Review of Sentiment Analysis and Social Media Influence

Anmol Jain, Bhavya Sanghavi, Rishabh Rathod, Khushali Deulkar

***Abstract*— Sentiment Analysis reveals the emotion or sentiments present behind each social media message, for example - a blog post, Facebook status or even a tweet. This information is important for analyzing the author's sentiments which play a critical role in influencing the readers on such platforms. The social influence of any individual depends on many factors, of which sentiment analysis is the most significant since it exposes human emotions. It is one of the exponentially growing research areas which taps author's social media influence based on how the reader's emotions are influenced. This paper reviews the different nuances of sentiment analysis and its impact on social media influence.**

***Index Terms*— Brand Analysis, Sentiment Analysis, Social Media Influence**

I. INTRODUCTION

In this digital age, the influence of social media has crossed all bounds. It is, thus, necessary to understand and analyze the importance of social media in driving public opinions. On the other hand, social media has provided a much needed impetus to brands in getting a valuable insight into customer preferences. Sentiment analysis is the key to generating these public opinions. Sentiment analysis involves scrutinizing the social media message in order to identify the tone of the message: positive or negative. This helps a brand to evaluate its product and how it can manage the product on the online platform. Sentiment analysis is significant in generating a opinion chain on the social network as it may be so that the opinion of a person may influence other people in his network. Thus, sentiment analysis is indispensable for the growth of a brand amongst its target audience on the social media platform.

Sentiment analysis has its application in various fields as follows:

1. Movies: The review is positive or negative.
2. Products: What to do people think about the iTouch?
3. Public Sentiment: How is consumer confidence?
4. Politics: What do the public think about a particular candidate?
5. Prediction: Predict market trends.

For example, the sentiment analysis of the reviews HP Officejet 6500A across various e-commerce platforms can help the brand generate a report that can be used to study the current reception of the product in the market and also help the company to derive future strategies as shown in Fig 1.

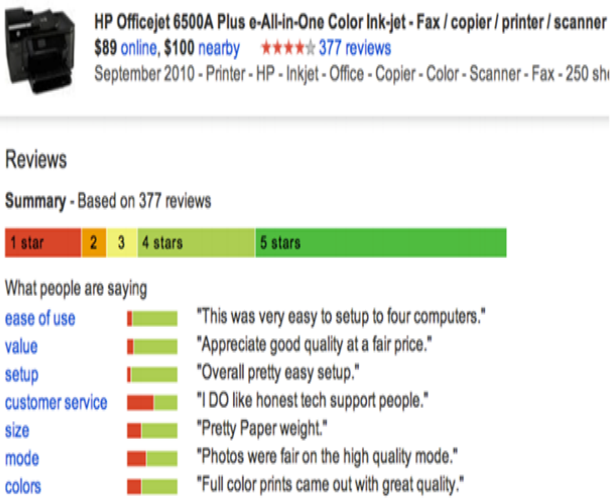

Figure 1:Sentiment Analysis of Reviews[11]

A report is created with the help of sentiment analysis that helps to evaluate the brand on the online platform which is shown in Fig 2.

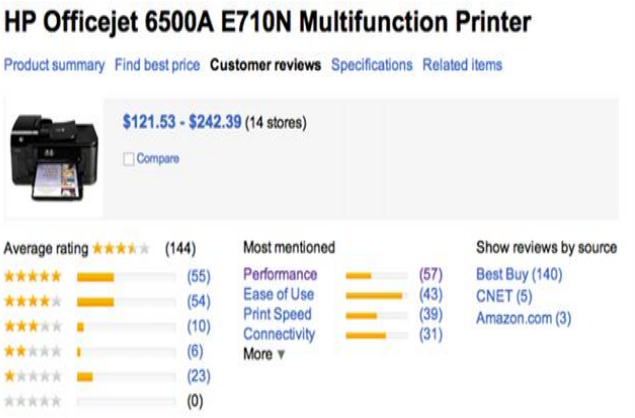

Figure 2: Report using Sentiment Analysis[11]

II. IMPORTANCE

Sentiment Analysis reveals the emotion or sentiments present behind each social media message, for example - a blog post, Facebook status or even a tweet. This information is important for analyzing the author's sentiments which play a critical role in influencing the readers on such platforms.

A research study shows that a single Facebook-status update can affect the sentiments of multiple Facebook-status updates. This is due to the influence a single user on his Facebook

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friends. The research revealed that a positive status update increases the number of positive messages with 1,75 on average and a negative status update decreases the number of negative messages with 1,29 on average. (Source of Study -- http://www.coosto.com/uk/blog/)

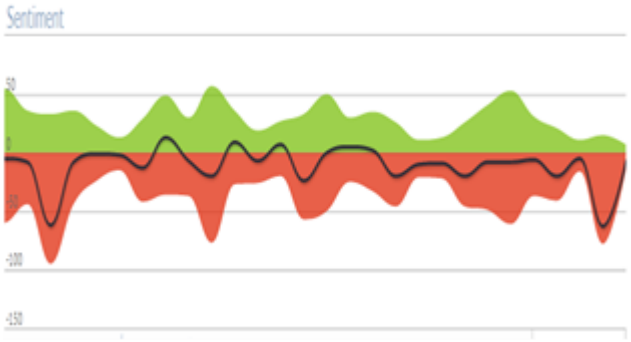

Figure 3:Positive and Negaitve Sentiments of Facebook Statuses[11]

III. METHODS

Approaches to Sentiment Analysis can be classified into four categories:

1. Keyword Spotting - This technique highlights unambiguous words with definite meanings such as happy, sad, bored etc.

2. Lexical Affinity - It detects words as well as assigns these arbitrary words a particular generic emotion.

3. Statistical methods - This approach relies on machine learning and makes use of a knowledge base which is also known as a 'bag of words'.

4. Concept-level techniques - This technique tries to be more specific about the sentiment of a phrase by detecting the holder of the sentiment as well as the target.

IV. CHALLENGES

An understanding of a complicated sentence requires a very deep understanding of the language which is by means of Machine Learning. Sentiment Analysis at the initial stages may not be able to capture emotions like sarcasm. Following is the list of few sentiments with examples where sentiment analysis may not be accurate.

- Irony & Sarcasm

"Don't you just love it when you have to wait on the train in this cold!"

- What's positive news to one person isn't necessarily positive to another

I'm going to switch from Vodafone to Airtel

- Mixed Feelings

I like it but it's not really innovative.

- Conflicting signals

LOL, he is making a mess of it.

- The sentiment depends on the subject

'Scary movie' vs 'Scary development'

- Deliberate Spelling Mistakes

That movie was aaaawesomeeeee!

V. APPLICATIONS

- Competitive Research

Sentiment Analysis also provides a report on how the brands products or services are being perceived by the consumers in comparison to its competitors. Brands can use this valuable information to position itself advantageously with respect to its competitors.

- Head Off a Crisis

Whenever a negative sentiment is on an exponential rise, systematic mechanism should be implemented in order to protect the brands image.

- Evaluate Brand Health

A periodic check on the sentiment on the social media helps the brand to understand the feelings of people utilizing the brand's products or services.

Many social media platforms have to be taken into consideration in order to get a complete view of a large audience.

- Evaluate Campaigns and Other Initiatives

Sentiment levels can be used to measure how successful the product was or the influence of a marketing campaign or strategy.

It helps to detect successful campaigns which can be implemented in future again and also campaigns which increased negative sentiments about the brand on social media.

VI. FUTURE SCOPE

The future of sentiment analysis lies in resolving the challenges faced and forming an effective sentiment analysis tool with the following additions:

· Harnessing the wisdom of crowds- let the tool scale and learn, once it has relevant data across various platforms.

· Flexibility- Make sure that the tool adapts through the changing needs of the brands across various time domains and for the years to come.

· Don't stop at positive or negative sentiments- Generate a tool that adds various other sentiments in addition to the existing ones. Add wishes, caveats, comparisons and preferences to the existing sentiments.

· Detection of biased messages- the tool must be able to identify false messages that are used to portray the brand in a positive way. These messages are computer generated.

· Used for various platforms- the language used by finance industry is different as compared to the language used by the food industry. Sentiment analysis should adapt itself depending on the target-industry and deliver the output accordingly.

VII. CONCLUSION

The determination of sentiment is thus a crucial step towards converting unstructured content to structured content so that humans can spot trends and patterns within the content. With the increase of social media influence, sentiment analysis, thus, lays a powerful foundation in the analysis of public opinions. It paves the way for brand monitoring, brand marketing, studying customer preferences, etc. Thus, we

explained and investigated the importance of sentiment analysis for the growth of a brand on the social media platform with the help of various examples. We also discussed about how a brand can make an optimum use of sentiment analysis for reviving or enervating its market. The review paper also aims at educating all its readers with the various challenges faced during its implementation and also discussed its variegated applications. Finally, we have analyzed the problems faced and the necessary changes that need to be implemented to build an effective sentiment analysis tool.

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