

Sentiment Analysis in Social Media

Abstract

Interpretation of an opinion has been a challenging task for the ages since it is not only dependent on speaker or writer's appeal to subject, but standpoint and perception of the audience also matters. Today with social media giving an opportunity to masses, to have their own voice; marketers, politicians and debaters have an instant chance to find out trivial question: "How do people feel?". Number of mentions and comments might reveal popularity whereas a thorough sentiment analysis might enable its performer to track online conversations to withdraw quantifiable insights on perception. In a world where every action has a reaction, gaining an information regarding perception is critically important for people / brands / authorities especially in a democratic environment. This paper provides a deep dive analysis into complex process of sentiment analysis; what are the merits and limitations, tools, and quantification of the social sentiment.

Introduction

Social media sentiment is referred as "opinion mining" since it is about digging into the words and context of social posts to understand the opinions underneath [1]. Process of collecting and analyzing how people talk and ideate on a subject with AI capabilities is sentiment analysis. Thinking this process as a layer of understanding to the rest of analytical capabilities of your organization is crucial since it provides a contextual meaning for the rest of the data. It categorizes consumer emotions and market movements by type and intensity, enables market players to innovate, communicate in a way to maintain the competitive edge. Social listening, social monitoring, image analytics and customer experience analysis rely on sentiment analysis for accuracy and usefulness hence it is not limited to understand feelings and opinions but interested in objective facts and neutral statements which are relevant to the subject [2].

How Sentiment Analysis Works?

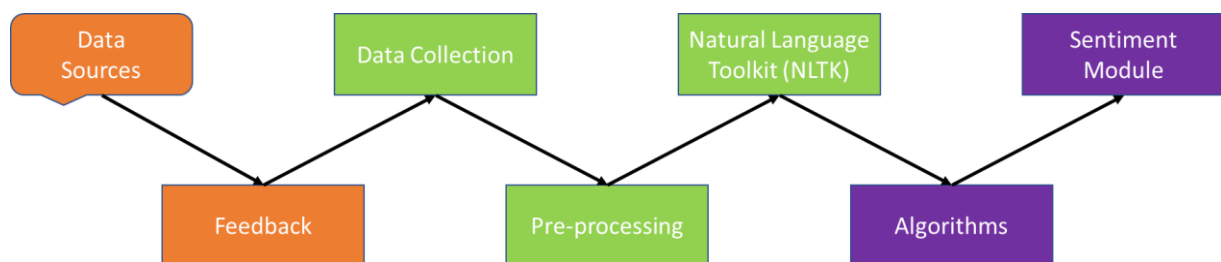


Figure 1. Pipeline of sentiment analysis process [3]

Digging into sentiment analysis which has a pipeline of steps during process. Inputs of the process is obtained by various data gathering methods. For example, Twitter is a critical resource and by using scraping tools, APIs, customers' data feed. User reviews on any sales channel platform mentioning company or brand over a specific period of time is worth listening, and this practice is a common attribute of social media listening forms [3].

Text cleaning allows data to be analyzable. For this process, various tools may be employed to removing stop words, punctuation, and reducing words to their stem. Intermediate product is “cleaned / stripped texts” from anything that might be irrelevant to the analysis [3].

To analyze your sentiments, you’ll need to define the good, the bad, and the ugly. Realistically, you’re looking for words like love, thanks, perfect, incredible for the positives, and worst, hate, avoid for the negatives. Divide your sentiment terms into their own emotion camps to shortlist them. As well as words, scan emojis for a clear understanding of your audience’s feelings about your brand. A classification tool can identify more complex sentiments which yields more evenly distributed data on positive, neutral, negative spectrum.

The final step takes the quantified sentiment data and turns it into actionable information. A timestamp attained to each data will show how sentiment towards a subject change over time with peaks and valleys [3]. A “normal” can be determined in order to monitor chatter differentiating both positive and negative way. This is crucial for finding out baseline in terms of sentiment for a subject. Sentiment analysis also takes product features into account since the only way to sort product quality is the key features. Also, the volume of sentiment around said features, which lets you judge which topics will please the most customers rather than indirectly [4].

Examining emotional map for a 12-cup coffee machine and the discussion that has been going on, might yield a better understanding on the feature sentiments.



Figure 2. Emotional map for a 12-cup coffee [3]

The product's functionality is the most frequently discussed subject, as shown in the graph above. Given the overall unfavorable opinion, this should be at the top of the list of changes. Looking at the topics that generate the most negative conversation, we can say that the coffee maker's illumination, durability, and water reservoir capacity are among the worst. The amount of conversation about the machine in each of those areas is far less than the amount of talk about functionality. The overall numbers may not result in as much of a gain in customer satisfaction generally, even though changing them will produce the best feeling in individuals who were dissatisfied [3].

Reach the right audiences with right tone and message is the ultimate dream, and with a sentiment analysis on a subject people / companies might gain critical insights to alter the views in their favor. You may discover what your audience wants by observing patterns and looking into peaks in positive, valleys of negative, and neutral emotion. This can help you understand the type of messaging you should post on each social media platform [5].

References

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