Text & Sentiment Analysis of PM Speech and Comment

A Comprehensive Analysis

BY

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Introduction

▶ Objective : Analyzing the PM's speech and sentiments from YouTube comments

- A comprehensive analysis of the Prime Minister's speech, coupled with sentiment analysis on YouTube comments related to the speech. This project delves into the fascinating world of Natural Language Processing (NLP) to derive insights from both structured and unstructured data sources.

- Our main objectives include understanding the key themes of the PM's speech through text analysis, creating a Term-Document Matrix (TDM) to uncover word frequency patterns, and gauging public sentiment through sentiment analysis on YouTube comments.

- Let's explore how these analyses come together to provide a nuanced perspective on public reactions and the overall impact of the speech.

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A. Speech Text Analysis

▶ **Data Collection:**

Gathered data from reputable news websites to ensure a comprehensive view of the speech.

Website - https://timesofindia.indiatimes.com/world/uk/text-of-rishi-sunaks-first-speech-as-uk-prime-minister/articleshow/95080536.cms

▶ **Exploratory Data Analysis (EDA):**

Conducted Exploratory Data Analysis to convert the Unstructured data to Structured Data to gain preliminary insights into the structure and characteristics of the speech text.

1) Lowercasing

2) Removing Punctuation, URLs, Stop Words, Common Words

3) Lemmatization

4) Library use – NLTK

A. Speech Text Analysis

▶ **Term-Document Matrix (TDM):**

1. The Term-Document Matrix (TDM) is a fundamental concept in Natural Language Processing (NLP) and text mining. It's a mathematical representation of a text corpus that reflects the frequency of terms across documents.

2. Libraries use - scikit-learn's, Count Vectorizer

▶ **Word Cloud:**

1. It provides a quick and intuitive overview of the key terms and themes.

2. Library use - WordCloud

B. Sentiment Analysis on YouTube Comments

▶ **Word Cloud:**

Word Cloud - Prime Minister's Speech

B. Sentiment Analysis on YouTube Comments

▶ **Objective:** Understand public sentiment towards the PM's speech

▶ **Data Collection:**

   ▶ Data is Collected from PM Speech on You Tube BBC Channel

   ▶ With the help of API and Google cloud YouTubedata API data is collected

▶ **Exploratory Data Analysis (EDA):**

   Conducted Exploratory Data Analysis to convert the Unstructured data to Structured Data to gain   preliminary insights into the structure and characteristics of the speech text. Preprocessing decisions made based on the nature of YouTube comments

1) Lowercasing

2) Removing Punctuation, URLs, Stop Words, Common Words

3) Lemmatization

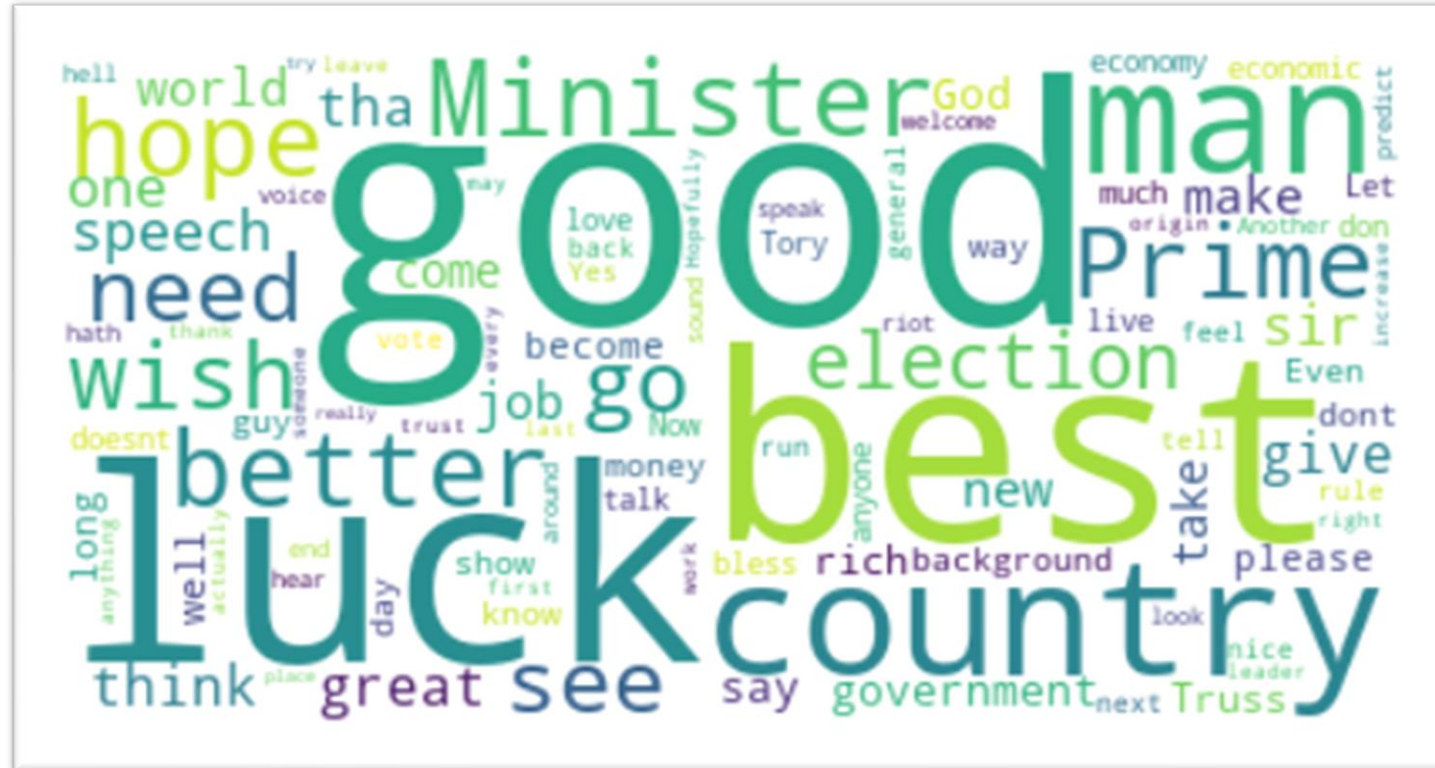4) Library use – NLTK

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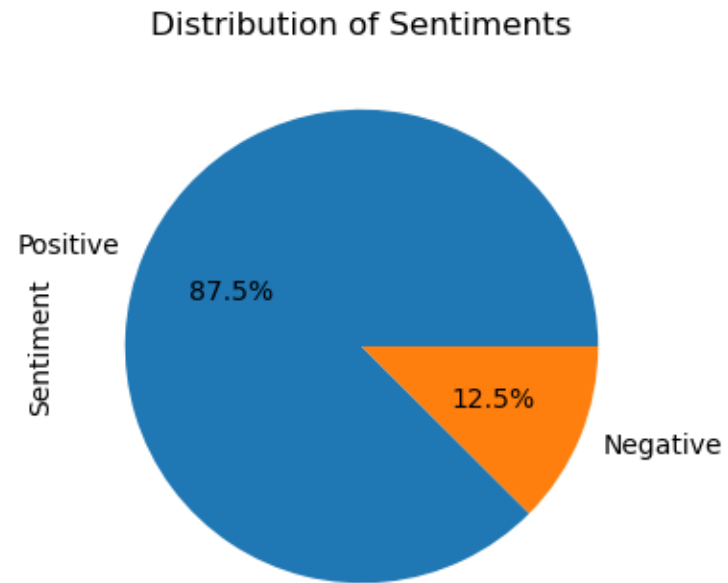
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B. Sentiment Analysis on YouTube Comments

► **Sentiment Analysis :**

1. Determining the sentiment expressed in a piece of text whether the text conveys a positive, negative, or neutral sentiment. Polarity is a key concept in sentiment analysis, representing the degree of positivity or negativity in a text.

I. **Positive Polarity:** A positive polarity indicates a favorable or positive sentiment in the text. Words and phrases expressing joy, satisfaction, approval, or positive experiences contribute to positive polarity.

II. **Negative Polarity:** A negative polarity indicates an unfavorable or negative sentiment. Words and phrases conveying disappointment, dissatisfaction, criticism, or negative experiences contribute to negative polarity.

III. **Neutral Polarity:** A neutral polarity suggests the absence of strong positive or negative sentiment. Text with a neutral polarity may describe facts or provide information without expressing a clear emotional tone.

► Polarity scores are often represented on a continuous scale, ranging from -1 to 1.

I. **Positive Polarity:** Score close to 1

II. **Negative Polarity:** Score close to -1

III. **Neutral Polarity:** Score close to 0

B. Sentiment Analysis on YouTube Comments

Sentiment Analysis :

Distribution of Sentiments

Conclusion

❖ From PM Speech Analysis

PM is talk about Future, Economic, Trust, Rights, Protect, Stand, Growth, Incredible towards the nation.

❖ From Sentiment Analysis on YouTube Comments

There is 88% people Positive with PM Speech and there vision.