

SENTIMENT ANALYSIS OF HAJJ-RELATED CONTENT ON X

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CHAPTER 5

CONCLUSION AND FUTURE WORK

5.1 Summary of Findings

The sentiment analysis of Hajj-related tweets provides valuable insights into public perceptions of the Hajj pilgrimage. Using Natural Language Processing (NLP) techniques, the study classified tweets into three sentiment categories: Positive, Negative, and Neutral. Key findings include:

- **Positive Sentiments:** Tweets expressing gratitude, spiritual fulfillment, and praise for Hajj organization dominate the dataset.
- **Negative Sentiments:** Concerns about logistics, crowd management, and health issues are prevalent in negative tweets.
- **Neutral Sentiments:** Many tweets document personal experiences or logistical updates without strong emotional polarity.

The dataset, comprising 4,669 tweets, was preprocessed to handle Arabic text effectively. Techniques such as stemming, stop word removal, and diacritic normalization ensured accurate sentiment classification. Visualization tools like bar charts and word clouds highlighted dominant themes and sentiment trends.

5.2 Contributions to the Field

This research contributes to the understanding of online religious discourse by:

- Providing a lightweight yet effective methodology for sentiment analysis of Arabic tweets.
- Highlighting the role of social media platforms like X (formerly Twitter) in shaping public discourse around Hajj.

- Offering actionable insights for religious organizations, scholars, and policymakers to improve Hajj-related services.

5.3 Limitations

While the study met its aims, certain limitations emerged during the research process. One major drawback is the dependence on sentiment analysis methods such as VADER, which are primarily intended for English-language content. This may affect the accuracy of sentiment categorization for Arabic tweets since the technology may not catch all the linguistic and cultural subtleties of the Arabic language. Furthermore, the dataset employed in this study is restricted to Arabic tweets, limiting the possibility to do multilingual analysis. Including statistics in other languages, such as English, may offer a more complete picture of worldwide attitudes of Hajj. Furthermore, rule-based models may not capture all the contextual subtleties in religious discourse, such as the usage of Quranic passages or metaphor. These limitations indicate areas where future study might improve upon the existing methods.

5.4 Future Research Directions

Future research can expand on this work by investigating various possible routes. First, broadening multilingual analysis would enable academics to gather worldwide viewpoints on Hajj-related emotions. Incorporating statistics in many languages, such as English, will give a more complete picture of how individuals from various linguistic and cultural backgrounds interpret Hajj. Second, using sophisticated NLP models, such as transformer-based architectures as AraBERT, may improve sentiment classification accuracy by delivering context-aware analysis specific to the Arabic language. Third, establishing technologies for real-time sentiment monitoring during Hajj seasons might assist stakeholders in quickly addressing growing problems, such as logistical or health difficulties. Finally, including information like geotagged data and timestamps may allow researchers to investigate regional and temporal sentiment fluctuations. For example, studying sentiment patterns across multiple Hajj days or comparing attitudes from different places might provide important insights

into pilgrims' varying experiences. These avenues provide intriguing potential to further our understanding of Hajj-related speech and enhance the tools we use to evaluate it.

5.5 Conclusion

This study highlights the usefulness of sentiment analysis in assessing popular impressions of the Hajj. By integrating preprocessing approaches, sentiment categorization, and visualization, the study provides a holistic perspective of Hajj-related talk. These findings can help guide measures for improving the Hajj experience and encouraging positive participation in online religious conversations. While the study has several limitations, it does provide a good platform for future research and practical applications. As social media continues to affect global debates, sentiment analysis will be an important tool for understanding and meeting the needs of various populations

