SENTIMENT ANALYSIS FOR MARKETING

AI PHASE 4

SENTIMENT ANALYSIS:

VADER Sentiment Analysis Tool:

- The VADER sentiment analysis tool from NLTK (Natural Language Toolkit) to perform sentiment analysis on the preprocessed text of the tweets in the dataset.
- VADER is used to categorize the tweets in the dataset into sentiment categories ('positive,' 'negative,' 'neutral') based on the compound sentiment scores.

RoBERTa Model:

- RoBERTa model is used to generate text for the feedback report.
- The Hugging Face transformers library is used to initialize a text generation pipeline with RoBERTa as the underlying model.
- The "roberta-base" model is a pre-trained RoBERTa model that can generate coherent and contextually relevant text based on provided prompts.

ANALYSIS RESULT:

- The sentiment labels by VADER tool are used for subsequent analysis and visualization to understand the distribution of sentiments in the dataset.
- The generated text using Roberta model includes the summary report, basic statistics, and the summary of negative feedback reasons.

VISUALIZATION:

Graph Representation:

- A Bar graph is created to represent the sentiment distribution analyzed from the dataset
- The bar graph offers a visual representation of the sentiment distribution, making it easy to see how many tweets fall into each sentiment category.
- The x axis represents the sentiment categories ('positive,' 'negative,' 'neutral') and the y-axis represents the various sentiment count values.

Analysis Report:

- A summary report generated which starts with the basic statistics like total no of positive, negative and neutral feedback.
- A table that summarizes the negative feedback reasons and how many passengers mentioned each reason.
- The table has two columns: "Reason" and "Summary."
- The "Reason" column contains the different negative feedback reasons, and the "Summary" column contains the count of passengers who mentioned each reason.

CONCLUSION:

    sentiment analysis equips businesses with actionable insights to enhance customer satisfaction and address issues effectively. The sentiment analysis revealed a diverse range of sentiments in the dataset, with a notable number of negative comments. This enables businesses to understand what topics are resonating with customers. The focus on negative feedback reasons allows organizations to target specific issues. This visual representation makes it easier to grasp the relative proportions of different sentiments. It can be shared with stakeholders for quick insights and decision-making.