Analytics Project Team 10

Here is where your presentation begins

01

BACKGROUND

An Insurance Company in India that has provided health insurance to its customer, seeks to expand their service to providing a vehicle insurance to their past customer.

PROBLEM AND GOAL

PROBLEM

Based on dataset, is there a tendency for people to be offered vehicle insurance?

GOAL
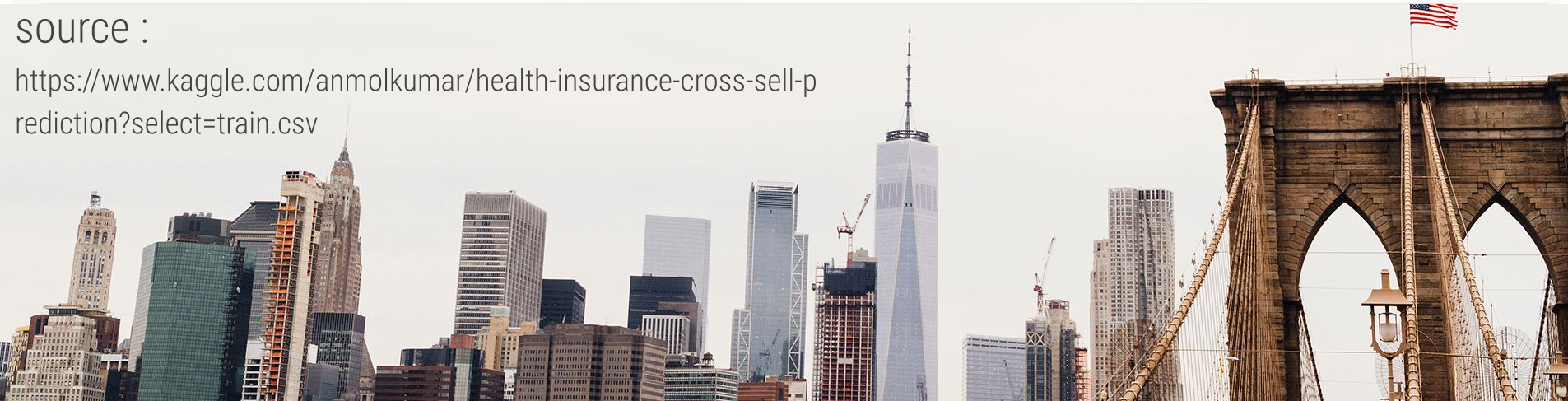
Find Possibility in offering vehicle insurance

02

DATASET

id	Gender	Age	Driving_License	Region_Code	Previously_Insured	Vehicle_Age	Vehicle_Damage	Annual_Premium	Policy_Sales_Channel	Vintage	Response
0	1	Male	44	1	28.0	0	> 2 Years	Yes	40454.0	26.0	217	1
1	2	Male	76	1	3.0	0	1-2 Year	No	33536.0	26.0	183	0
2	3	Male	47	1	28.0	0	> 2 Years	Yes	38294.0	26.0	27	1
3	4	Male	21	1	11.0	1	< 1 Year	No	28619.0	152.0	203	0
4	5	Female	29	1	41.0	1	< 1 Year	No	27496.0	152.0	39	0
5	6	Female	24	1	33.0	0	< 1 Year	Yes	2630.0	160.0	176	0
6	7	Male	23	1	11.0	0	< 1 Year	Yes	23367.0	152.0	249	0
7	8	Female	56	1	28.0	0	1-2 Year	Yes	32031.0	26.0	72	1
8	9	Female	24	1	3.0	1	< 1 Year	No	27619.0	152.0	28	0
9	10	Female	32	1	6.0	1	< 1 Year	No	28771.0	152.0	80	0

source :

https://www.kaggle.com/anmolkumar/health-insurance-cross-sell-prediction?select=train.csv

COLUMN	DESCRIPTION
id	Unique ID for the customer
Gender	Gender of the customer
Age	Age of the customer
Driving_License	0 : Customer does not have DL, 1 : Customer already has DL
Region_Code	Unique code for the region of the customer
Previously_Insured	1 : Customer already has Vehicle Insurance, 0 : Customer doesn't have Vehicle Insurance
Vehicle_Age	Age of the Vehicle
Vehicle_Damage	1 : Customer got his/her vehicle damaged in the past. 0 : Customer didn't get his/her vehicle damaged in the past.
Annual_Premium	The amount customer needs to pay as premium in the year
Policy_Sales_Channel	Anonymized Code for the channel of outreaching to the customer ie. Different Agents, Over Mail, Over Phone, In Person, etc.
Vintage	Number of Days, Customer has been associated with the company
Response	1 : Customer is interested, 0 : Customer is not interested

Description

	Data Features	Data Types	Null	Null Percentage	Unique	Unique Sample
0	id	int64	0	0.0	381109	[24870, 101378]
1	Gender	object	0	0.0	2	[Female, Male]
2	Age	int64	0	0.0	66	[72, 43]
3	Driving_License	int64	0	0.0	2	[0, 1]
4	Region_Code	float64	0	0.0	53	[37.0, 21.0]
5	Previously_Insured	int64	0	0.0	2	[1, 0]
6	Vehicle_Age	object	0	0.0	3	[1-2 Year, > 2 Years]
7	Vehicle_Damage	object	0	0.0	2	[No, Yes]
8	Annual_Premium	float64	0	0.0	48838	[69366.0, 55974.0]
9	Policy_Sales_Channel	float64	0	0.0	155	[133.0, 59.0]
10	Vintage	int64	0	0.0	290	[299, 40]
11	Response	int64	0	0.0	2	[1, 0]

	count	mean	std	min	25%	50%	75%	max
id	380297.0	190552.135242	110018.346856	1.0	95265.0	190551.0	285834.0	381109.0
Age	380297.0	38.765399	15.471097	20.0	25.0	36.0	49.0	85.0
Driving_License	380297.0	1.000000	0.000000	1.0	1.0	1.0	1.0	1.0
Region_Code	380297.0	26.388147	13.232228	0.0	15.0	28.0	35.0	52.0
Previously_Insured	380297.0	0.458555	0.498280	0.0	0.0	0.0	1.0	1.0
Annual_Premium	380297.0	30554.919366	17209.083127	2630.0	24401.0	31661.0	39387.0	540165.0
Policy_Sales_Channel	380297.0	112.143824	54.163078	1.0	29.0	138.0	152.0	163.0
Vintage	380297.0	154.344118	83.673028	10.0	82.0	154.0	227.0	299.0
Response	380297.0	0.122717	0.328113	0.0	0.0	0.0	0.0	1.0

The condition for having vehicle insurance is ownership of a driving license. therefore, rows or data with a driver's license value of 0 are not used. we shred 812 data

Total data by driving_lisence

0	1
812	380297

Reference :

https://www.bajajallianz.com/motor-insurance/car-insurance-online.html

03

EXPLORATORY DATA ANALYSIS

NUMERICAL

	count	mean	std	min	25%	50%	75%	max
Age	380297.0	38.77	15.47	20.0	25.0	36.0	49.0	85.0
Region_Code	380297.0	26.39	13.23	0.0	15.0	28.0	35.0	52.0
Annual_Premium	380297.0	30554.92	17209.08	2630.0	24401.0	31661.0	39387.0	540165.0
Vintage	380297.0	154.34	83.67	10.0	82.0	154.0	227.0	299.0

CATEGORICAL

	Gender	Vehicle_Age	Vehicle_Damage
count	380297	380297	380297
unique	2	3	2
top	Male	1-2 Year	Yes
freq	205489	199561	191857

Age Distribution
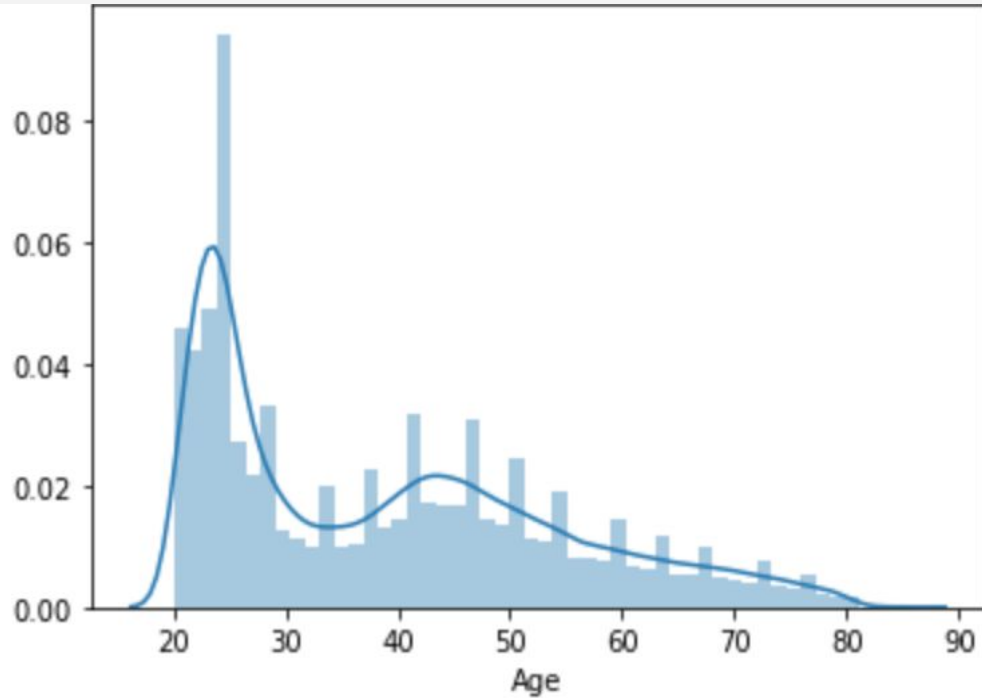
Mean:37

Mode: 24

Median: 36

Annual Premium Distribution
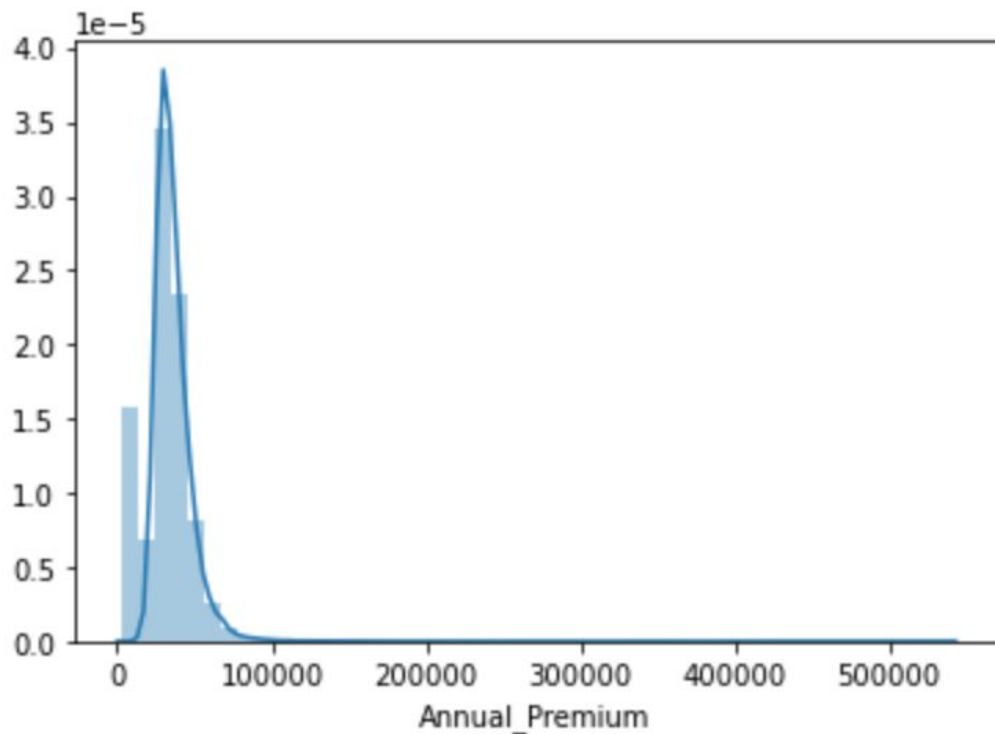
Mean :
30554.92

Mode :
2630

Median:
31661

Distribution of Region Code

Distribution of Region code
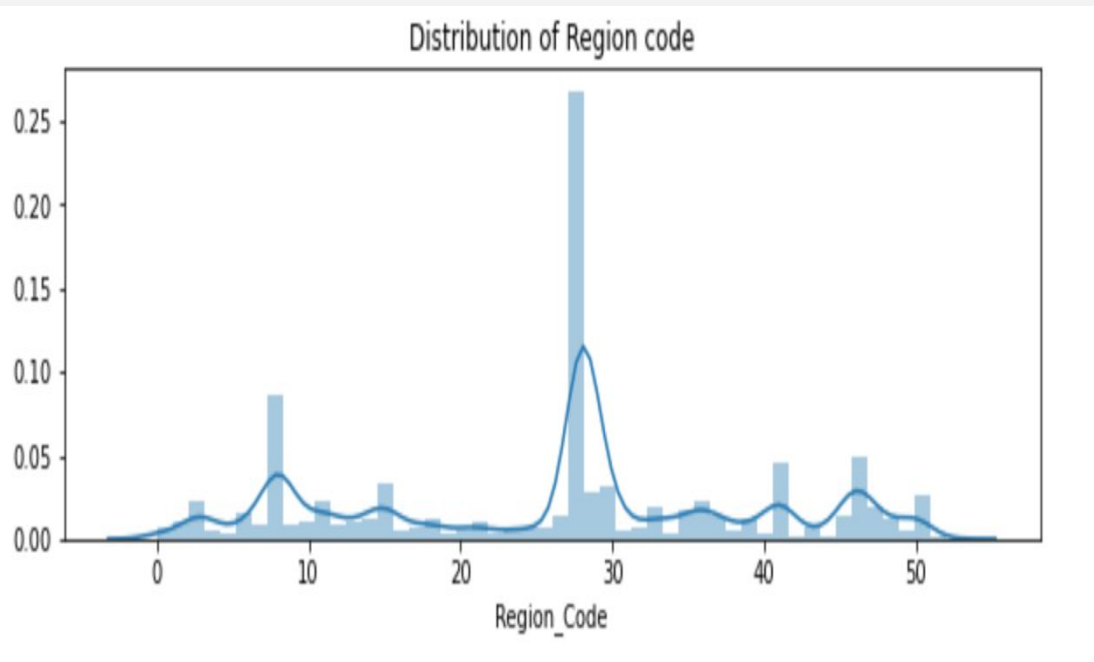
Mode: 28

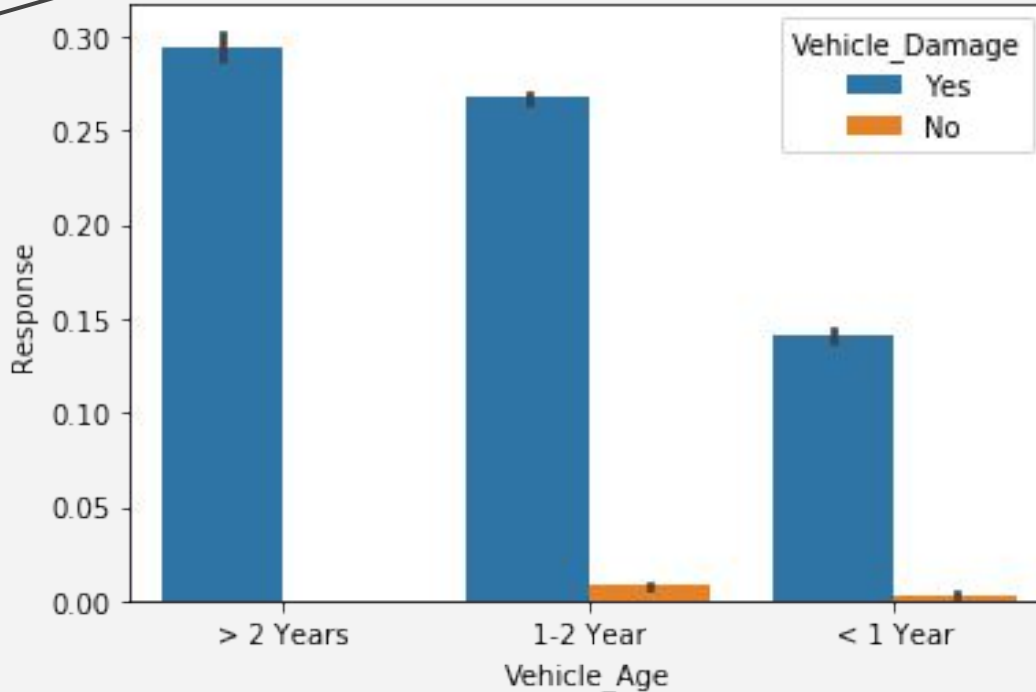# POLICY SALES CHANNEL DISTRIBUTION
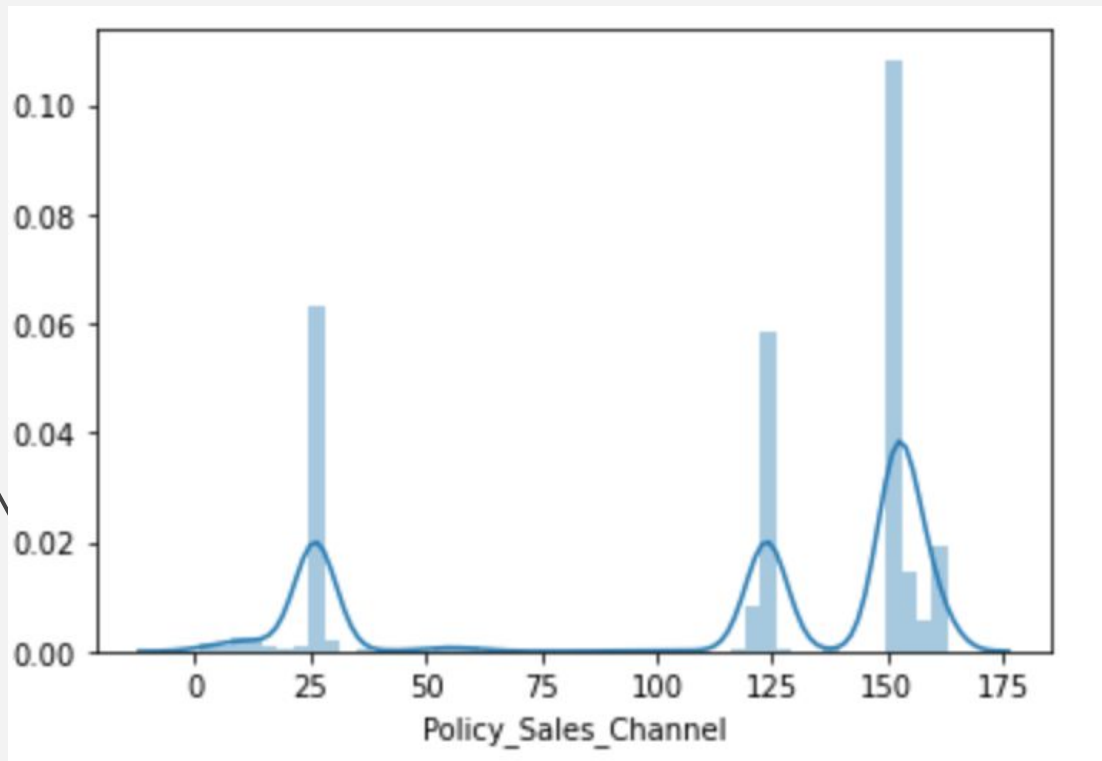
Mode: 152

PERCENTAGE OF VEHICLE OWNERSHIP BASED ON VEHICLE AGE

1-2 Year

52%

4%

> 2 Years

43%

< 1 Year
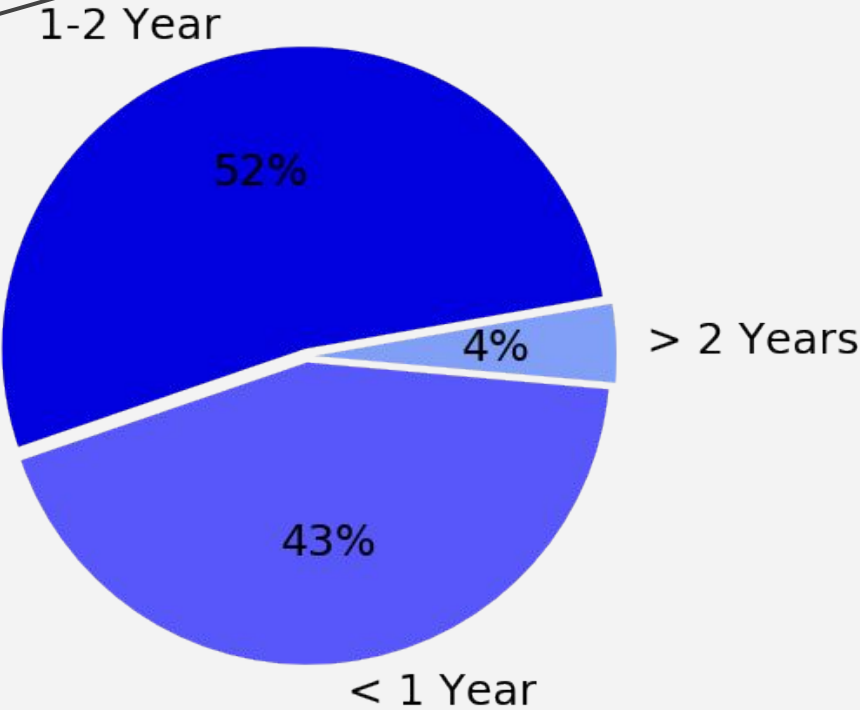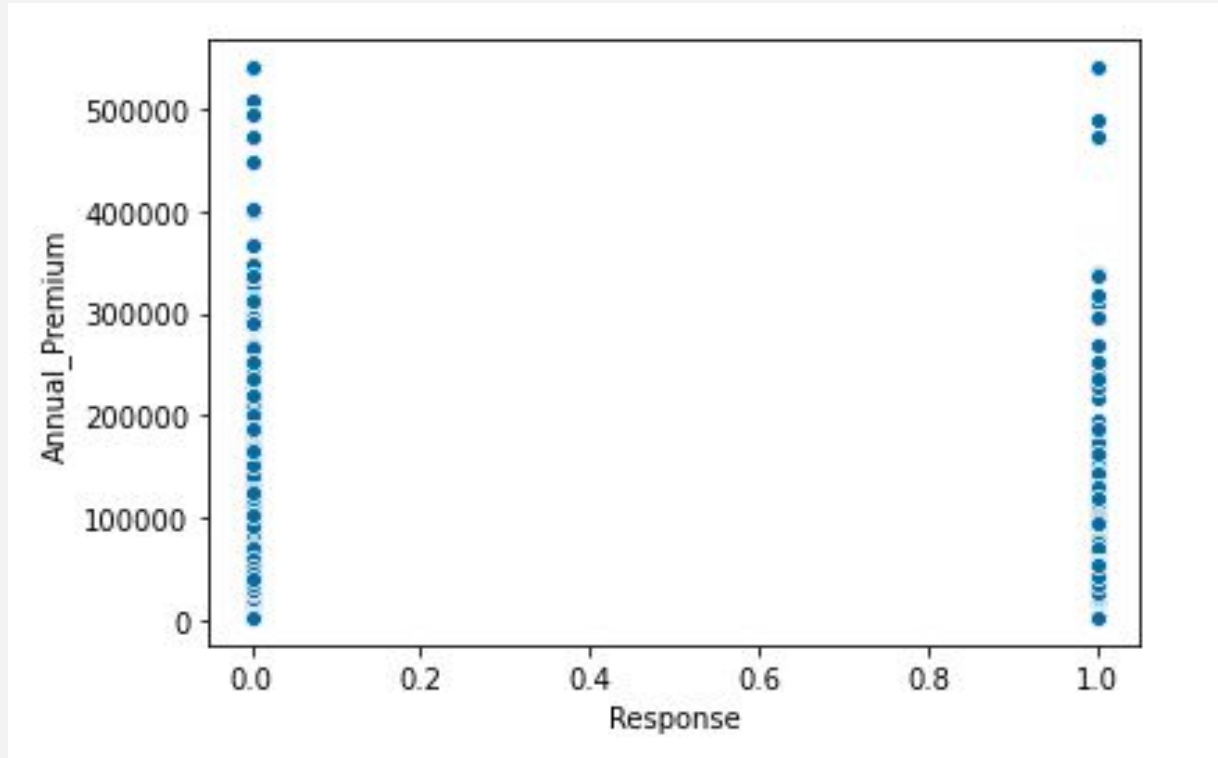
INSURANCE INTEREST BASED ON GENDER
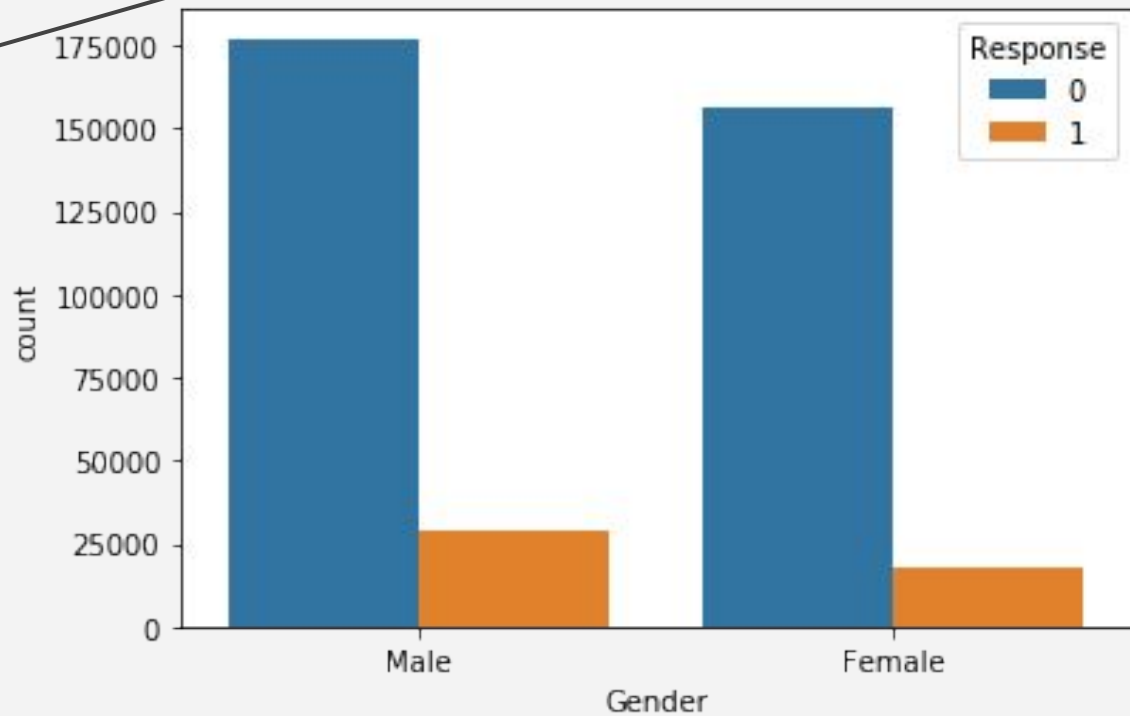
PERCENTAGE OF TOTAL VALUE OF RESPONSE BASED ON VEHICLE AGES, AND VEHICLE DAMAGE HISTORY
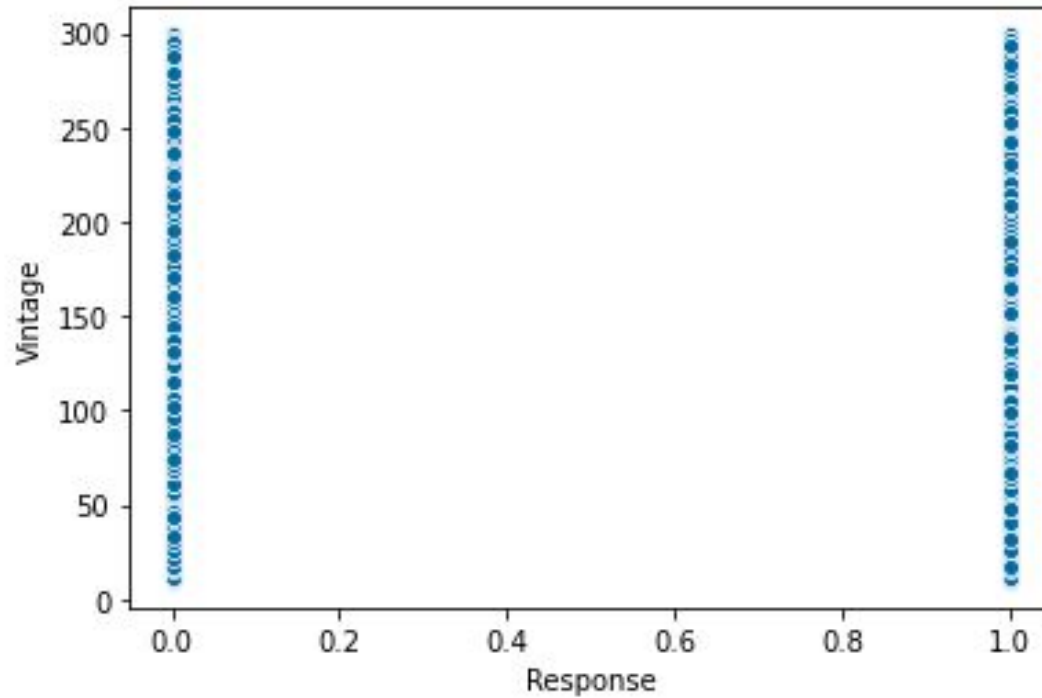
PERCENTAGE OF TOTAL VALUE OF RESPONSE BASED ON VEHICLE AGES, AND INSURANCE HISTORY
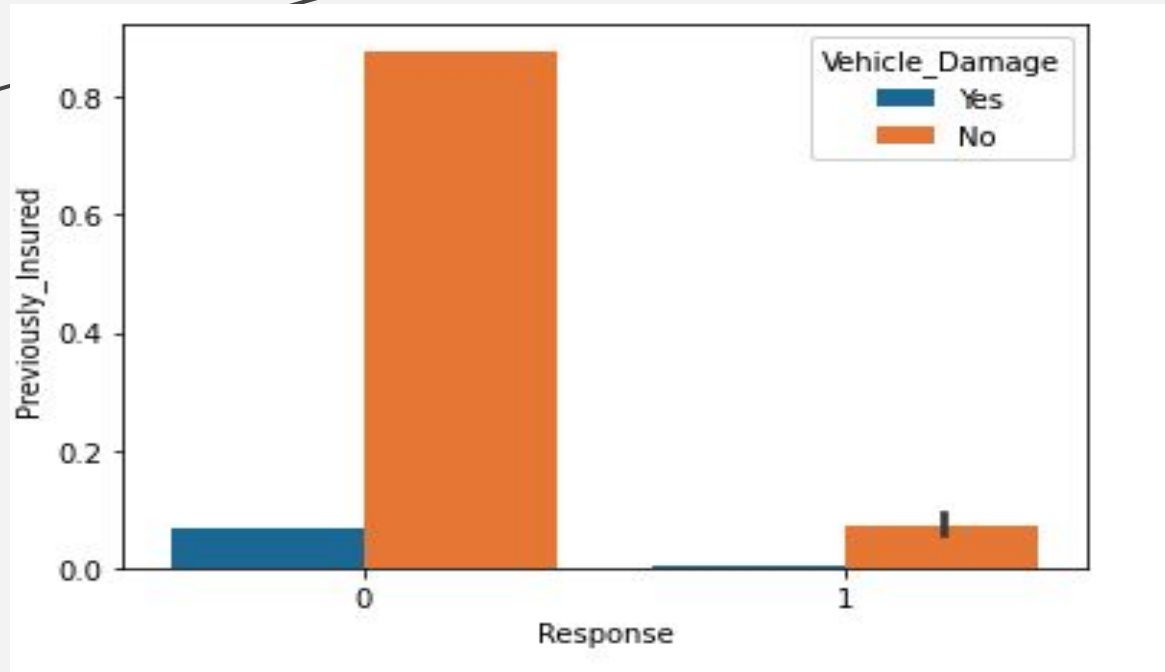
Correlation between Annual Premium and Response

Correlation between Vintage and Response

CONCLUSION

The analysis carried out concludes that the tendency for disinterest in vehicle insurance is higher. This trend is not affected by whether they have previous insurance or not.

Insurance awareness level in India tends to be low, based on the referrals we use.

- http://paper.researchbib.com/view/paper/122191
- https://ijirst.org/Article.php?manuscript=IJIRSTV5I5015

RECOMMENDATION

01
Offer the insurance to the customer who have a driving license

02
Offer the insurance through channel 152

03
Offer to the customer who previously insured their car

04
Offer to the customer who have been involved in an accident

05
Offer to the customer who just recently buy a car

OUR TEAM

Muhammad Ismail Muchfi H A

John Pierre Haumahu

THANKS!

Do you have any questions?

youremail@freepik.com
+91 620 421 838
yourcompany.com

RESOURCES

PHOTOS

- City skyline and bridge with us flag
- Crop female keeping baseball and glove
- Brooklyn bridge and skyscrapers on skyline
- Front view women working together
- Rear view of a young man practicing basketball