

ABSTRACT

The rapid growth of tourism in Bali has made it one of the destinations facing overtourism, according to the World Travel & Tourism Council (WTTC). This study analyzes tourist perceptions of overtourism in Bali using TripAdvisor reviews from 2018 to 2024. By applying BERT and LSTM models, the study identifies tourist perceptions through sentiment analysis of destinations and multiclass issue classification. The results show that LSTM achieved slightly higher accuracy than BERT, with 77% for sentiment analysis and 92% for overtourism issue classification. Destination sentiment analysis showed an average of 70% positive sentiment, with some destinations recording below-average positive sentiment, reflecting less satisfactory tourist experiences in those areas. The Physical Environment issue was the most frequently discussed topic by tourists, while the highest negative sentiment was linked to the Tourist Numbers issue, indicating discomfort with overcrowding. The strong correlation between Tourist Numbers and Physical Environment shows that environmental pressure increases as visitor numbers grow. These findings highlight the importance of sustainable tourism management to address overtourism challenges and ensure the long-term sustainability of Bali's tourism sector.

Keywords: *Bali, BERT, LSTM, multiclass classification, overtourism, sentiment analysis.*