

# Sentiment Analysis: A Brief Overview, Classifications, Applications

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## ABSTRACT

In recent years more and more content is added to the social media, applications. It is a way for customer to provide feedback, reviews, and survey responses in order to improve the quality of any product or any application. Sentiment Analysis provides a way of identifying and classifying opinions and emotions expressed by the people on a particular site, product or an application. This paper provides a brief overview of sentiment analysis, its classification and its applications.

**Keywords :** Sentiment Analysis, Survey Responses, Opinion Classification

## I. INTRODUCTION

In the past years, the World Wide Web (WWW) has become a huge source of user-generated content and opinionative data. Using social media, such as Twitter, facebook, etc, user share their views, feelings in a convenient way. Social media, such as Twitter, facebook, etc, where millions of people express their views in their daily interaction, which can be their sentiments and opinions about particular thing.

Sentiment analysis is the process of identifying and classifying opinions and emotions expressed by the people on a particular site, product or an application. The main objective of the sentiment analysis is to extract the opinions or attitude about a specific topic. It involves the way of determining the attitude of an individual about a particular topic. Different types of emotions such as positive reaction, negative reaction or neutral can be identified and classified under the process of Sentiment analysis.

It is mainly concerned with the customers need and what are their opinions about a particular product. It

is mainly applied in social media monitoring and helps to track customer reviews, opinions, survey responses. The field of study that analyzes people's opinions, sentiments, evaluations, appraisals, attitudes, and emotions towards entities such as products, services, organizations, individuals, issues, events, topics, and their attributes.

## II. CLASSIFICATION

There are three ways of performing Sentiment Analysis:

1. document-level,
2. Sentence-level, and
3. Aspect-level SA.

### Document-level Sentiment Analysis

This method of sentiment analysis takes one complete opinion document as input. The document is analysed by considering each topic and classified as positive or negative sentiment/opinion.

### Sentence-level Sentiment Analysis

This method is considers each sentence and classifies sentiments.

- I. Identify the type of sentence – subjective or objective

- II. Based on the sentence, classify as positive or negative sentiment/opinion

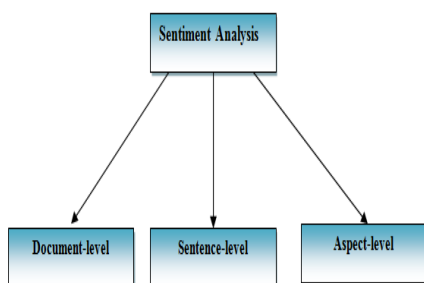
However, a sentence will remain as a short document and hence there is no much difference between Document-level and Sentence-level analysis. Thus, an aspect level analysis is required.

### Aspect-level Sentiment Analysis

In this method of sentiment analysis, the sentiment with respect to the specific aspects of entities is classified.

- I. Identify the entities and their aspects.
- II. The customers can give different opinions for different aspects of the same entity like this sentence "*The quality of products in this application is not good, but this application is user-friendly*". This survey tackles the first two kinds of SA.

The below figure depicts the classification of Sentiment Analysis.



**Figure 1.** Classification of Sentiment Analysis

### III. USES AND APPLICATIONS

Recent days more content is created and shared online, through Social media, Blogs, Websites, Survey Sites, Review Sites etc. People are more open to express their reviews online. These reviews play a vital role in understanding the current requirement of the customers and in improving the business insight.

Following are the various areas of applications of Sentiment analysis:

#### 1. Customer Experience Management

It deals with analyzing comments, surveys and reviews and resolving their problems in the buyer's journey.

#### 2. Social Media Monitoring

This is to monitor consumer sentiment in real-time, identify the problems at the beginning level and catch trending topics before it go viral.

#### 3. Voice of Customer

This is mainly concerned with analyzing customer's reviews, survey responses, comments and understanding how the customer feels in that way.

#### 4. Workforce Analytics

It deals with the peer-to-peer analysis of employees in a work space. Each employee's feedback about another employee is considered and analysed.

#### 5. Product Management

Sentiment Analysis is applied in order to check whether products are created as per customer's requirement. This helps to develop smart products to meet their needs.

### IV. CONCLUSION

This paper focuses on the concepts of Sentiment Analysis, a brief review on the opinion analysis. Also, this paper provides basic knowledge of classification in Sentiment analysis and its applications in various domains.

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