Semantic Text Mining using Domain Ontology

Ibukun T. Afolabi, Olaperi Y. Sowunmi and Taiwo Adigun

Abstract— Presently in Customer Relationship Management, there is a need to achieve greater customer centricity, and this requires a deeper understanding of customer needs. Also, the volume of textual data generated by the social networking sites in recent times has greatly increased, creating a platform for analysis, towards the much needed customer understanding. One of the issues that evolve from analyzing these texts to retrieve non trivial patterns (text mining) is text representation, which this research is aimed at addressing. In particular, this paper focuses on using domain ontology for text pre-processing in order to improve the quality of the textual corpus being mined. The methodology used in this research is based on developing a domain Ontology for textual pre-processing of the experimental data and sentiment analysis of social media data. In conclusion, the inferences gotten from the research carried out reveal that domain ontology has the ability to improve the results of sentiment analysis. It was also discovered that, due to the nature of social media data, there is need for a deeper level of semantic analysis, to be able to maximize its richness.

Index Terms— Domain Ontology, Text Mining, Banking, Social Media, Sentiment Analysis, Slangs, acronyms