UNIVERSITI TEKNOLOGI MARA

SENTIMENT ANALYSIS OF ONLINE REVIEWS FOR KBB STEAK TERENGGANU

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14 JULY 2026

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ACKNOWLEDGEMENT

Praise be to Allah SWT for His guidance, strength, and blessings, which helped in ensuring that this Final Year Project was accomplished within the time required. Without His mercy and grace, this journey would have been impossible.

First and foremost, I would like to express my sincere appreciation to my supervisor, Dr. Nur'aina Binti Daud, for her constant guidance, advice, and feedback throughout the duration of this project. Her patience, support and academic expertise have been very important in determining the course of this project. I would also like to thank my CSP600 subject lecturer for her guidance and input throughout the implementation and evaluation of the project.

Heartfelt gratitude is expressed to my loving parents, Malizan Binti Hussin and Mohd Azli Bin Abd Aziz, for their unconditional love, prayers and support all this while. They remain my strongest driving forces in my academic life, especially in times of difficulties and hardships in my academic pursuit.

I also would like to take this time to personally thank my close friends, Nurkhairani Ardini, Nor Izatul Najwah and Nurdina Saffiah, who have been very supportive, understanding and encouraging in this journey. They have been a part of my life and this journey has been made easier and less stressful because of them.

Lastly, appreciation is given to everyone who either directly or indirectly assisted in the completion of this project. Any kind of support, encouragement or assistance is highly welcome.

ABSTRACT

Online customer reviews provide valuable information for restaurants to understand customer experiences, satisfaction and service issues. The problem is, KBB Steak Terengganu had to read and record the reviews on the internet manually, which makes it hard to monitor the reviews systematically and to look for recurring problems as well as to gain insights from the unstructured reviews data. Therefore, this project aimed to identify the current business process and problems faced by KBB Steak Terengganu in analysing online customer reviews, implement sentiment analysis on the restaurant's online customer reviews and visualize the sentiment analysis results using a dashboard. The project was implemented following the Cross-Industry Standard Process for Data Mining (CRISP-DM) methodology and the collected customer reviews were 1,017 from Google Reviews and Google Forms. The reviews were prepared and the TF-IDF feature was extracted from the reviews before the models were developed using SVM, NB and K-NN and evaluated by stratified 5-fold, 10-fold and 15-fold cross validation. Finally, SVM, which had the highest accuracy of 88.00%, was chosen from the nine model configurations when 10-fold cross validation technique was used. Results were presented using the KBB Insight Dashboard (KBB-ID) created with Microsoft Power BI to aid review monitoring, sentiment analysis and management insights. Expert evaluation showed that the dashboard was useful, learnable, easy to use and satisfactory for presenting the insights gained from the customer reviews. In conclusion, the project shows that sentiment analysis using machine learning techniques and visualization of the information using Business Intelligence tools can help in understanding the meaning of the information in unstructured customer reviews, which can be used in systematic feedback monitoring and evidence-based decision-making. Future research could involve the incorporation of larger datasets from various data sources and could also try to use more advanced sentiment classification approaches to enhance the performance and generalizability of the model.