1. Introduction

International tourism is tourism that crosses national borders. In some countries International tourism has been their one of the major economical revenues, because it creates thousands of jobs, and also infrastructures. It also plants a sense of cultural exchange between foreigners and local citizens. However the quality of the tourism destination management and tourism services can also influenced by various factors, including tourists satisfaction. One of the method of measuring satisfaction is by conducting sentiment analysis to the comments from international tourists.In this case sentiment analysis is conducted to the most visited tourism objects in Bali. Those tourism objects consists of Canggu, Denpasar, Kuta, Seminyak, Pandawa, and Ubud. The data that is used to conduct sentiment analysis in this case is from Twitter by using various hashtags that consists of #canggu, #denpasar, #kuta, #seminyak, #pandawa, and #ubud.

Sentiment analysis has been a popular approach to measure user or customer satisfaction with various products and services. Sentiment analysis is a natural language processing technique that analyze digital text to identify, extract, and classify the opinions or sentiments of the digital text. In the context of Bali International tourism, sentiment analysis process can be utilized to examine the feelings and opinions of the tourists about their experiences in the tourist destinations in Bali. By conducting sentiment analysis on Bali international tourism objects, public opinion or sentiments can be grouped into positive, neutral, and negative opinions. Positive opinions can be used to indicate the success of a problem and negative opinion can be used to indicate an improvement on a problem.

Several studies has been conducted regarding sentiment analysis, Recurrent Neural Network Based Bitcoin Price Prediction by Twitter Sentiment Analysis has an accuracy of 77.62% by using Recurrent Neural Network[1]. There also a research on Saudi General Entertainment Authority Activities has an accuracy of 81.9% using Random Forest algorithm, 80.7% of accuracy by using Support Vector Machine, and 79.3% by using Recurrent Neural Network[2]. In "Thumbs up? Sentiment Classification using Machine Learning Techniques," by Pang et. al. an accuracy of 82.9% by using Support Vector Machine, In Sentiment Analysis on customer satisfaction level on cellular data services has obtained 99.09% of accuracy using Naïve Bayes Classifier[3]. On research that was conducted on COVID-19 online discussion in late 2019 the accuracy of 81.15%, this result was obtained by using LTSM Recurent Neural Network[4]. In "Sentiment Analysis of Lockdown in India During COVID-19: A Case Study on Twitter" by Gupta et. al., the accuracy of 84.4% of accureacy was obtained by using LinearSVC classifier and unigrams. In the same research, the accuracy of 82% was obtained by using perceptron classifier[5].

(Berdasarkan penelitian di atas RNN memiliki akurasi yang sangat baik. Sehingga akan diujicobakan pada kasus sentiment analysis. Jadi pada kasus ini akan berfokus pada implementasi RNN pada Sentiment analysis.)Recurrent Neural Network (RNN)'s ability to process sequential data and to remember information for very long periods of time can be applied to analyze the sentiment related to tourism. Unlike ordinary neural networks that is only meant for data points that are independent of each other, RNN have the concept of memory that helps them store the states or information of previous inputs to generate the next output of the sequence. RNN can consider the entirety of the context of the sentiment rather than just individual words. Therefore, the study of sentiment analysis on Bali international tourism objects will be conducted by using RNN method.

Topics and Limitations

This research focuses on how to build a sentiment analysis model on toursm objects in Bali using Recurrent Neural Network method.The dataset used was obtained from Twitter using the hashtags that corresponds to tourism locations that often visited by foreigners. Those hashtags are #canggu, #kuta, #pandawa, #seminyak, #ubud, #denpasar. The data that was from the year of 2018 to 2023 and the classes for the classification are only positive and negative.

Objectives

The objective of this research is to build a model to analyze International tourist's opinion on tourism destinations in Bali by using Twitter data with RNN classification method.

2. Related Studies