

## Enhance the Power of Sentiment Analysis

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**Abstract :** Since big data has become substantially more accessible and manageable due to the development of powerful tools for dealing with unstructured data, people are eager to mine information from social media resources that could not be handled in the past. Sentiment analysis, as a novel branch of text mining, has in the last decade become increasingly important in marketing analysis, customer risk prediction and other fields. Scientists and researchers have undertaken significant work in creating and improving their sentiment models. In this paper, we present a concept of selecting appropriate classifiers based on the features and qualities of data sources by comparing the performances of five classifiers with three popular social media data sources: Twitter, Amazon Customer Reviews, and Movie Reviews. We introduced a couple of innovative models that outperform traditional sentiment classifiers for these data sources, and provide insights on how to further improve the predictive power of sentiment analysis. The modelling and testing work was done in R and Greenplum in-database analytic tools.

**Keywords :** sentiment analysis, social media, Twitter, Amazon, data mining, machine learning, text mining

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