

# Opinion Mining and Product Review

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**ABSTRACT:** Today a large number of population do not like to go out in the markets physically and shop the things they want. Instead an alternative approach evolved due to the emergence of internet. So there are people of a kind who like to suggest, advice or give feedbacks for the products they shopped online. This is the reason there are feedback portals present on every online shopping websites. In this way the large amount of feedbacks for the products started being collected. This made the administrators or the product analyst of the online shopping portals unable to process or analyze the reviews. So in this paper a more formal and easy method based on syntax rather than semantics is been proposed due to which there will be no need of using any extensions, import files which are required if we start analyzing the feedbacks semantically. For achieving this results we used opinion mining technique which is a part of the Natural Language Processing Domain. We had used the technique of sentiment analysis which helps us in analyzing polarities as positive, negative or sometimes neutral and performing the calculations by consuming low time.

**KEYWORDS:** Product Analyst, Product Reviews, Feedbacks, Suggestions, Sentiment analysis, Opinion Mining.

## I. INTRODUCTION

Purchasing products online and expressing their opinions on these purchased products through online reviews has become a common practice in past years. Opinion Mining for Sentiment analysis is a technique through which we can extract the intention from a sentence. But this is done semantically, most frequently. So another way to achieve opinion mining is, processing the sentences linguistically. In this approach we are using a theme called online shopping website for a product called cell phones. This theme is just used for base illustration purposes or just to demonstrate so that it will help in better understanding of the concept. No such algorithms for Natural Language Processing are used that have been proposed prior to these systems Instead a naïve and painless approach is utilized to get the work done masterly. There are various types of reviews or suggestions posted by the users from different perspectives. So processing these reviews semantically may make the way of getting processed or analyze reviews bulky. Because of this, the linguistic way is made to work here in this system.

## II. LITERATURE SURVEY

Early work on opinion mining focused on finding the detailed information of a product from these reviews; this approach is somewhat called as information extraction. Most recent research has focused on assessing the review quality before mining the opinion. A kind of information extraction is a way to mine through opinions (Hu and Liu)[1]. Automatic structuring and filtering of the comments for the YouTube videos by analyzing the dependencies between

comments, views, ratings, and topic categories; this kind of method used a SentiWordNet thesaurus, a lexical WordNet based resource containing sentiment annotations (siersdorfer)[2]. There were difficulties in how to find the helpful reviews from online customer reviews via the quality of the contents. Since there are too many reviews and efficiently identifying the helpful reviews earlier was sometimes not accomplished. Use of social medias have facilitated many people to express their views publicly and thus a large collection of reviews are been given daily. So this large collection of reviews collected needs to be explored, analyzed and organized for better decision making.

### III. BASIC CONCEPTS

#### Description of Models

The three main pillars of opinion mining are

1. User Person who expresses opinions.
2. Object Product on which opinion is given
3. Polarity Orientation determines whether opinion is positive, negative or neutral.

#### A. Conceptual Workflow

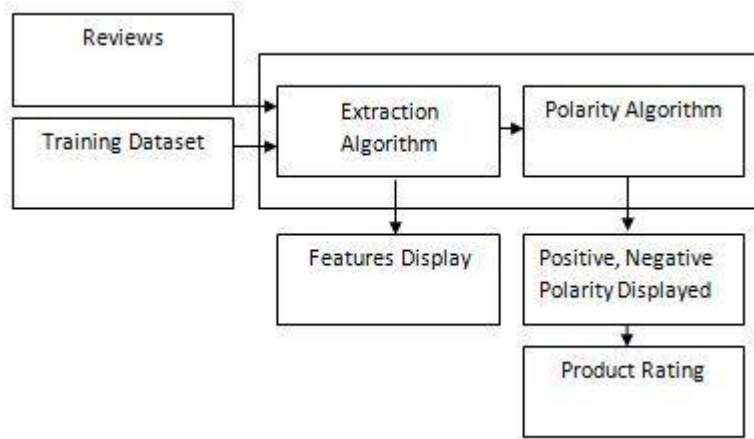


Figure 1

#### B. Workflow Description

In the above specified *Figure 1* the reviews and the training datasets are applied to the main class. The main class includes the feature extraction algorithm and the polarity algorithm. These reviews are given as input to the feature extraction algorithm where the corresponding processing is done and then the output of this first algorithm is given as input to the second block called polarity algorithm where the polarity of a review is calculated. Then at last the expected output is displayed according to the requirement of report to be displayed.

### IV. TYPES OF LEVELS

There are following types of levels in opinion mining-

- 1) Aspect Level - Aspect is finding elaborate opinions towards a subject such as a product for each sentence.
- 2) Feature Level - Feature based is one of the basic tasks in Opinion Mining is classifying the polarity of a given aspect Level.
- 3) Document Level - Document level sentiment classification aims to automate the task of classifying a review which is on a single topic.
- 4) Sentence Level – This aim is to determine whether opinions expressed in sentences with modality are positive, negative or neutral.

## V. EXPERIMENTAL RESULTS

See the following review set as a example and processing is done on review as per OMPR steps to generate orientation of review.

*Hie alex, i waited for the mobile launch since february and now when it is with me I am quiet unsatisfied with it.*

### 1. Remove Greetings

[alex, i waited for the mobile launch since february and now when it is with me I am quiet unsatisfied with it.]

### 2. Divide by Special symbols

#### 2.A First divided by comma

[alex],[i waited for the mobile launch since february and now when it is with me I am quiet unsatisfied with it.]

#### 2.B Then by full stop

[alex],[i waited for the mobile launch since february and now when it is with me I am quiet unsatisfied with it],[ ]

### 3. Divide by join words

[alex],[i waited for the mobile launch since february],[now when it is with me I am quiet unsatisfied with it],[ ]

### 4. Remove stop words(it, for, the , with, am, I etc.) and the unwanted words(since, now, when)

[alex],[waited mobile launch february],[unsatisfied],[ ]

### 5. Remove words/nouns not related to the product

[waited mobile launch],[unsatisfied],[ ]

### 6. Remove blank array parts

[waited mobile launch],[unsatisfied]

### 7. Remove pronouns parts(mobile)

[waited launch],[unsatisfied]

### 8. Remove features parts(mobile)

[waited],[unsatisfied]

### 9. Perform calculations by replacing negative and positive words(Multiplications)[waited=-1, unsatisfied=-1]

First Part of Review [-1], Second Part of review [-1]

### 10. Finalize sentence based and overall review polarity

#### 10.A Finalizing sentence based polarity

Get Data from step 6

[waited mobile launch]=[-1],[unsatisfied]=[-1]

#### 10.B Finalizing Overall rating

Perform Calculations on all words addition

$(-1)+(-1) = -2$

Orientation of Review : NEGATIVE

## VI. CONCLUSION

The objective of this paper is to help a product analyst to determine the review orientation in terms of positive or negative in a fast way and at the same time can rate the product automatically. As the demand of online feedback system is getting increased for having feedback, in future there will be the huge bulk of reviews to read and analyze and for this situation the proposed system will work exactly as for what we have created it.

## VII. FUTURE SCOPE

In this paper there is no use of online dictionary / thesaurus and no provision for identifying the short forms for any word in the review. So there will be a development of a new concept to mine the opinions using WordNet dictionary and the process of identifying short forms. Also facilitating the posting of reviews in multiple languages can give us a freedom to calculate polarity on any form of language.



## REFERENCES

- [1.] Padmapani P. Tribhuvan , S.G. Bhirud , Amrapali P. Tribhuvan, “A Peer Review of Feature Based Opinion Mining and Summarization”, (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 5 (1) , 2014, 247-250, ISSN :0975-9646
- [2] Prof A.S. Chadchankar, Karan Borate, Prashant Gombi — Opinion Mining From Online Product Review And Online Product’s Rating, International Journal of Scientific& Technology Research, Vol 09, Issue 01,Jan 2020, ISSN: 2277-8616
- [3] Venkata Rajeev P, Smrithi Rekha V —Recommending Products to Customers using Opinion Mining of Online Product Reviews and Features|, 2015 International Conference on Circuit, Power and Computing Technologies [ICCPCT]
- [4] Richa Sharma,Shweta Nigam and Rekha Jain, —Mining Of Product Review At Aspect Levell, International Journal in Foundations of Computer Science Technology (IJFCST), Vol.4, No.3, May 2014
- [5] G.Angulakshmi, Dr. R. Manicka Chezian, —An Analysis of Opinion Mining : Techniques and Toolsl, International Journal of Advanced Research in Computer and Communication Engineering, Vol. 3, Issue 7, July 2014, ISSN (Print) : 2319-5940
- [6] R. He, J. McAuley. —Modeling the visual evolution of fashion trends with one-class collaborative filtering. I WWW,2016
- [7]Nidhi Mishra et al, Classification of Opinion Mining Techniques, International Journal of Computer Applications, Vol 56, No 13, Oct 2012Pg No 1-6.
- [8] Nilesh M.Shelke et al, Survey of Techniques for Opinion Mining, International Journal of Computer Applications, Vol 57 No 13. Nov 2012Pg No 30-35.
- [9] J. McAuley, C. Targett, J. Shi, A. van den Hengel. “Image-based recommendations on styles and substitutes“SIGIR,2015.