|  |  |  |
| --- | --- | --- |
| 11.24.2017 |  | Memo |
|  |  |  |

To

CEO, GCKC

From

Ashleigh Bynum, Data Scientist

CC

Senior Data Scientist

Re

Regional Expansion Research Results

General Casualty Kansas City is interested in expanding their footprint across the country. Using data from fatal automobile accidents of 2011, we want to see if we can improve our pricing and product offerings for automobile insurance as well as answer the question if expanding nationwide makes sense.

With the data that we have acquired throughout the years, we have the capability to identify the types of drivers our customers might be. The purpose of developing a better model for grouping our customers is to easily identify high risk drivers during the sales process. This types of drivers have a higher potential of filing a claim with us and could ultimately cost us money over time. Identifying groups faster allows us to either adjust our price point for risky customers, or to deny coverage altogether.

The following will dive into the individual profiles that make up GCKC’s high risk customers/areas.

**High Risk Groups**

There are 4 distinct groups of individuals and areas of the country that pose the biggest risk to GCKC and prove to be the most accident prone based on our fatal crash data.

**Party Drivers**

One of our biggest risk group of individuals are our party drivers. These are drivers that are typically young to middle aged men that are often reported with drugs and/or elevated blood alcohol content at the scene of an accident. These drivers are responsible for more multiple fatality wrecks than any other group we identified in our data. We found the highest incidents of crashes amongst this group tends to happen around New Year’s Eve/New Year’s Day.

* Recommendation
  + When looking at prospective customers to extend coverage to, the first piece of information we should obtain is any recent DUI/DWI arrests. If there is one that is found, we need to charge a premium for the individual to be insured through us or to deny coverage, depending on the circumstances.

**Older Drivers**

Another risky group of individuals are our older drivers. These are drivers that are in their 70s or older. Declining reaction time, vision changes and loss of mobility make this group of drivers more likely to get into accidents. These drivers are more susceptible to getting into accidents when weather conditions aren’t clear. This group of drivers is also more likely to be involved in a pedestrian accident as well.

* Recommendation
  + Caution needs to be exercised when extending coverage to this group. Looking at an individual’s accident history can help decide to extend coverage or not, and individuals should be evaluated on a yearly basis to make sure that they are still an individual that the companies wants to insure.

**Midwest**

The Midwest presents itself as a risky area to insure in. With severe storms, tornadoes, snow, fog and other blinding conditions, drivers in this area are more likely to be involved in single-fatality accidents. Rural Midwestern towns will pose more risk than more populated cities, as open fields and sparse populations can potentially cause more damage.

* Recommendation
  + Zips codes in the Midwest should be examined to see if they are in a rural or city environment and adjust premiums accordingly.

**South**

The final high risk area is the South. Based on our data, individuals in the South are more likely to engage in risky behavior such as drunk driving or illegal drugs. Paired with open rural areas and dense, smoggy urban metropolises, the south can quickly cost GCKC dollars quickly

* Recommendation
  + The South should be the last area that we decide to move into, if we do. This will pose to have the riskiest drivers and be the most expensive to the company.

**Conclusion**

By looking at our high risk groups, we can use this information to for our underwriting team to make better informed decisions. Because the underwriting process is becoming more and more automated, we can use this information to incorporate into our system decision algorithm.