# Car Insurance Project On tableau

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### 1.1 Problem Statement

Consider that you are a Lead Data Analyst at an Insurance Claims company that has provided you with the Car Insurance Claims dataset. You have been given a task to explore the data, create different plots and interpret useful insights/findings. Your end goal here will be to create a storyboard that you have to present to the Senior Management and the story has to have an end objective and should follow a logical flow to display that you are heading towards achieving the end objective. This will help the Senior Management in taking some decisive actions on the current claims system in place. This storyboard will be an open-ended story for you to explore various different features in the data and try to showcase different plots. Make sure to have minimum clutter in the plots, follow a consistent color scheme across all the plots, and use proper colors to highlight a specific insight. Moreover, your plots on all the dashboards should be interactive and responsive. There should be 1 dashboard that should cover the summary of the story as well as your recommendations.

### 1.2 Data Dictionary

| | |
|---|---|
| Assumption | Car Owner and Driver are same<br>Amounts are in Dollars ($) |
| ID | Identification Variable |
| KIDSDRIV | Number of teenagers among the car owner's children who can drive a car. |
| BIRTH | Date of birth of the driver |
| HOMEKIDS | No of childern the car owner has |
| YOJ | Years on Job. How many years has the owner of the car been working? |
| INCOME | Income of the driver |
| PARENT1 | Is the car owner a Single Parent |
| HOME_VAL | Value of the house owned by the car owner |
| MSTATUS | Marital status of the car owner |
| GENDER | Gender of the driver |
| EDUCATION | Maximum Education level of the driver |
| OCCUPATION | Occupation of the driver |
| TRAVTIME | Time taken to get to work on an average |
| CAR_USE | Purpose of using the car |
| BLUEBOOK | What is the worth of the car. Value of the Vehicle(in dollars) |
| CAR_TYPE | Car type |
| OLDCLAIM | Total claim (in past 5 years - in dollars) |
| CLM_FREQ | Number of claims (in past 5 years) |
| CLM_AMT | If car was in a crash, what is the currently claimed amount(in dollars) |
| CAR_AGE | Age of car |
| URBANICITY | Where the car is being driven primarily |

1.3 List of the calculated fields created.

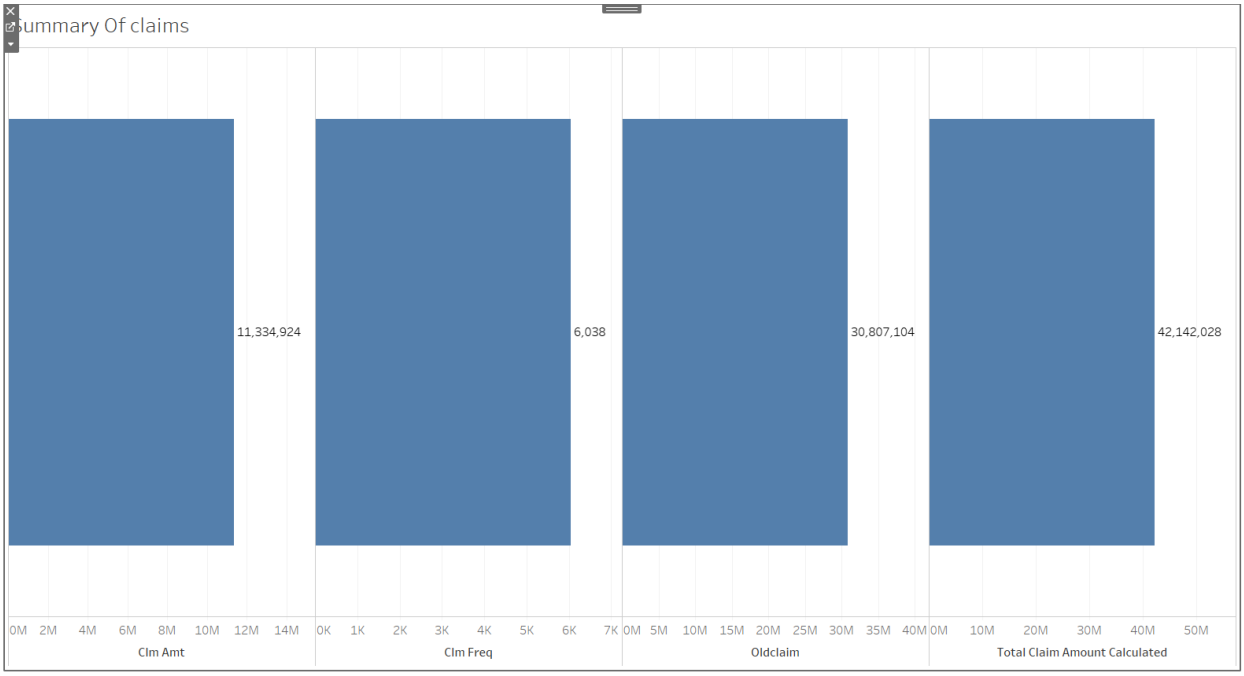
The calculated fields created in the tableau are as follows:

a) Income range calculated.
   For the ease of understanding the income was distributed to following ranges
   [Income] <5000 THEN "1_Very Low"
   [Income] <10000 THEN "2_Low"
   [Income] <20000 THEN "3_Medium"
   [Income] <40000 THEN "4_Medium High"
   [Income] >40000 "5_High"

b) Average Claim Amount Calculated
   Average of the claim amounts.
c) Average Claim Freq (Calcu)
   Average of the frequency of the claims
d) Total Claim Amount Calculated
e) Sum of old claim amount and claim amount

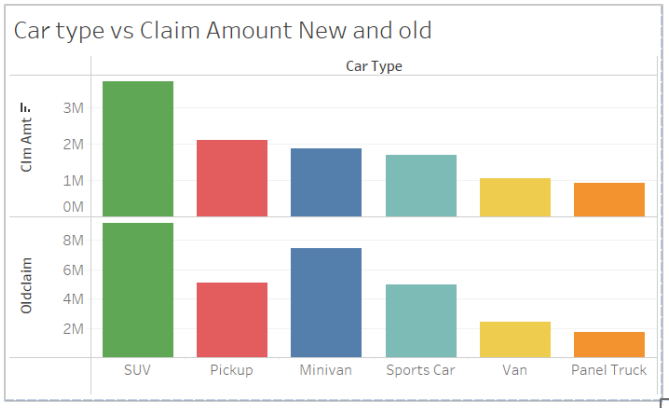
1.4 All the dashboards created are as follows

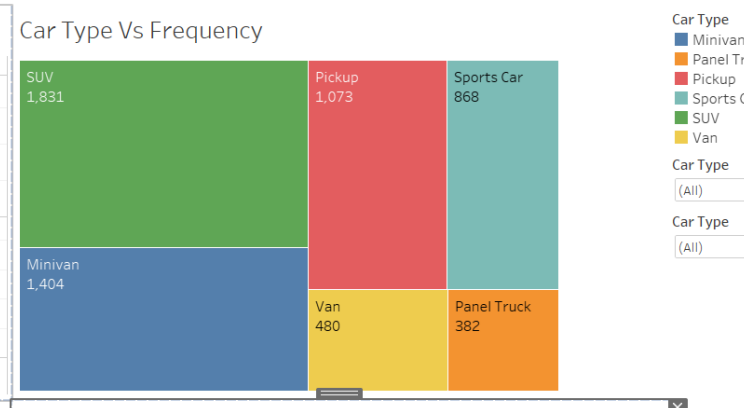
1. Summary of the claims dashboard

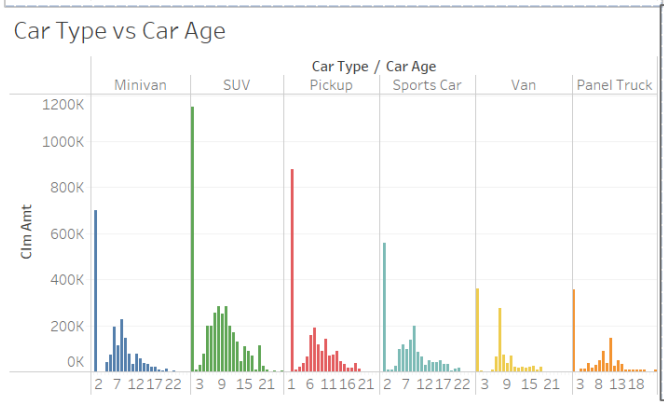


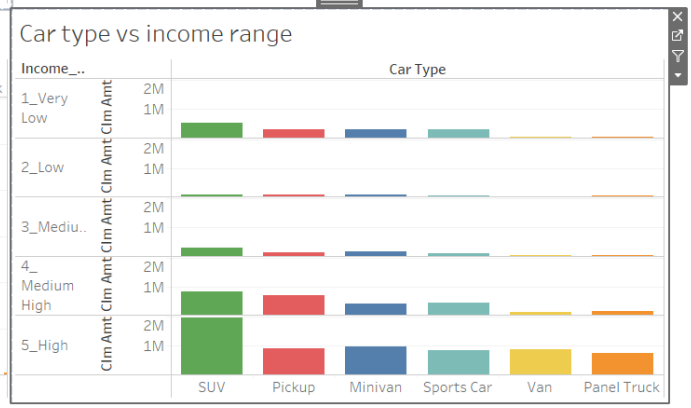

ClmAmt- Amount of the present claims
Clm Freq- Frequency of the claims
OldClaim-Old claim amounts
Total claim amount.

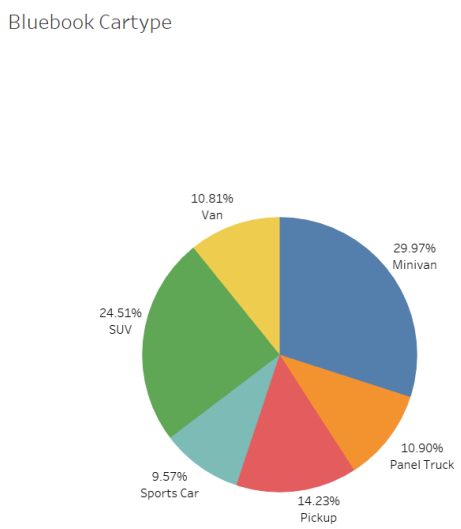
## 2. Car type dashboards (2&3)

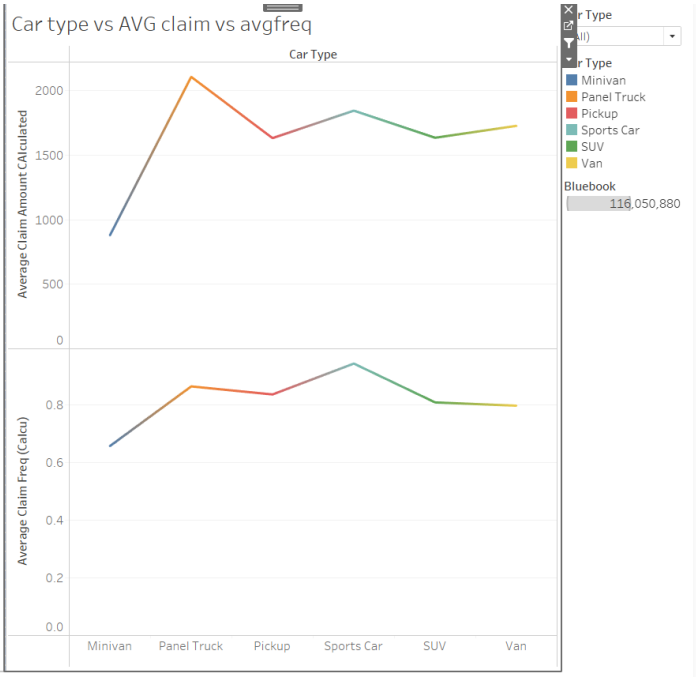


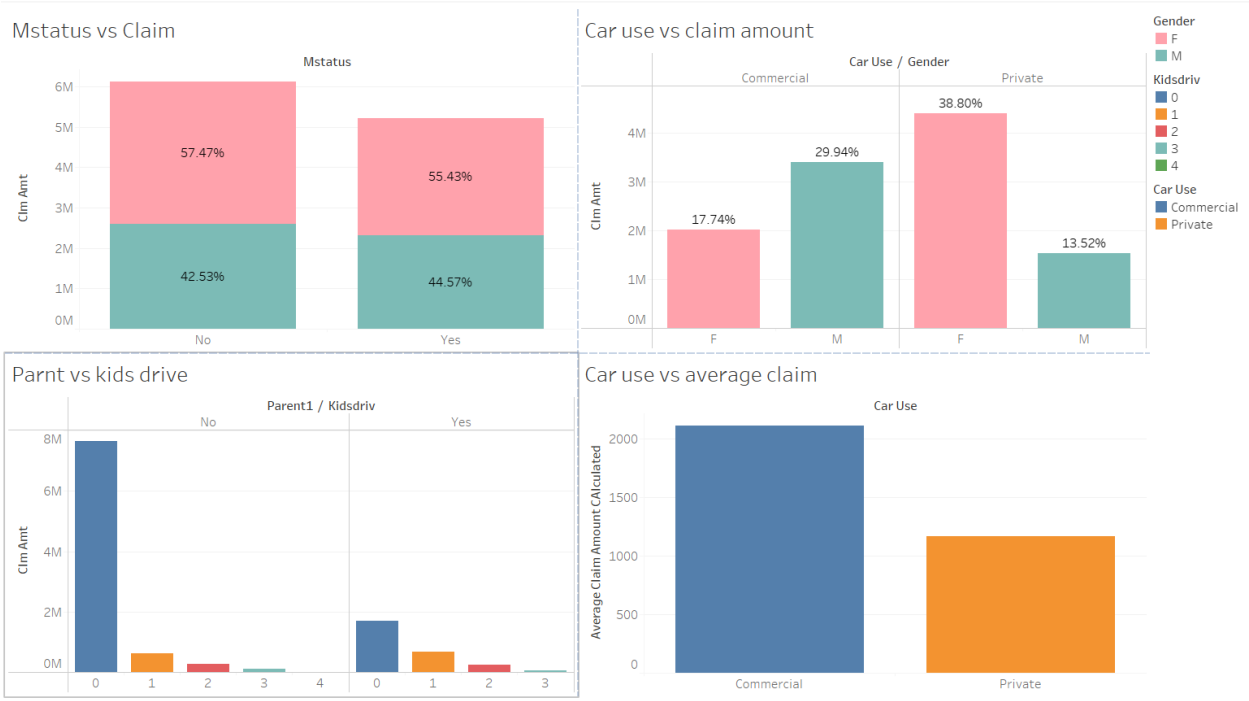



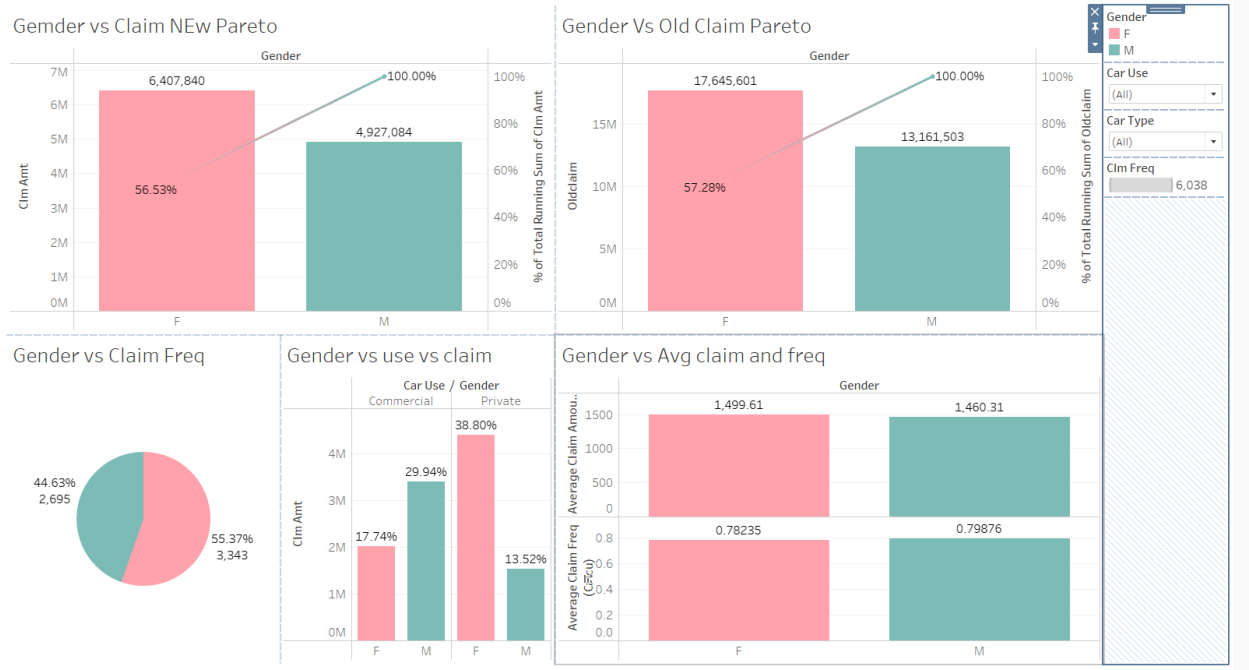



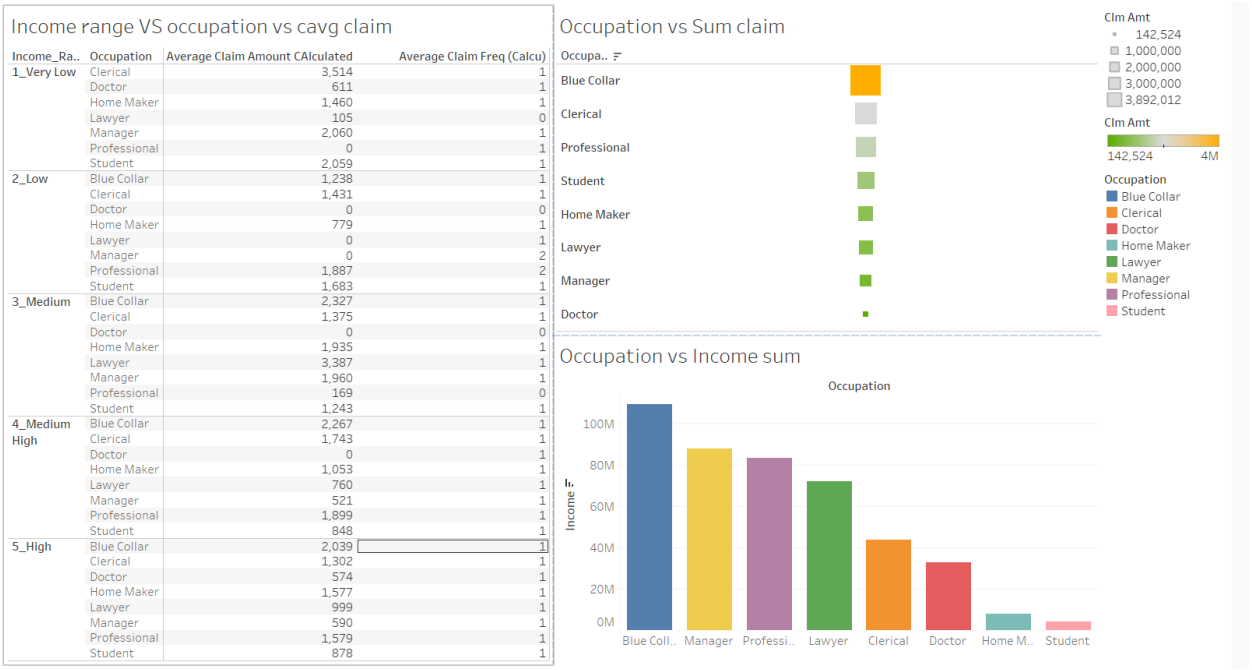
3. Dashboard 4




4. Dashboard 5

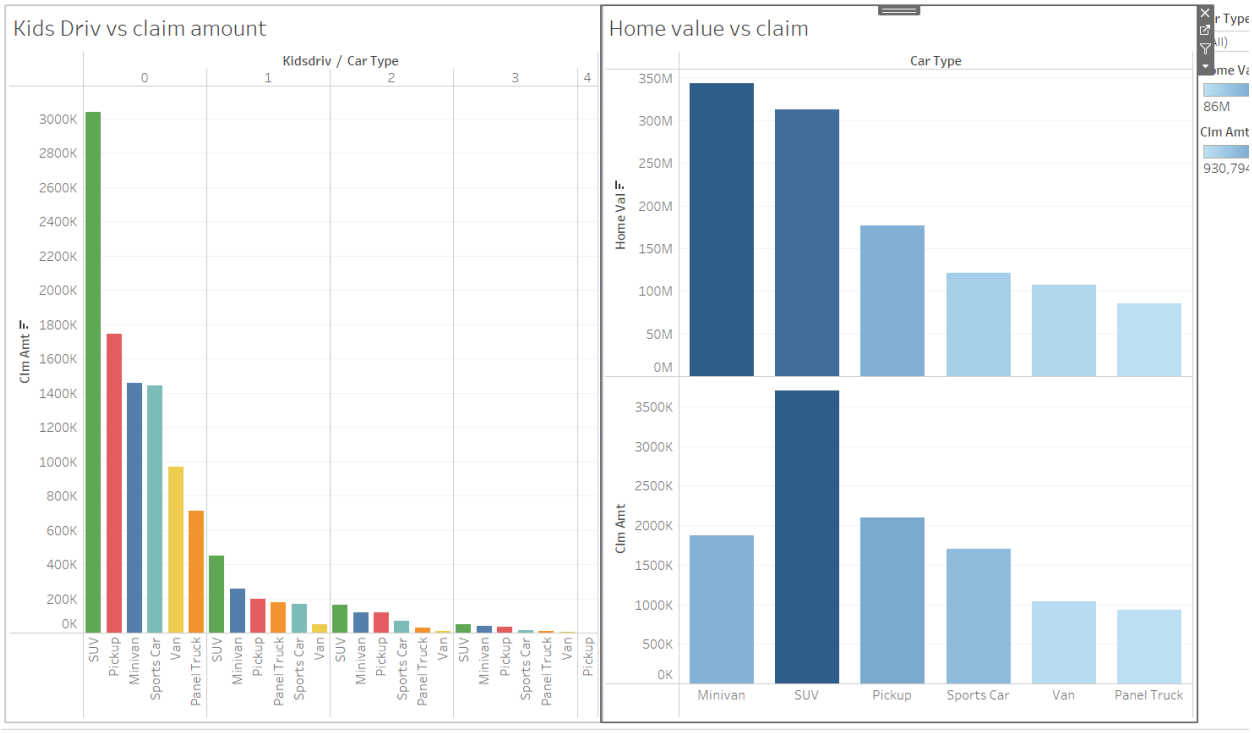


5. Dashboard 6

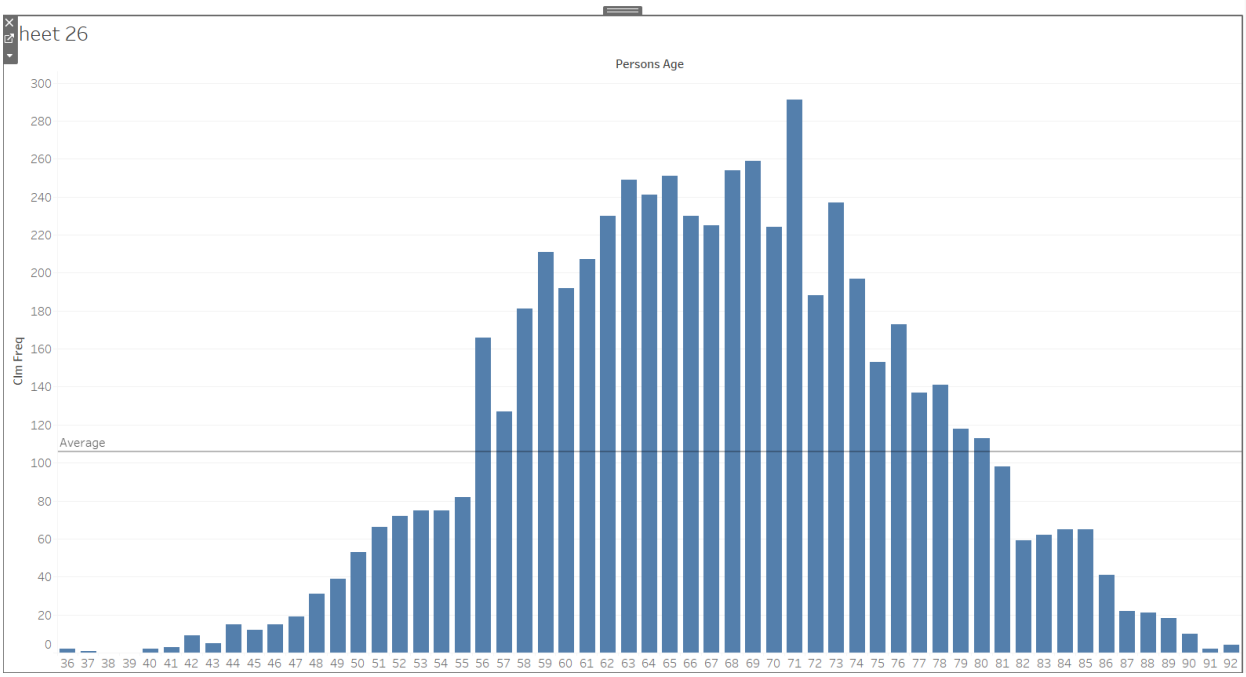



| Income_Ra.. | Occupation | Average Claim Amount CAlculated | Average Claim Freq (Calcu) |
|---|---|---|---|
| 1_Very Low | Clerical | 3,514 | 1 |
| | Doctor | 611 | 1 |
| | Home Maker | 1,460 | 1 |
| | Lawyer | 105 | 0 |
| | Manager | 2,060 | 1 |
| | Professional | 0 | 1 |
| | Student | 2,059 | 1 |
| 2_Low | Blue Collar | 1,238 | 1 |
| | Clerical | 1,431 | 1 |
| | Doctor | 0 | 0 |
| | Home Maker | 779 | 1 |
| | Lawyer | 0 | 1 |
| | Manager | 0 | 2 |
| | Professional | 1,887 | 2 |
| | Student | 1,683 | 1 |
| 3_Medium | Blue Collar | 2,327 | 1 |
| | Clerical | 1,375 | 1 |
| | Doctor | 0 | 0 |
| | Home Maker | 1,935 | 1 |
| | Lawyer | 3,387 | 1 |
| | Manager | 1,960 | 1 |
| | Professional | 169 | 0 |
| | Student | 1,243 | 1 |
| 4_Medium High | Blue Collar | 2,267 | 1 |
| | Clerical | 1,743 | 1 |
| | Doctor | 0 | 1 |
| | Home Maker | 1,053 | 1 |
| | Lawyer | 760 | 1 |
| | Manager | 521 | 1 |
| | Professional | 1,899 | 1 |
| | Student | 848 | 1 |
| 5_High | Blue Collar | 2,039 | 1 |
| | Clerical | 1,302 | 1 |
| | Doctor | 574 | 1 |
| | Home Maker | 1,577 | 1 |
| | Lawyer | 999 | 1 |
| | Manager | 590 | 1 |
| | Professional | 1,579 | 1 |
| | Student | 878 | 1 |

6. Dashboard 7




7. Dashboard 8




The final recommendations for the analysis:

1. 1. From dashboard 2, it is clear that SUV ammount for the highest amount of claims as well as frequency. SUV is also the most preferred car type among the HIGH EARNING range of income. So, the premium of the SUV segment of the cars shall be increased as high income group can afford the premium. For Panel Trucks, the premiums can be reduced or should be combined with promotional offers for the clients as claims in the panel trucks very low in frequency as well as amount.
2. From dashboard 3, sports car have highest average claim frequency as well as highest claim amount. From Dashboard 2 , it is clear that sports car are also more in the HIGH earning income range. SO, the premium for the ssports car shall also be increased Sports car need to be carefully considered before finalizing as the average amount per car is very high and the frequency of Claims is also very high.
3. Special plans can be designed for Students and Low Income range users who are just starting out as their Claim Amount is less as well as frequency of Claims. Hence this is good for advertisements.

4. Doctors and Lawyers seem to have the lowest Claim amount and hence can be considered for any special bonuses/schemes as well. Further, the premium may be lowered to attract the more no of doctors and lawyers.

5. The female drivers have the most claims as compared to the male drivers, so the premium may be increased for the female drivers. Though it may not seem like good in public eye if implemented directly and may taint the image of company as discriminatory.

6. With reference to dashboard 8, the age grooup of people from 56 to 80 have the higher claims than the average for all the age groups. The insurance may come at more preium price for age group of 56 to 80

Link to the tableau notebook :

https://public.tableau.com/shared/NJMFJKNS6?:display_count=n&:origin=viz_share_link