MIS771 – Descriptive Analytics and Visualisation

Analysis of car insurance brokers

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# INTRODUCTION

* Intro to the topic
* What was the problem/issue
* State the purpose if writing the report

The purpose of this report to analyse the collected dataset on the car insurance brokerage services using descriptive and inferential analyses and to see what this means for consumers. We see increasing numbers of companies are offering brokerage services for car insurance with the promise that they can save consumers money on their insurance premiums. What was the problem/issue. The management are interested in understanding these questions whether female driver under 30 save more on car insurance premiums than their male counterparts. Whether the proportion of dissatisfied urban customers is smaller than the proportion of dissatisfied rural customers. Whether the average savings on car insurance premium differ across the two valuation methods of Agreed Value and Market Value.

Do female drivers under 30 save more on car insurance premiums than their male counterparts, on average?

Is the proportion of dissatisfied urban customers smaller than the proportion of dissatisfied rural customers?

Does the average savings on car insurance premium differ across the two valuation methods?

I would also like you to analyse whether:

The average savings on insurance premiums significantly differ across NSW, Victoria, and Queensland.

The proportion of satisfied customers differ across the insurance brokers.

I would like you to design and run an experiment to see the effect of the valuation method and the vehicle type on savings on insurance premium using the data set in the attached Excel File – use Data in the "Experiment" worksheet.

# Descriptive measures and insight

The data set has a random sample of 400 customers who obtained the services of car insurance brokers. The data has 25 variables which provide us with a range of information about brokerage services they used and related car insurance policy details. The customers are 58% male and 42% female. While the average age of drivers is 39.995 ≈ 40 years old with the most common age being 38 year old. The minimum age is 18 year old and maximum age is 69. The age of drivers seems to be normally distributed however we may argue that is slightly positive skewed with a standard deviation of 11.

The state where the most customers reside is New South Wales with 127 which is 32% of all customers. Victoria is the second with 22% of the customers residing in that state. Queensland is third with 15%. Tasmania is the state with the smallest customers with only 13 residing in the state. Most customers are urban customers with 305 out of 400 which 76% and rural customers are 24%. The valuation method consists of Agreed Value and Market Value. Market Value is 356 out of 400 which 89% and Agreed Value is only 11%. Most customers have comprehensive insurance policy with only 8% of the customers having third party insurance policy.

There are four car insurance brokers. The broker with the most customers is iChoose with 190 customers which 48% of all customers. yChoose broker is the second with 24% of all customers. uChoose has 18% of all customers and the broker with the least customers is vChoose with 42 customers. The customers level of satisfaction with their insurance brokers is good with 70% of the customers either very satisfied or satisfied and 30% either dissatisfied or very dissatisfied. The average previous annual car insurance premium for customers is $857.30. While the current annual car in premiums as quoted by insurance brokers is $621.9. The average savings that customers can get with insurance brokers is $235.4.

# Comparison between gender under 30 based on their annual car premium savings

Do female drivers under 30 save more on car insurance premiums than their male counterparts, on average?

# Comparison of urban and rural customers level of dissatisfaction with insurance brokers

Is the proportion of dissatisfied urban customers smaller than the proportion of dissatisfied rural customers?

# Analysis of differences of average savings on car insurance premium across the two valuation methods

Does the average savings on car insurance premium differ across the two valuation methods?

# Analysis of differences of average savings on insurance premiums across States in Australia.

I would also like you to analyse whether:

The average savings on insurance premiums significantly differ across NSW, Victoria, and Queensland.

# Analysis of satisfied customers across the insurance brokers

The proportion of satisfied customers differ across the insurance brokers.