

Assignment #6 - Analysis of Social Media data

A.I.

Colab Notebook Link - [Sentimental_Analysis.ipynb](#)

Github Link - https://github.com/RUTIK675LT/ESP_Assignment_6

B.I. -

Q.) What systems would you implement/setup to answer the following questions? Explain the process in detail:

What are the main topics or themes that people are talking about on social media related to your business or industry?

How do people feel about your products, services, brand, competitors, or industry trends? What are the sentiments and emotions expressed in their posts?

Answer -

Identifying main topics and themes of industry which are popular on social media -

Systems To Implement:

1.) Trend Analysis Algorithm -

Apply algorithms which can analyze current trends and even predict the future over time.

2.) Third Party Social Media Monitoring Tools -

Use tools like Hootsuite, Sprout Social, or Brandwatch to track mentions and hashtags about my industry.

3.) Natural Language Processing (NLP)-

Use NLP techniques to identify the themes, as NLP is the latest and greatest text mining technique which provides accurate and highly desirable results.

Process:

1. Keyword Setup: Define a set of keywords related to your business and industry. This can include my brand name, product names, industry buzzwords, and competitors' names.

2. Data Collection: Use the monitoring tools to continuously collect social media posts containing these keywords.

3. Data Processing: Apply NLP techniques to process the collected data, breaking down the posts into discernible topics and themes. This can involve parsing text for key terms, phrases, and categorizing them.

4. Trend Identification: Use trend analysis algorithms to identify which topics are gaining traction over a specified period.

5. Reporting: Create reports or dashboards that visualize the main topics or themes, showing how often they are mentioned and how their popularity changes over time.

Sentiment and Emotion Analysis -

Systems To Implement:

1.) Sentiment Analyzing Tools -

Use tools like Brand24 that can evaluate the sentiment of the tone of posted comments.

2.) Emotion Analyzing Tools -

Implement AI models capable of detecting emotions in text, such as IBM Watson's Tone Analyzer.

3.) Data Visualisation Tools -

Use Tableau or Power BI tools to visualize the achieved analysis.

Process:

1. Data Collection: Similar to the process above, collect relevant social media posts using the defined keywords.
2. Sentiment Analysis: Apply sentiment analysis tools to the collected data to categorize posts as positive, negative, or neutral.
3. Emotion Detection: Use emotion detection AI to further analyze the posts for specific emotions like happiness, anger, sadness, etc.
4. Competitor and Trend Comparison: Compare the sentiment towards your brand with that towards competitors. Also, analyze how sentiment changes in relation to industry trends.
5. Visualization and Reporting: Develop visual representations of the sentiment data, showing the overall sentiment towards your brand, products, and services over time and in comparison to competitors.
6. Feedback Integration: Use these insights to inform marketing strategies, product development, and customer service approaches.

Conclusion: We need to use analysis and technology together to gain valuable insight. Overall the process is to collect the data, pre-process the data and analyze to gain deeper insights and from the feedback loop we can make more improvements.