

Chapter 3

Sentimental Analysis in Various Business Applications:

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ABSTRACT

Data mining has given many solutions to various data- and information-related issues that directly reflect in advancements in science and technologies and so affect the society in multiple ways. Sentiment analysis is one branch of data mining that deals with opinions of customer and tries to use these opinions in the growth of the business. In this chapter, the authors discuss the use of sentiment analysis in various types of businesses and how this analysis helps these businesses to grow along with the challenges along the way. This will help readers to know why sentiment analysis has become popular in the business world.

INTRODUCTION

Sentiment analysis or opinion mining a special branch of text mining that is a mean to understand the customer's response or their likes-dislikes through some computational study lead to decide certain business development strategies. The computational study includes opinion mining through natural language processing, sentiment classification and other text mining techniques (Medhat et al, 2014; Agarwal et al, 2015).

It has been ascertained that a lot of folks today tend to seem upon reviews of merchandise online before shopping for them. And for several businesses the web opinion will create or break their product. Thus, Sentiment Analysis finds associate important role in businesses. Businesses would like to grasp the online reviews so as to boost their merchandise and in turn their name.

Machine learning models, which largely depend on the manually created features before classification, have served this purpose fine for the past few years. However, deep learning is a better choice as it:

The way to maintain a successful business with the customer's review information is the capacity to utilize the unstructured information for significant bits of knowledge. It facilitates the automatic extraction

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and selection of features. Various machine learning approaches are working for analysis of sentiments for this purpose. And this is still an area of interest of researchers to find out ever new strategies for ever new issues. In following sections, role of sentiment analysis is discussed for various business sectors with the challenges coming on the way.

Work Done in the Field of Sentimental Analysis in Stock Exchange

Sentimental analysis plays a crucial role in stock exchange; it has been used by lot of folks today to seem upon reviews of public before shopping or before trading. There are so many classification techniques which are used for sentimental analysis. Sentimental analysis can be divided into two approaches machine learning approach and Lexicon based approach, where these two methods finds and grasp the online reviews. The result from these two approaches will show us general public reviews regarding the stock market

Challenges Faced in Sentimental Analysis of Stock Exchange

Sentiment Analysis may be a terribly difficult task. It needs deep understanding of the matter. we tend to discuss a number of the challenges faced in Sentiment Analysis (Bhardwaj et al., 2015).

- **Characteristic Subjective Parts of Text:** A similar word will be treated as subjective in one context, whereas it would be objective in another. This makes it troublesome to spot the subjective (sentiment-bearing) parts of text. For example:
 - The language of the author was terribly crude.
 - Crude is extracted from the ocean beds.

The same word “crude” is employed as associate opinion in 1st sentence, whereas it’s fully objective within the second sentence.

- **Associating Sentiment with Specific Keywords:** Several sentences indicate a very robust opinion, but it is difficult to pinpoint the supply of those sentiments. Hence an association to a keyword or phrase is very troublesome. For example:
 - Every time I read “Pride and Prejudice” I want to dig her up and beat her over the head together with her own shin-bone.

In this example, “her” refers to the character within the book “Pride and Prejudice”, that isn’t expressly mentioned. In such cases the negative sentiment should be related to the character within the book.

- **Domain Dependence:** A similar sentence or phrase will have completely different meanings in several domains. The word unpredictable is positive within the domain of films, but if the same word is used in the context of a vehicles steering, then it has a negative connotation.
- **Humor Detection:** Black sentences specific negative

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