## *ABSTRACT*

### *IMPROVING THE ACCURACY OF SUPPORT VECTOR MACHINE (SVM) ALGORITHM USING PARTICLE SWARM OPTIMIZATION (PSO) IN SENTIMENT ANALYSIS OF HOTEL REVIEW IN TASIKMALAYA (CASE STUDY: TIKET.COM AND AGODA)*

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*The use of technology, especially in hotel bookings reported from several sites in Indonesia from 2018 to 2021, can be seen on the platforms that are often used by users, namely Tiket.com and Agoda. The data used is 3,295 hotel customer review data in Tasikmalaya on Tiket.com and Agoda. The problem in this study is that there is no sentiment analysis model to determine the increase in the accuracy of hotel reviews in Tasikmalaya on Tiket.com and Agoda. This research has a goal, namely, to find an increase in the accuracy and performance of the customer review model to make it easier for the hotel to present it in the form of higher quality data and information. The method that will be used is the Support Vector Machine (SVM) classification with its advantages, namely minimizing errors in the training-set or can be called Structural Risk Minimization (SRM) and realizing the formation of a hyperplane by maximizing margins and Particle Swarm Optimization (PSO) to improve performance. classification model. The tools used are Python. The study used K-Fold Cross Validation with values of k=5 and k=10. K-Fold Cross Validation with a value of k = 5 means that the data will be randomized five times and the data will be randomized using 80% training data and 20% test data. K-Fold Cross Validation with a value of k = 10 means that the data will be randomized ten times and the data will be randomized using 90% training data and 10% test data. The results of the k-Fold Cross Validation study using a linear kernel with k=10 resulted in the greatest accuracy value with an accuracy value of 81.05% and increasing accuracy by 1.05%. The conclusion from the research of Support Vector Machine and Particle Swarm Optimization using a linear kernel produces the highest level of accuracy from the Radial Basis Function (RBF) kernel and the Polynomial kernel.*



***Keywords: Support Vector Machine (SVM), Structural Risk Minimization (SRM), PSO, TF-IDF, Confusion Matrix***