

**PREDICTING OVERALL CUSTOMER
SATISFACTION FOR AN EFFECTIVE OPINION
ANALYSIS ON E-COMMERCE WEBSITES**

ई कॉमर्स वेबसाइट के लिए प्रभावी ग्राहक जज्बात निष्कर्ष प्रणाली

A

Thesis

Submitted for the Award of the Ph.D. degree of

**PACIFIC ACADEMY OF HIGHER
EDUCATION AND RESEARCH UNIVERSITY**

By

VIJAYA RAVINDRA SAGVEKAR

विजया रविन्द्र सागवेकर

Under the supervision of

Dr. PRASHANT SHARMA

Associate Professor,
Pacific Academy of Higher
Education & Research University, Udaipur



**FACULTY OF ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING
PACIFIC ACADEMY OF HIGHER EDUCATION
AND RESEARCH UNIVERSITY, UDAIPUR**

2023

PREDICTING OVERALL CUSTOMER SATISFACTION FOR AN EFFECTIVE OPINION ANALYSIS ON E-COMMERCE WEBSITES

With the quicker enhancement of e-commerce systems in the past couple of years, product review sentiment analysis technology has gained increasing attention. Because the quantity of users searching the internet is increasing exponentially, the developer network is increasingly concentrating on the user expertise of searching. A customer evaluated if the product is terrible or excellent from web sites. It is very crucial for any company to be aware of client feedback on any given item. Sentiment analysis on review offers information about product's user sentiment, which is beneficial for product development. Conventional LSTM and CNN-based models with vanishing gradient as well as overfitting problems in classification were used in sentiment analysis.

In the first study, proposed a method for predicting the effective online shopping sites, a customer survey determined whether the product is poor or excellent from enterpriseonline portals. Prioritizing is of utmost importance for any business to be aware of customer feedback on any particular item. The Amazon datasets will be used in this research to analyse and classifyprevious evaluators on e-commerce platforms and their impact on itemprominence. This study proposes to review the posting process and develop a deep learning method for reviewer projection. Dependent on the decisionassessment, a suggestedviewpointspatial analysis is used to sort the basicvalues. By taking into account the pair of the repetition of viewpoints and the effect of decisions, yielding the suggestedonline portals. In the second study, proposed the WEA technique to provide higher weight values to the words having strong relation with classes. The CNN model is applied for feature extraction due to generation of more features in the convolutional layer. The balanced cross entropy is applied to maintain the gradient in the network to solves vanishing gradient problem. The CNN feature extraction helps to provide higher performance for less number of training data for classification.

5.1 Future Scope

- In the future, an accurate system will be implemented to enhance the classification accuracy for recommendation of product.
- In future, novel feature selection technique will be analyzed to select relevant features and achieve higher performance in imbalance data.
- Instead of supervised MLP classifier approach, an optimal cost unsupervised clustering techniques will be deployed to identify the span reviews hidden in the review dataset.
- A refined and definite ranking algorithm could be evolved in future to provide optimistic product ranking for predicting the opinion orientation score in the review sentences.