Research Title	Helpfulness Prediction Model for Thai IT Product Reviews
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ABSTRACT

The emergence of e-commerce platforms in Thailand has transformed consumer shopping behaviors, with product reviews playing a pivotal role in shaping purchase decisions. This research proposes an efficient machine learning model to predict the helpfulness scores of reviews, enabling effective sorting and display of reviews based on their levels of usefulness. By saving time for shoppers and facilitating well-informed choices, this approach aims to enhance the user experience in online shopping. To overcome the lack of an existing dataset for training the model in the Thai language, a novel methodology was developed. Thai product reviews were collected from the popular e-commerce platform Shopee using web scraping techniques. The collected data was then labeled based on criteria such as credibility, content quality, and expression, assigning helpfulness scores to each review. Data preprocessing techniques were employed to handle the unique characteristics of the Thai language and overcome challenges related to Thai Natural Language Processing and non-semantic characters. Three types of models, namely classical models, neural network models, and pre-trained models, were developed and compared to predict the helpfulness scores of reviews. Through extensive cross-validation, the pre-trained model RoBERTa demonstrated the lowest Mean Absolute Error (MAE), indicating superior accuracy compared to the other models. The RoBERTa model also exhibited reliable performance on the test set, ensuring accurate predictions for unseen data. The impact of the implemented model on the review sorting order on Shopee was evaluated through user experience assessments. Participants reported significant improvements in the sorting order of reviews compared to the Shopee baseline. They perceived the implemented model to be more accurate, requiring less effort on their part, and fostering

greater loyalty towards the platform. These findings validate the effectiveness of the implemented model in enhancing the user experience and assisting users in making well-informed decisions based on helpful reviews. In conclusion, this research aims to enhance the user experience of Thai consumers by developing a machine learning system that predicts the helpfulness of product reviews, specifically targeting IT products. By addressing the challenge of time-consuming review reading, the system provides a more efficient way for consumers to find reliable and informative product reviews, enabling them to make informed purchasing decisions. The creation of a tailored dataset and the selection of the RoBERTa model based on its superior accuracy demonstrate the effectiveness of this approach. Positive user feedback further confirms the value of the implemented model in improving the sorting and display of reviews, empowering consumers to make informed decisions based on helpful reviews.

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

Table

LIST OF FIGURES

Figure