**Learning Agenda: Amica Survey Analysis**

**BUSINESS** **STAKEHOLDER(S):** Amica, Bola Ajayi

**OBJECTIVES** **OF** **THE** **WORK:** Understand what customers are saying about each Primary Reason category. Determine if there are any topics that are not currently identified as Primary Reasons, but occur frequently in customer comments. Ascertain if there are any business insights or key takeaways that could benefit the company and make recommendations for improvement to Amica.

**BACKGROUND:** Amica Insurance conducts several customer surveys. Three of the main surveys are the Claims Transactional survey, Relationship survey, and the Sales & Client Services (SCS) survey. The Claims survey is completed by customers who had a claim; the SCS survey is completed by those who had a policy change (change a car, add a driver, etc.), and the Relationship survey is completed by those who have not had a policy change or a claim within a year. In all three surveys, the customer can select a Primary Reason for their satisfaction scores, and make a Comment.

| **Hypotheses** | **General Approach** | **Milestones** |
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| 1. Respondents who have a more positive sentiment in their comments will use customer service as their primary reason 2. There are other frequent reasons for choosing their NPS score, but we need to determine them through the comments 3. Many negative comments for Amica customer service are from unclear/inefficient phone-call communications. 4. Amica websites and apps are not as welcomed compared to the in-person service. 5. The cases of error policy renewals have increased within three years. | 1. Create an unsupervised learning model to cluster respondents into NPS groups and Primary Reasons 2. Extract n-grams from comments to see what are the most common “other reasons” 3. Filter for comments relating to phone operations and gain an understanding to what trends exist in those specific comments 4. Understanding negative sentiments to better understand how it can be positive for the customer experience 5. Improve the sentiment accuracy for sentences with double-negative structure/ passive ironic tones | • Finalize Learning Agenda  • Exploratory Data Analysis on All Datasets  • Feature Engineering (N-grams, Sentiment)  • Sentiment Analysis for All Comments and Other Category  • N-Grams Visualizations  • Data Preparation and Cleaning (Remove nulls, stop words, etc.)  • Model Selection and Training for Clustering of Primary Reasons  • Model Testing and Deployment  • Analysis Presentation and Submission |
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