

# Chapter 15

## Sentiment Analysis of Customer Reviews for Online Stores That Support Customer Buying Decisions

**Geetha Manoharan**

*SR University, India*

**Subhashini Durai**

*Dr. G.R.Damodaran College of Science, India*

**Gunaseelan Alex Rajesh**

*Sri Venkateswara Institute of Information Technology and Management, India*

**Sunitha Purushottam Ashtikar**

*SR University, India*

### **ABSTRACT**

*This research was carried out in order to conduct a sentiment analysis on customer reviews for an online store. It is a technique that makes use of textual contextual mining to identify and extract information that is subjective. This type of analysis aids a company in understanding the attitudes of their customers toward their brand, products, and services. When it comes to making evidence-based decisions, sentiment analysis is taken to the next level by using count-based metrics. The study examines the key aspects of the product that their customers are concerned about, as well as the reactions or intentions that these customers have toward their brand and product. The analysis is carried out using a machine learning approach, specifically a supervised learning approach. Sentiment analysis is carried out using the decision tree technique. The findings assist decision makers in understanding the attitudes of customers toward a brand, a product, or a service. This assists them in determining their future business strategy, which will help them increase their sales and profits.*

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## **INTRODUCTION**

Traditionally, a market is a gathering place for buyers and sellers to exchange goods. In today's technological age, we can see that there is no need for meeting clients in a physical area. There are several Amazons online that accomplish the same thing as a real store in any Market location. Online stores have a virtual presence as well. Since the introduction of the internet, particularly smart phones, which allow customers to do their shopping online whenever they are free and intend to buy a product, the owner of the shop continues to supply the product requested or demanded by the customer. For any online store, the product item can be viewed in all aspects and all the details about the product on the online store's website. It has been observed that customers encounter numerous issues with the products for which they have placed orders. There are significant differences between the merchandise exhibited or displayed on the online store's website and the thing received in the hands. (Manokaran et al., 2022). Customers are uneasy because they do not trust the website online store the details pictures add in the Air website. This leads to customer unhappiness and no sale from the client.

The study by Manoharan and Narayanan (2021) digital marketing strategies plays a major role in capturing the market potential and online marketing has become buzz. In recent years, it has been observed that the general public is more concerned with the customer reviews supplied by customers who have purchased the goods from the website or online store (Hemachandran et al., 2022a). Customer reviews, whether new or returning customers, allow them to put their trust in the product information supplied on the website (Hemachandran et al., 2022b). When a product receives a positive review, people are eager to purchase the same product again. If a poor customer review is directed towards a product, those who wish to buy the same thing will have doubts about the product, and the price will also delay their decision. (Krishna et al., 2022). As can be seen, customer reviews play a crucial role in the decision-making process for customers who are considering purchasing a product. This study is conducted to show how the customer reviews supports customers buying decisions based on a case study of an online stores.

## **LITERATURE REVIEW**

Social media, according to Alkhaldi et al. (2022), is an important tool for people to discuss and share events in their communities. This study uses three social media networks to test sentiment analysis (Instagram, Snapchat, and Twitter). By analysing social media posts about the first Saudi cruises, the findings of this study will help us better understand how people felt about them. 1200 cleaned samples were examined for this experiment. The researchers used a variety of machine learning algorithms to classify the data as positive or negative, including multilayer perceptron, naive bayes, random forest, support vector machine, and voting. The RF algorithm achieved a 100% accuracy rate with both test options and oversampled Snapchat data, which is the highest classification accuracy. The algorithms were put to the test on three different datasets. All of the algorithms worked well. As a result, the findings indicate that 80% of the attitudes were positive, while 20% were negative.

According to Verma (2022), the community's use of social media to discuss and share information about various events is critical. This study uses three social media sites to assess sentiment analysis of Saudi cruise opinions (Instagram, Snapchat, and Twitter). By analysing emotional responses on social media, this study will provide insight into how passengers and viewers felt during their first Saudi cruises. Following cleaning, over 1200 samples were collected for this experiment. Machine learning algorithms

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