data analytics – data visualization

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CAR INSURANCE LLC

DATA ANALYTICS FOCUS

BRING INSIGHTS AND
RECOMMENDATIONS TOWARDS
BUSINESS OBJECTIVES

CREATE A STORY BOARD FOR
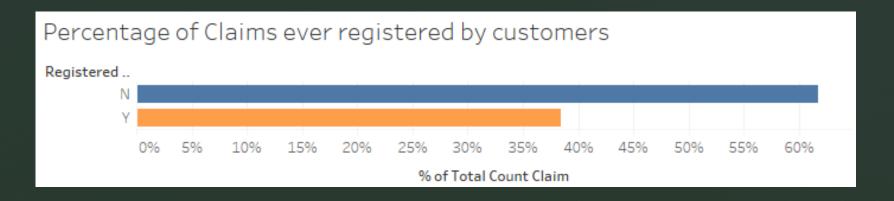BETTER ILLUSTRATION THE DATA
ANALYTICS JOURNEY

CREATE VISUALIZATION WITH
INTERACTIVITY SO THAT
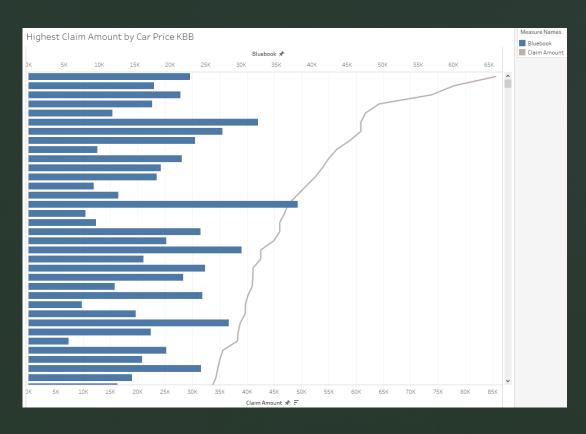STAKEHOLDERS CAN BETTER USE IT

DATA DESCRIPTION

VARIABLE	DESCRIPTION
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 children 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

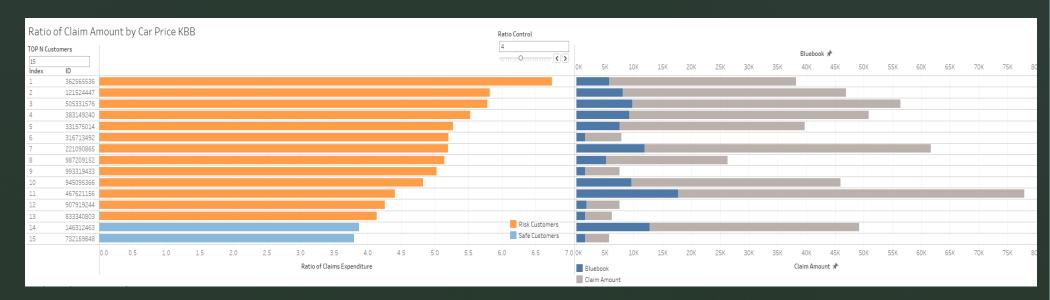|	
QUANTITY OF VARIABLES	21
QUANTITY OF DATA POINTS	160587

- Case all the customers file a claim at the same time this can represent a risk for the company finances. The percentage of claims opened among all the customer should be always on the radar.
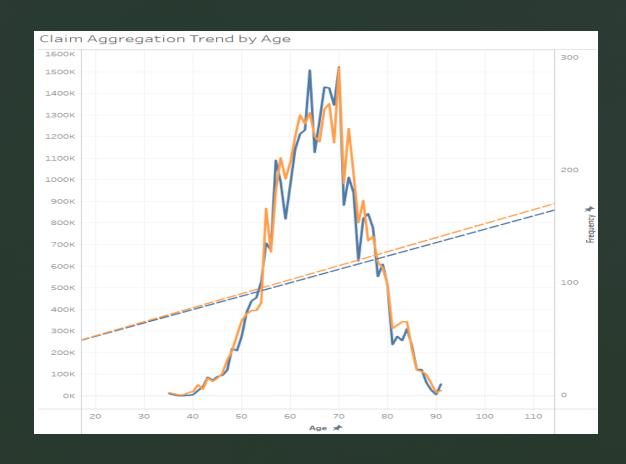

Percentage of Claims ever registered by customers

MAIN INSIGHTS

- In this chart it can be observed the biggest claim amount by customer in descending order however this chart cannot be evaluated solely. The ratio between the amount of the claim to the car value estimation should be taken in account
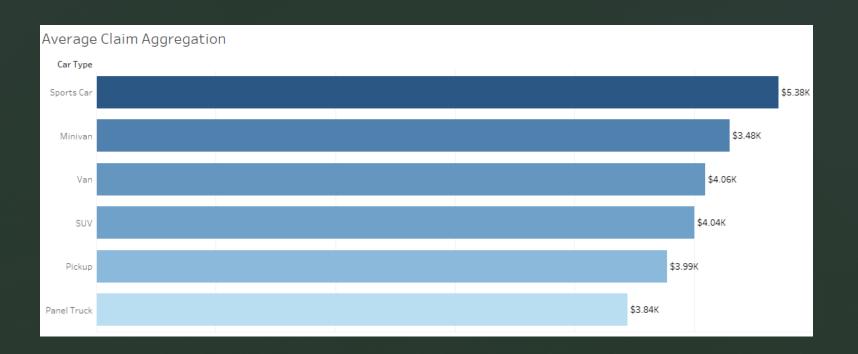
- Customers with the greatest amount of claim are not always the ones with greatest ratio. Ratio is important based on the assumption that car value is one of the most important features for the company calculate their service price. Customers with ratio above 1 mean their claim amount is way above their car price and Insurance Company would be incapable to predict and plan such expenses.
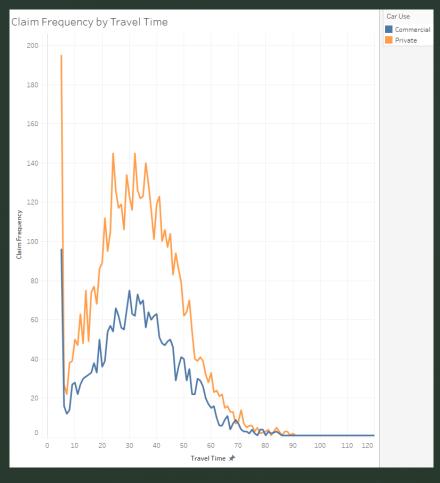
MAIN INSIGHTS

- Those two lines represent an uptrend as customers age increase both claim aggregation from the past 5 years and claim frequency also increase.
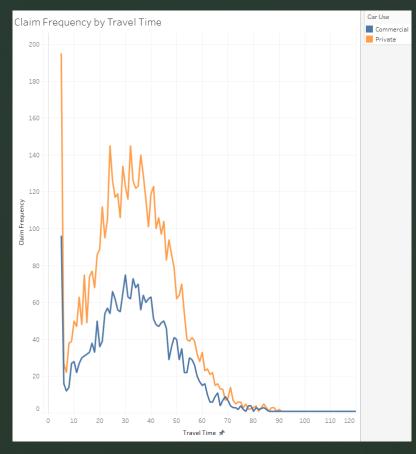

Claim Aggregation Trend by Age

MAIN INSIGHTS

- Claim aggregation in the past 5 years shown cars type Sport Cars as the biggest values. Although the frequency of claims for this car type is not the biggest among other types their claim amount tends to be very high even when multiplying with a lower number of claims and give this category the highest bills.
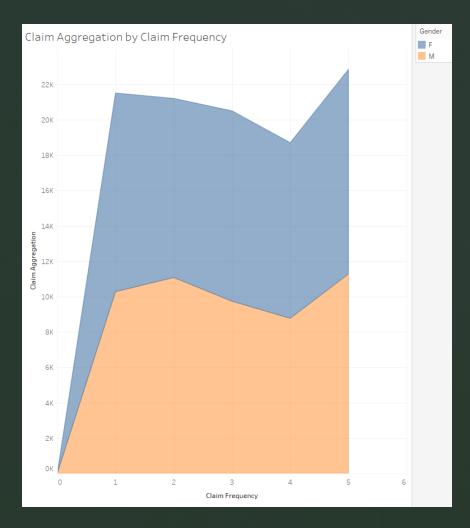
Average Claim Aggregation

Car Type

Car Type	Value
Sports Car	$5.38K
Minivan	$3.48K
Van	$4.06K
SUV	$4.04K
Pickup	$3.99K
Panel Truck	$3.84K

- Commercial use tends to have lower claims frequency in relation to travel time. Most of claims are between 20 and 50 min travel time.

MAIN INSIGHTS

- Commercial use tends to have lower claims frequency in relation to travel time. Most of claims are between 20 and 50 min travel time. Private use has the greatest values among both variables described above.

- Female tends to present a higher amount in claims in comparison to Males. It is almost the double

BUSINESS RECCOMENDATION

A risk matrix should be created using some criteria identified in this study:

- People with age between 55 to 90 – High Risk

    35 to 55 – Low Risk

- Travel time between 20 and 45 min for Men: Moderate Risk

    Women: High Risk

- Car Type: Sports Car, Minivan and Vans – High Risk

    SUV, Pickup – Moderate Risk

    Pane Truck – Low Risk

A risk matrix can help business find a business model that will charge extra fees or higher prices for Risk customers and give discounts for Low Risk costumers.

Dashboard Link

- https://public.tableau.com/views/Project_Insurance_Tableau/StoryBoard?:language=en-US&:display_count=n&:origin=viz_share_link