ABSTRACT

IMPLEMENTATION OF LEXICON METHOD AND SUPPORT VECTOR MACHINE FOR EMOTION AND PERCEPTION ANALYSIS OF MUSEUM VISITOR REVIEWS

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Tourism experienced significant challenges during the Covid-19 pandemic which led to a 56% decline in tourism Gross Domestic Product (GDP) in 2020. In an effort to restore the tourism sector, effective strategies are needed, one of which is through the promotion of museum tourism. Museum tourism, especially museum date activities, is increasingly popular among the millennial generation. Museum date is an activity of viewing museum collections and taking photos or videos. Many visitors provide reviews on Google Maps but the data is still rarely utilized. The review data has information related to the experience of museum visitors. This study aims to identify the emotions and perceptions of museum visitors in DKI Jakarta based on reviews on Google Maps. NRC Emolex and Support Vector Machine (SVM) methods are used in this research. The analysis results show that five museum objects have a higher percentage of trust (21.88%), joy (20.92%), anticipation (18.52%), and surprise (10.96%) emotions compared to the percentage of sadness (9.78%), fear (7.6%), disgust (5.24%), and anger (5.14%) emotions. Perception analysis based on dominant keywords in wordcloud illustrates the diversity of focus and approach to museum objects. The Jakarta History Museum brings up the keywords "good", "clean", and "crowded". The National Museum brings up the keywords "good", "clean", and "children". Museum Bank Indonesia has the keywords "good", "interesting", and "comfortable". Museum MACAN has the keywords "good", "art", and "photo". Museum Wayang gave rise to the keywords "good", "child", and "interesting". The SVM model that recognizes 8 emotions and data sampled using SMOTE and feature selection produces 83.3% accuracy, 79.7% precision, 59.47% recall, and 66.21% F1-Score. Despite the high accuracy with 79.7% precision, the model shows a low F1-Score value which indicates the model has not been able to find data patterns well, especially indicated by the low recall.

Keyword: SVM, Lexicon Method, Emotional and Perception Analysis, Museum, Text Mining