Elder Research helps major insurance company understand customer sentiment

Elder Research applies the state-of-the-art in text mining to the problem of sentiment analysis. Instead of limiting our analysis to lists of positive and negative keywords, we focus on the entire text allowing finer grained analysis of surveys to better identify important issues and ignore off-topic comments, leading to more focused action and improved customer loyalty.

Industry
» Insurance

Business Issue
» The need to focus on the most valuable survey comments that provide actionable business insight.

Solution
» Use text mining to weed out off-topic comments and highlight the most valuable insights for focused action.

Benefit
» A finely tuned analysis of customer sentiment, resulting in improved customer loyalty.

Challenge
Understanding the “Voice of the Customer” is necessary for responding to customer needs and improving service, but can be difficult and time consuming.

Data
Customer survey data is a combination of demographic, geographic, and free-text data. This company utilized a survey that covered 11 different areas such as agency interaction and premiums. The survey results were augmented with customer details including billing history and loyalty score.

Our Solution
With survey data, there are no training data from which to learn a model as every survey is different. However, using the training data to train a supervised model of text is the most effective way to extract value from the survey. To bridge this gap, we used a semi-supervised technique called agglomerative transduction. It requires only a few labeled cases but can be evaluated like a fully supervised model leading to the ability for comments to be assigned to a set of known, specific categories. In addition, we use best-practices for creating features from text including multi-word phrase detection, synonym detection, and entity extraction. This approach can be combined with structured data to create a loyalty score based on the text comments.

Results
Our semi-supervised approach provides the benefits of full model evaluation using only a fraction of the time. The major benefit of this approach is the ability to filter out off-topic comments, including negative comments regarding the survey itself. This leads to more focused analysis on the comments that matter.

About Us
Elder Research Inc. (ERI) is the US’s leading consulting company in data mining, predictive analytics, and text mining. ERI helps government agencies and Fortune Global 500® companies solve real-world problems by amplifying the productivity of their analysts.