CHAPTER V
CONCLUSION AND RECOMMENDATION

5.1 Conclusion

In this sub-chapter, conclusions are drawn based on analysis of research results and discussion. The conclusions from this research are as follows:

1. This research designs a public opinion trend assessment model using the Bidirectional Long Short-Term Memory (BiLSTM) and Latent Dirichlet Allocation (LDA) approaches on YouTube comments using the public dataset and the Pancagatra news articles dataset.
2. The research results show that the BiLSTM model outperforms other models, including Logistic Regression (LR), Multinomial Naïve Bayes (MNB), K-Nearest Neighbors (KNN), and Random Forest (RF). BiLSTM with Word2Vec shows excellent performance with average accuracy, precision, recall and F1 Score reaching 98%. This can show that the model is able to understand the context and relationships between words well, both before and after the words appear.
3. This research provides data on the results of implementing a combination of Bidirectional Long Short-Term Memory and Latent Dirichlet Allocation on live YouTube video comment data on Papua issues using the YouTube API in the form of sentiment results along with Pancagatra topics. So this data can be used as supporting data in the Intelligence Apparatus collecting intelligence data in analyzing trends in public opinion on social media, especially regarding sensitive issues in Indonesia such as the Papua issue.

5.2 Recommendation

The recommendation for further research are as follows:

1. In improving the limitations of using sentiment output in this thesis, it is necessary to consider exploring more complex datasets and models using multi-class classification which includes positive, negative and neutral sentiment categories contained in the public opinion dataset.
2. The use of deep learning in topic categorization can be an alternative for further research to explore topic classification methods in a dataset.
3. To increase robustness in the use of artificial intelligence, it is recommended to consider the use of ensemble models that can integrate several models to improve prediction performance compared to the use of a single model on more complex datasets.
4. The output of this research is in the form of public sentiment and topics formed in YouTube comments so that further research is recommended to analyze the impact of using AI technology on defense activities in order to measure effectiveness and efficiency to support national defense.
5. In further research, it is recommended to carry out research in the implementation of AI technology in the form of an analysis of the ease of use of AI technology in carrying out national defense activities so that it can contribute to identifying and maximizing AI technology that is easy to use in national defense.
6. In further research, intelligence activity programs can be designed based on the sentiments that have been obtained, such as creating conditions using generative AI on a particular issue.