Problem Statement 8: Social Media Sentiment Analysis

Background:

Understanding customer sentiments on social media platforms is crucial for businesses to manage their online reputation, identify areas for improvement, and tailor marketing strategies. This project focuses on developing a Business Intelligence (BI) solution for Social Media Sentiment Analysis, extracting insights from social media data.

Objective:

The primary objective is to design and implement a BI system that integrates with social media data sources, performs sentiment analysis, and provides actionable insights into customer opinions, trends, and sentiment shifts.

Key Components and Tasks:

1. Data Collection:

Collect social media data from various platforms, including customer reviews, comments, and mentions.

Ensure a diverse dataset that captures customer sentiments related to products, services, and the overall brand.

2. Data Preprocessing:

Preprocess the social media data to handle noise, irrelevant information, and ensure data consistency. Clean

text data, remove stopwords, handle emotions, and address any data quality issues that may affect sentiment analysis.

3. Feature Engineering:

Identify and engineer features that contribute to sentiment analysis. This may include sentiment scores, sentiment trends over time, and the identification of key topics or keywords associated with positive or negative sentiments.

4. BI Dashboard Development:

Design and implement a user-friendly BI dashboard that visualizes key sentiment analysis metrics. Include components for monitoring overall sentiment trends, identifying sentiment influencers, and assessing the impact of marketing campaigns.

5. Sentiment Score Calculation:

Implement features for calculating sentiment scores from social media text data. Utilize natural language processing (NLP) techniques to assess the polarity of customer opinions.

6. Trend Analysis:

Develop features for trend analysis, tracking sentiment changes over time. Identify patterns, spikes, or dips in sentiment that may coincide with specific events, product launches, or marketing efforts.

7. Influencer Identification:

Integrate features for identifying social media influencers who impact sentiment. This includes recognizing individuals or accounts whose opinions carry significant weight within the online community.

8. Brand Mention Analysis:

Analyze brand mentions within the BI system. Understand the context and sentiment associated with brand mentions to assess the overall perception of the brand in the social media landscape.

9. Competitor Sentiment Comparison:

Implement features for comparing the sentiment of your brand with that of competitors. This analysis provides strategic insights for staying competitive and addressing areas where improvements are needed.

10. Response Time Metrics:

Integrate features to measure response times to customer feedback on social media. Analyze the

correlation between response times and sentiment to enhance customer engagement strategies.

11. Customer Feedback Categorization:

Develop features for categorizing customer feedback based on sentiment. Identify common themes in positive and negative feedback to inform product development or service improvements.

12. Ad Hoc Reporting Capabilities:

Design the BI system with ad hoc reporting capabilities, allowing users to generate custom reports and explore specific aspects of social media sentiment tailored to their needs.

13. Documentation and Training:

Document the entire development process, including data preprocessing steps, feature engineering, and the implementation of BI features. Provide training materials and sessions for users to effectively utilize the

Social Media Sentiment Analysis system.

Expected Deliverables:

- Cleaned and preprocessed social media data.

- Engineered features for sentiment analysis.

- Fully functional Business Intelligence dashboard for social media sentiment insights.

- Sentiment score calculation features.

- Documentation detailing the system's architecture, features, and usage guidelines.

- Training materials and sessions for stakeholders