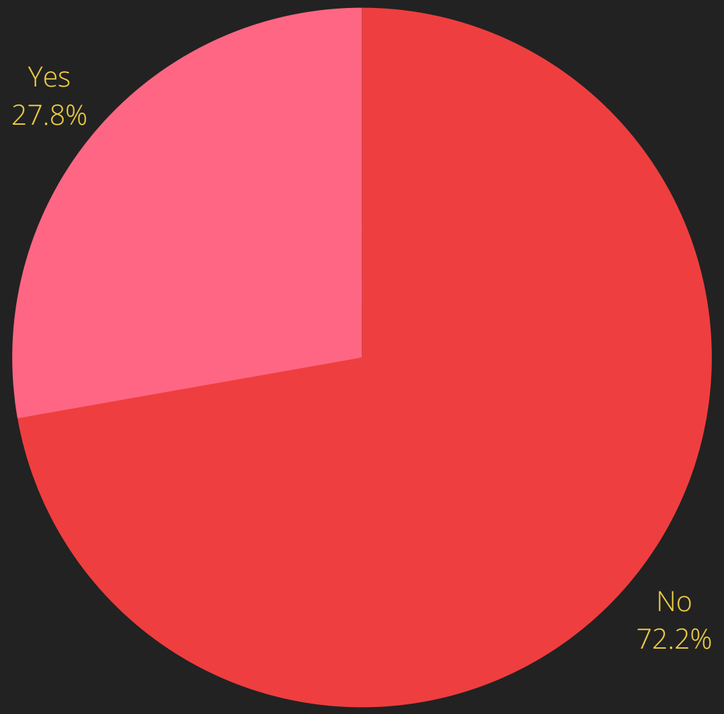


Ever Travel Abroad

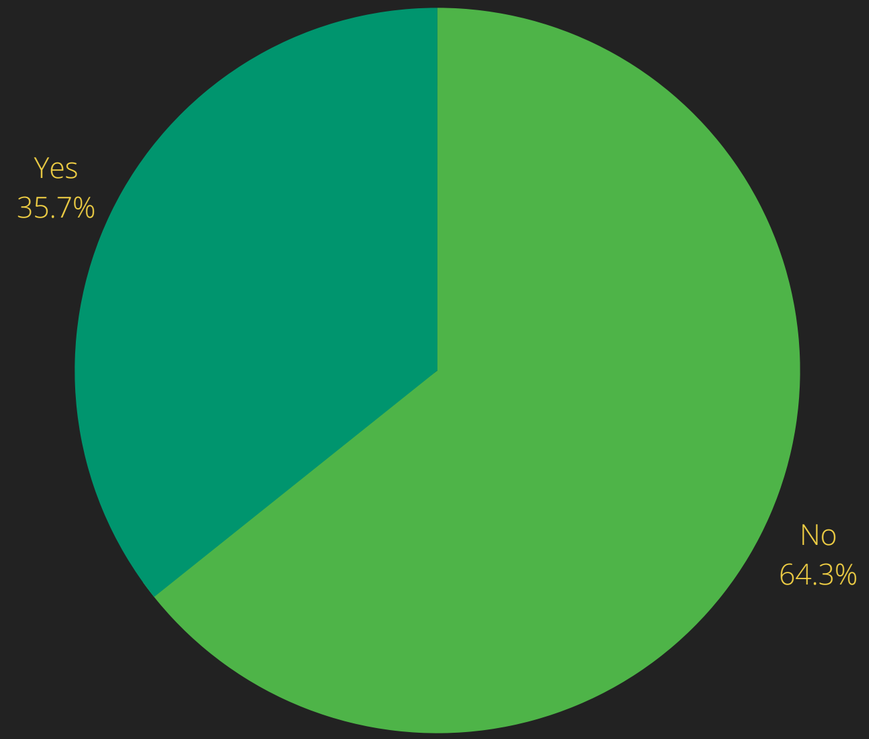


Graduate or not

Univariate Analysis

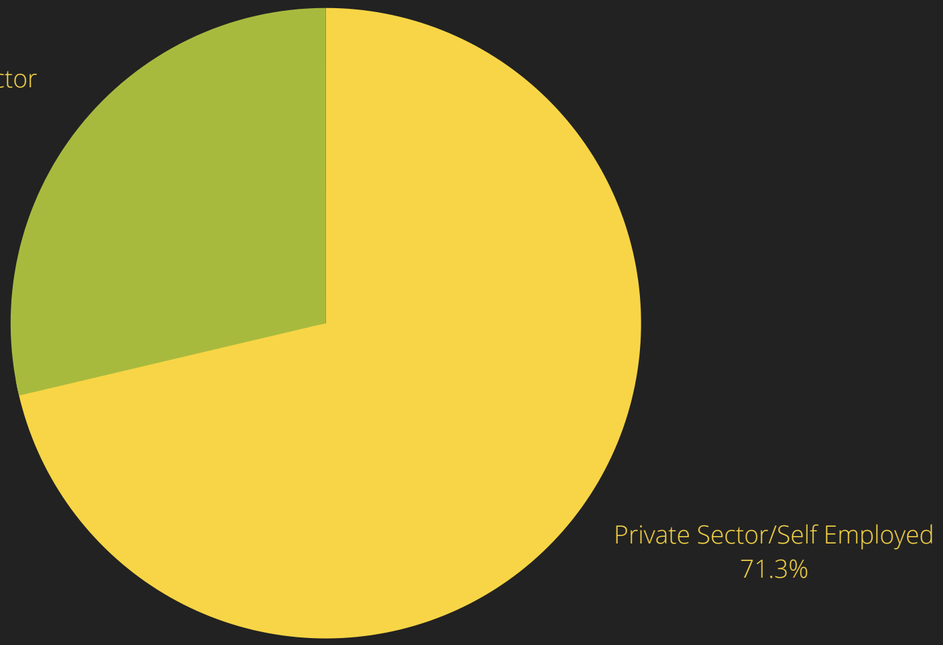


Chronic Diseases

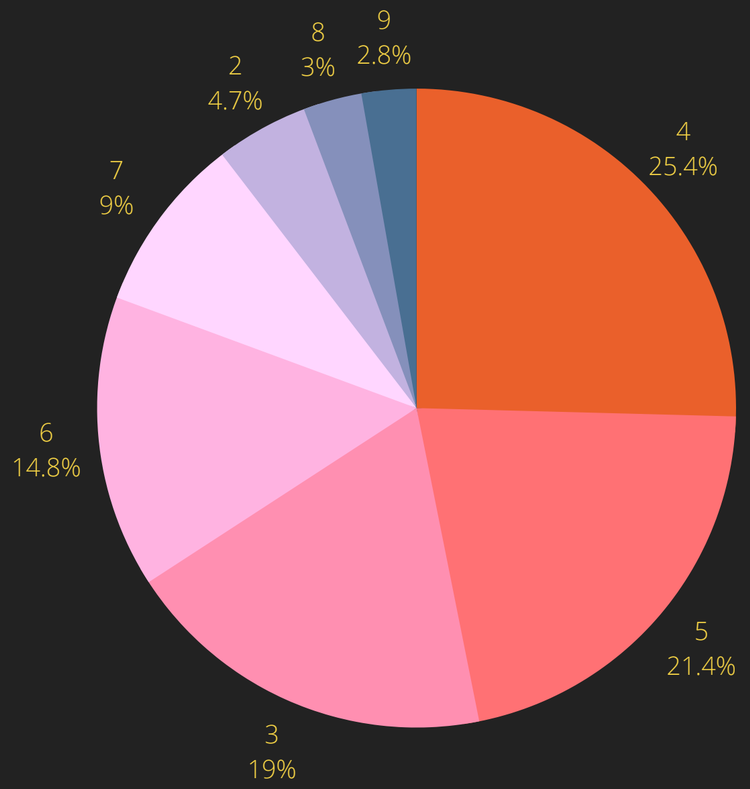


Travel Insurance

Univariate Analysis

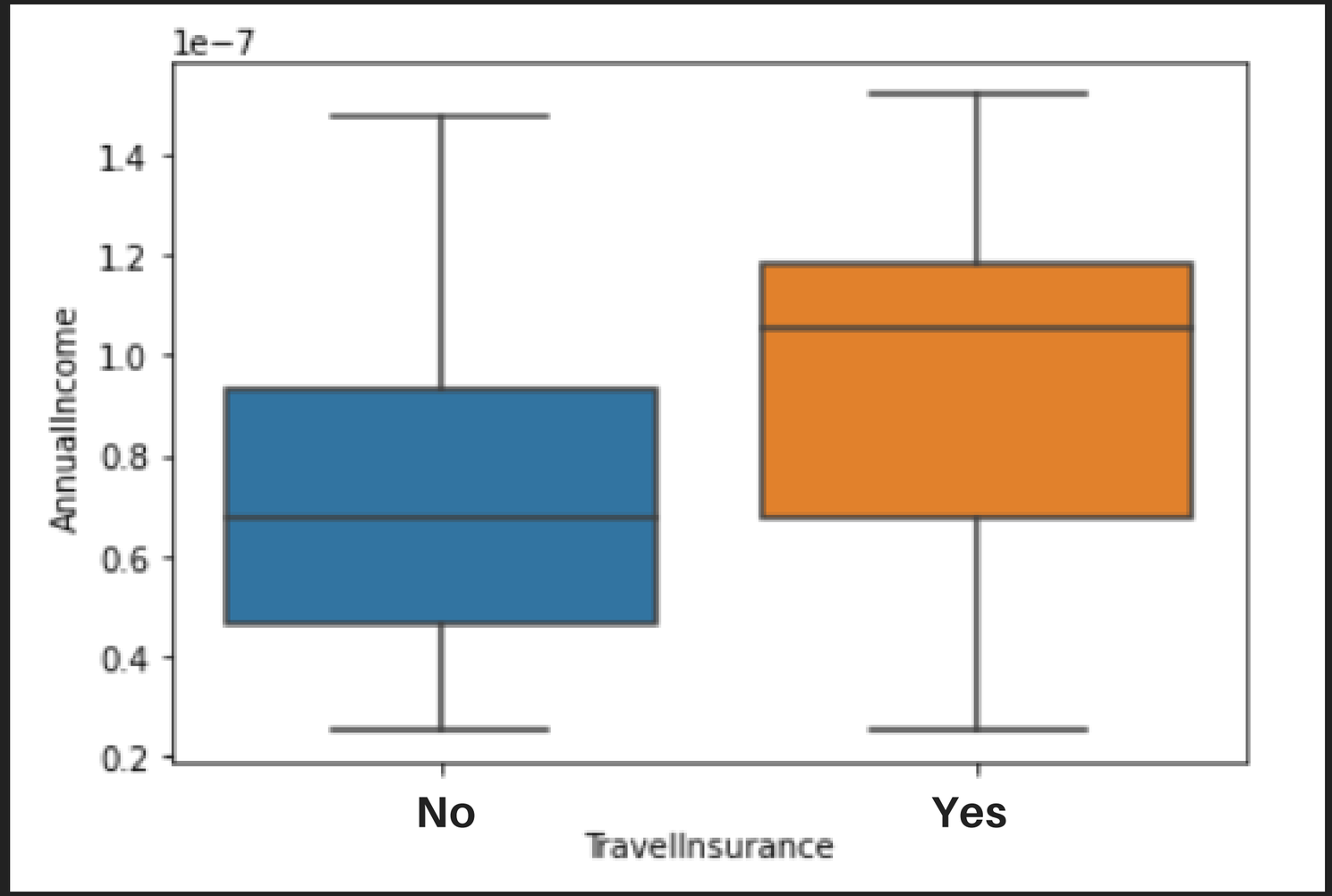


Employment Type



FamilyMembers

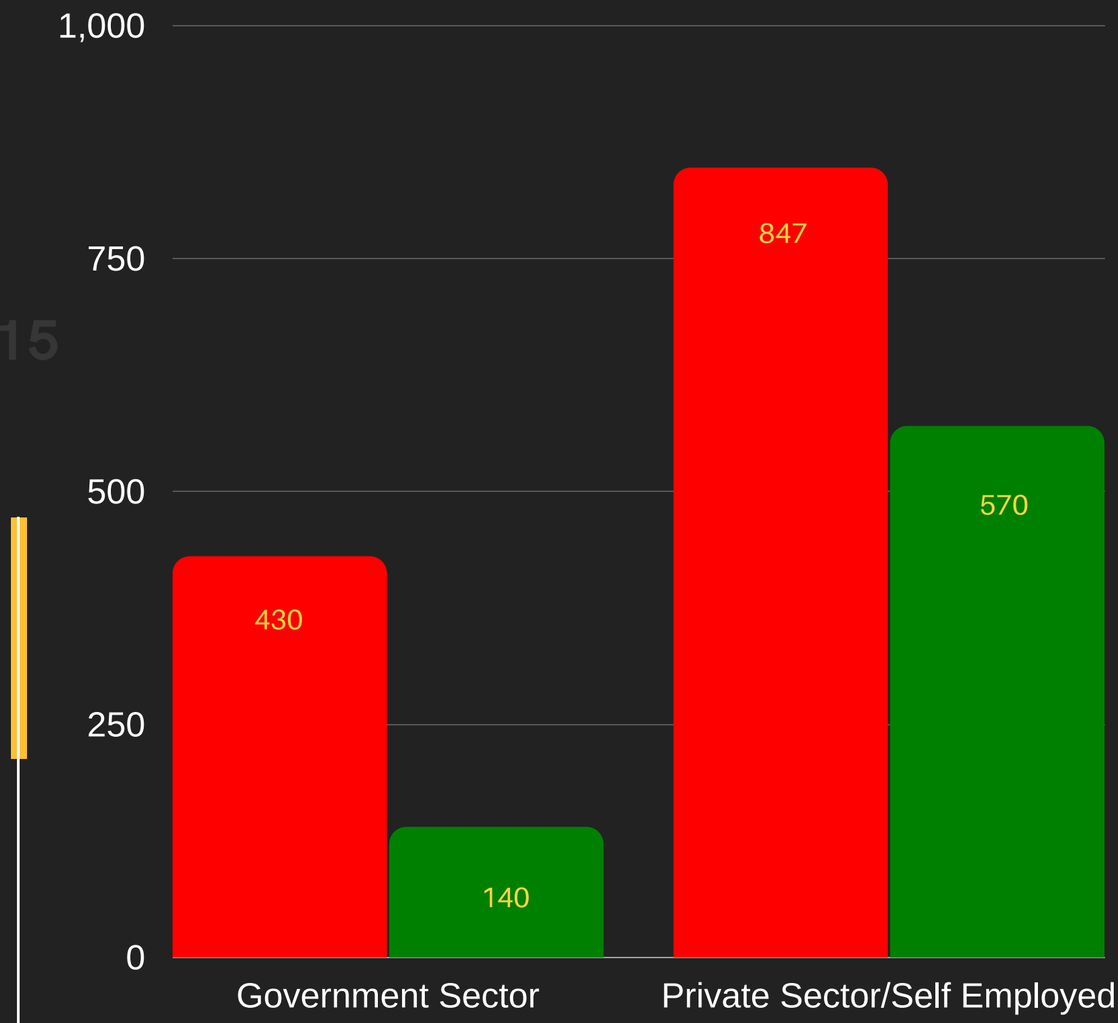
Bivariate Analysis



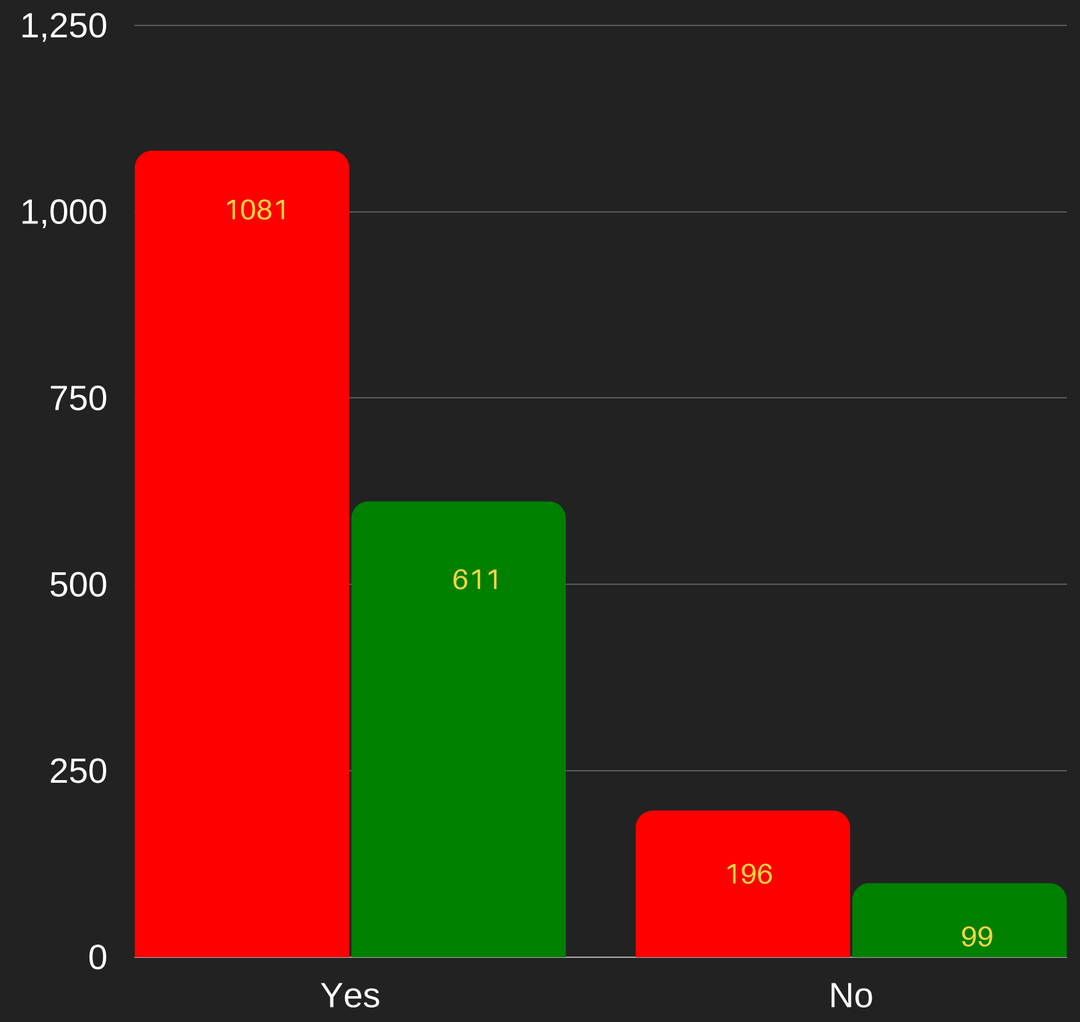
Bigger the Annual Income, Higher the chance of the customer to buy the Travel Insurance.

Bivariate Analysis

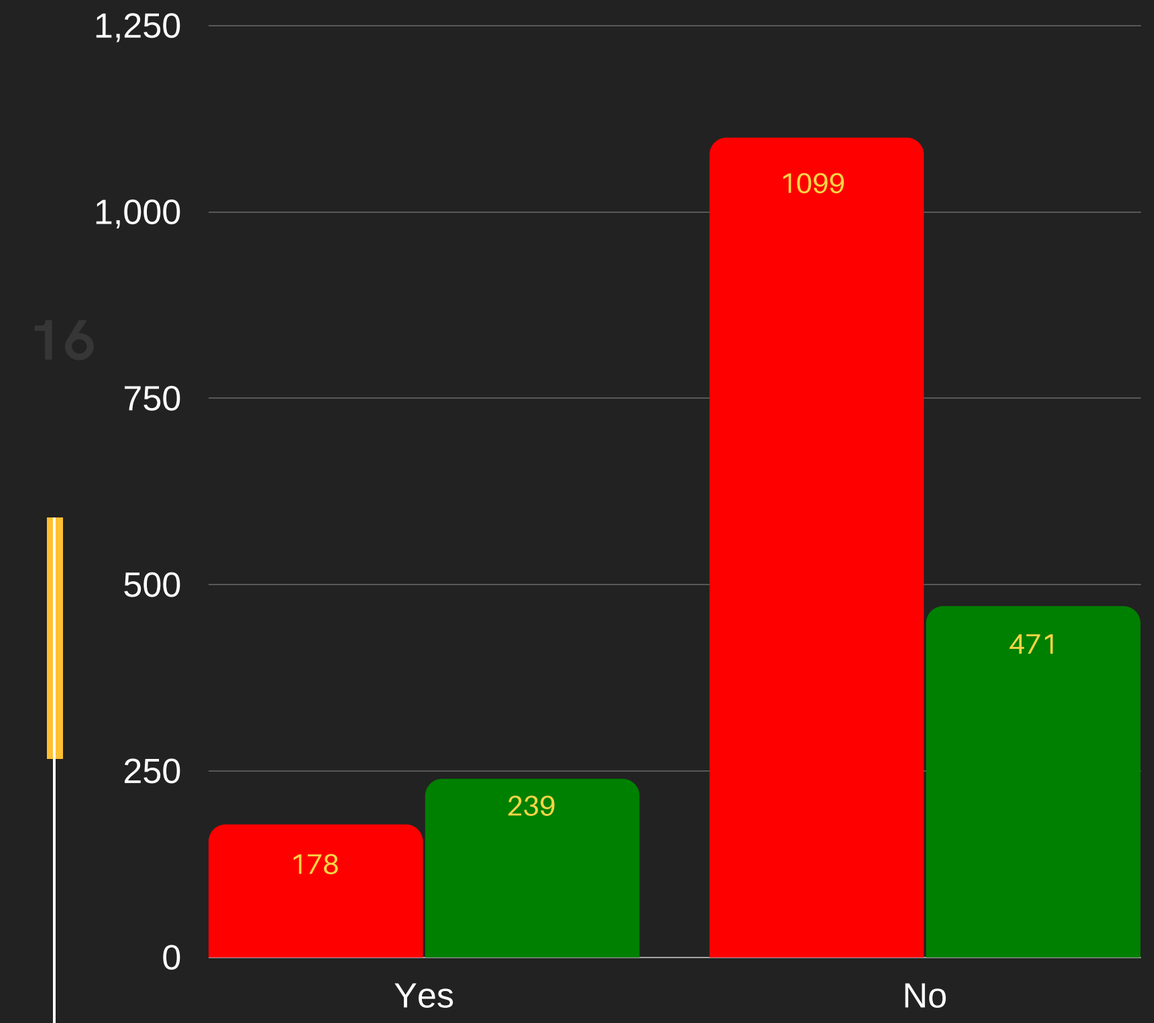
The number of Insurance bought is similar between these 2 range of age.



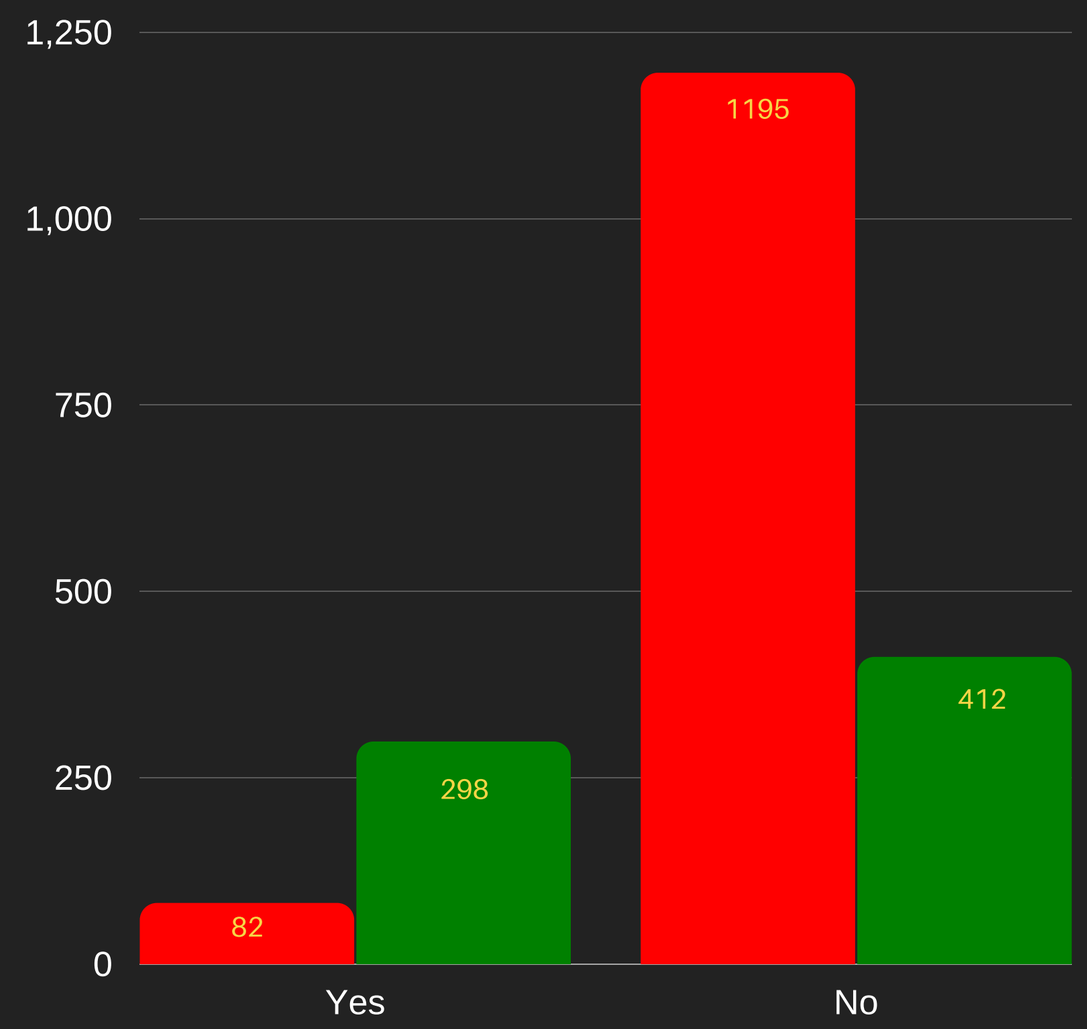
Number of Insurance bought by Employment Type



Number of Insurance bought by GraduateOrNot



Number of Insurance bought by FrequentFlyer



Number of Insurance bought by EverTravelledAbroad

IV. Conclusion

These are insights from analysis:

People with high Annual Income have higher chance to buy the Travel Insurance

People with the range of age between 25 - 35 have high chance to buy the Travel Insurance

Graduated people have higher chance to buy the Travel Insurance

Private sector/Self Employed people have higher chance to buy the Travel Insurance than Government sector employees

Not Frequent Flyers have higher chance to buy the Travel Insurance

People never travel abroad have higher chance to buy the Travel Insurance

Suggestion

Overall, we should do the marketing to the group of people whom working in Private Sector/Self Employed, and is a Graduated and isn't a Frequent Flyer and has never travelled abroad and has higher income with the age between 25 to 35 has higher chance to buy the Travel Insurance Package.

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