

## Applying sentiment analysis in healthcare industry

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### Healthcare Industry moving towards Advanced Technical Approaches to Better Serve Patients



With the intrusion of technology across all the industries, business leaders are revamping their approach to serve their customers better and faster. Healthcare industry is one among those industries adapting newer approaches to well treat their patients. Improving patient's experience is crucial for any healthcare players. Thus, understanding patient's plays a key role in the treatment procedure. Sentimental analysis is a type of data mining used to evaluate, identify and quantify the opinion or emotions behind a string of texts. Typically, when referring to sentiment analysis, it is understood as analyzing comments, reviews, posts or discussions generated on social platforms.

With the increased penetration of social media, a massive amount of data is now being generated at a startling rate daily. As a powerful tool, sentiment analysis has become the key to understand, analyze and use this data. Sentimental analysis is a trending approach which can be used to understand mood of the public through the data. It can help respective business analysis in the following ways:

- To ascertain consumer interest in the launch of a new product or service
- To predict which candidate or party is going to win an election
- To measure public sentiments on government policies
- To determine if a movie is worth watching

#### Topic-Based Sentiment Analysis adds weight to the Result

Most healthcare and pharma companies are using social listening tools for social analysis, without understanding the inherent risk of generalization. Standard tools conduct sentiment analysis based on a general understanding of topics which often fail in the healthcare and pharma industries. For example, if the word 'cancer' shows up in a social post, it would be identified as negative due to its inherent meaning. However, the sentence could potentially read, 'I got cured of cancer' which is a positive

statement. In such cases, it is important to have topic-based sentiment modeling because accuracy is one of the biggest threats to sentiment. Topic-based sentiment analysis is essential to correct categorization of social content as per the specific needs, or in the case, industry of clients.

### **Sentiment Analysis benefits Healthcare Players**

As patients seek medical information and support on the internet, the use of health-related information on social networks is of paramount interest to researchers and medical companies. The challenge for health-related companies is to get insightful information for the vast amount of data available on internet. Sentiment analysis is very useful for monitoring social media, because it allows us to get a broader view of public opinion on certain topics. Analysis of user sentiments helps healthcare players to understand whether their customers relate to them, ensure weather gaps are covered and timely action is taken.

#### **Redefine Marketing Strategy**

Information obtained as a result of the analysis of opinions allows optimization of the marketing strategy. Listening to how customers feel and think about the brand can help customize high-level messages to suit the requirements.

#### **Marketing Campaign Analysis**

The success of a digital marketing campaign is measured not only by an increase in the number of shares, subscribers, likes or comments, but also in the number of positive discussions that can help clients. After analyzing the state of mind, one can trace the number of positive or negative discussions among the target audience.

#### **Crisis Management**

Continuous monitoring of what is being discussed on social networks also helps mitigate brand damage. A crisis can be caused by product quality issues, poor customer service or other complex social issues such as environmental impact, animal welfare or child labor in emerging markets. If an enterprise cannot deal with these issues in a timely manner, negative conversations can become viral, leading to a crisis.

#### **Lead Generation**

Bolstered with an accurate analysis of market sentiments, a sales team can personalize marketing campaigns. By improving the quality of the product in accordance with market needs and a prompt customer service team, an enterprise can increase the number of potential customers. Happy and loyal customers will turn into ambassadors of the brand and bring in new customers.

### **Big Data Tools serves the purpose of Social Media Analysis**

Sentiment analysis is conducted on data collected from the internet and various social networks. With the rise of social networks, massive amounts of data are extracted from various sources, such as mobile devices and web browsers, and stored in various formats. Since social content is not structured as compared to point of sale data which is stored in traditional storage systems, (for example, RDBMS, a relational database management system) a different set of technologies is required to store, process and analyze the data. Hadoop, a software which uses distributed storage and processes big data, has added an extra layer of analysis for social data collected from sites such as Facebook, Twitter, Pinterest and Instagram. This is an example where technology is adapting to meet the specific needs of analyzing and interpreting social data. This helps businesses make sense of millions of tweets, comments and other social posts.

### **Storing and Analyzing Data for Right Usage**

Distributed technology storage such as Hadoop Distributed File System is the best fit to gather and store data from multiple sources in multiple formats i.e. structured, semi-structured, or unstructured. This data would be helpful for future analysis. Additionally, it provides flexibility in how to manage the data. Analyzed data can be moved into an existing relational database management system such as Oracle, MySQL or PostgreSQL for use in existing BI or reporting tools.

Having access to measures such as reactions and responses allows an enterprise to gain better understanding of the real interaction between customers and products or services. Located at the heart of the growing digital marketing scene, social analytics allows companies to refine their marketing messages while providing better support and transparency through relevant and up-to-date information. With excellent big data analysis tools for social data, one can quickly and easily visualize the most important indicators of performance.

## **Social Media Data gives insights for Better Sentimental Analysis**

Social media is an important data source for providing real-time information that has encouraged companies in various fields to understand their consumers. Sentiment analysis can extensively enhance the way we look at the data and customer opinions, with benefits of reduced manual effort. Big data tools with sentiment analysis can help data-rich pharma companies to easily work around with huge amounts of structured and unstructured data to gain useful insights. With the growing dominance of social media, more and more companies are getting into big data technologies and are taking advantages of innovative social media analysis to get customer opinion.

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