

Opinion Mining and Predicting Reviews for E-commerce

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Abstract:

Online business is the easiest way of shopping. In online business, users can buy the products by viewing the feedbacks or reviews of the other users who are used the products earlier. Based on those opinions the product can get rank. But the user has to read a lot of reviews for a particular product in order to get the best product. It was the time taking process. In this paper we are supposed to propose a system that we can directly collect the reviews of the products from online and by comparing those reviews we can get the best product based on the good opinions given by earlier users of that product.

Keywords —feedback, reviews, aspect mining, online business.

I. INTRODUCTION

Online business, in other words it will be called as E-Commerce or Electronic business. In Online business all the transactions are going to be done though internet only. Users can easily get the desired products. The services, payments and guidance for the usage of the product will completely done by using web based technologies. The online business is same as the ordinary business, But the only difference between is in E-business all the transactions are done by web based technology only. In online we can get all the services like banking, movie tickets, hotel booking, air tickets, E-booking, trading, etc.

In online we can get any type of product .There are several websites for online business example Amazon, Flipkart, Paytm, Snapdeal, etc. Each website is having a numerous type of product varieties .For example, Amazon website is one of the greatest website in E-commerce, firstly it started an online book store with a wide variety of books later it became a store for all the products.

Now, Amazon will sell more than 200 million products in USA under 35 categories. Today in

India the average sale of products only from the amazon is about 18 million products. For such online marketing, huge numbers of reviews are given by the users for the products they purchased from the site. Based on those reviews the other users can able to know what is the good product.

Such a user comments are having a high knowledge on the product. These reviews are very much important for both the consumer and the firms. As the consumer can able to know the quality of the product, whereas the firm can able to get the feedback of the product. So the firm can update the product according to the consumer’s requirement and they can get improve in online marketing, development of product and in maintaining the relationship with the consumer.

AIM AND OBJECTIVE(S) OF THE WORK

The Existing system contains, feature identification include both the supervised and unsupervised methods. In the supervised method, by using the labelled reviews extract the collection of words. Existing aspect identification include the supervised and unsupervised methods.

The term frequency is going to be calculated and the most frequent terms are taken as the features of the products. To overcome the Disadvantages in the existing system i.e., in supervised approach.

II. METHODOLOGY AND ALGORITHM

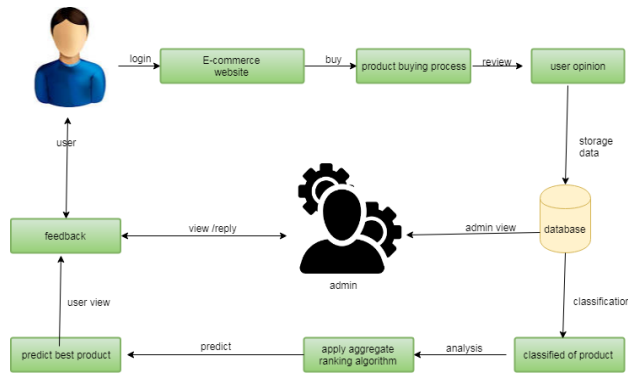


Fig. 1 Block Diagram of the System.

A. Aggregate ranking algorithm

In crowd opinion aggregation models, the expertise of annotators plays an important role to derive the appropriate judgment. It is seen that in most of the aggregation methods annotators' accuracy and bias are considered as two important features and based on it the priority of annotators is assigned. But instead of relying upon these limited features, the quality of annotators can be suitably exploited using rank-based features to further improve the prediction. Basically, the annotators are ranked according to various features and therefrom multiple separate rankings are produced.

B. Frequency based method:

Frequency-based method is the method which is used in our aggregate ranking algorithm, in which it gives the features according to term frequency of the product. This method takes only the frequency of the term and which will impact on the customer opinions on the particular product, it helps in rating the product. There are some usual features of the

product will appear frequently those are consider as the important features.

C. Correlation- based method

Correlation-based method, which measures the correlation between the reviews on particular products and the final rankings. It ranks the aspects based on the number of cases when such two kinds of opinions are consistent. Correlation based method ranks the aspects by simply counting the consistent cases between reviews on particular products and the final rankings. It ignores to model the uncertainty in the generation of overall ratings, and thus cannot achieve satisfactory performance.

D. Hybrid method

Hybrid method, that captures both aspect frequency and the correlation. The hybrid method simply aggregates the results from the frequency-based and correlation-based methods, and cannot boost the performance effectively.

III. WORKING

The working of the system is as follows:

1. Admin has to register and login first.
2. Admin add the product and its specification.
3. User login to the system.
4. User will view the products and its specification.
5. User will buy the product.
6. After buying user will add ratings and reviews of the product.
7. In admin side, the overall analysis of product reviews is displayed. Classification of type of review is done.

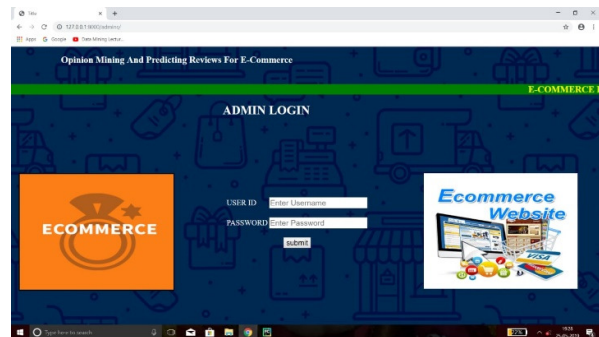


Fig. 2 Admin login

Case I: Login

1. If the Admin is not registered then first of all registration should be done.
2. Admin should login first and then make the content available to users.

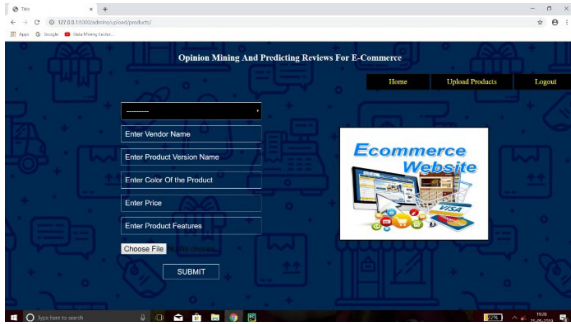


Fig. 3 Admin add product and its specifications.

- **Buy the product**

User shall buy the product, and add information about address and other payment options needed.



Fig. 6 Buy the product

Case II: User Login

1. The User should register first and then login.

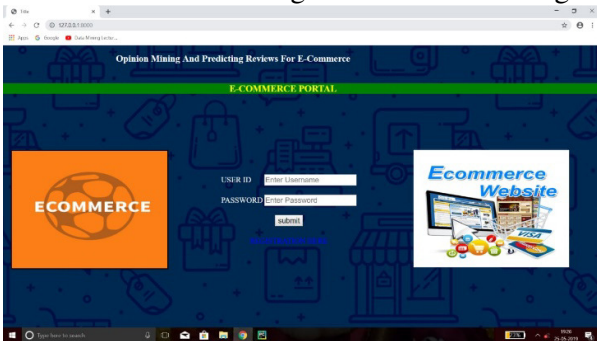


Fig. 4 User login

- **User add reviews**

User shall add ratings and reviews related to the product purchased.

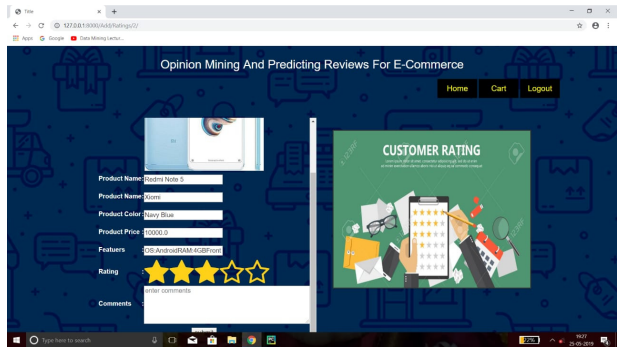


Fig. 7 Add ratings and reviews.

A. Product buying and rating

- **View the products**

The User will access all the products, see the description and will choose the product to buy.

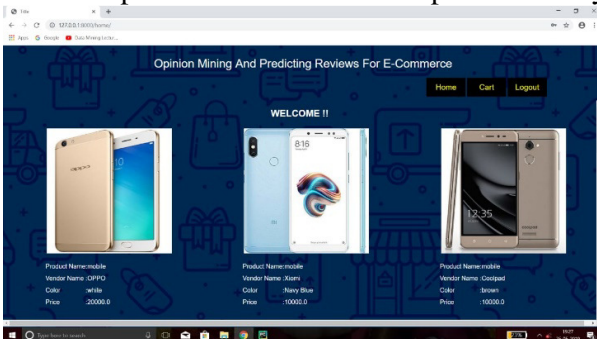


Fig. 5 Display: product descriptions.

- **Result**

The overall analysis of the reviews given by user is done. Also the classification of reviews in case of positive and negative is done.

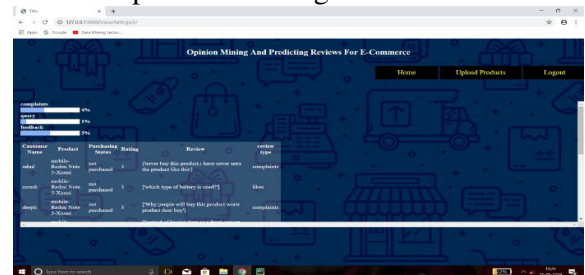


Fig. 8 Display: Review analysis (admin side)

quality, cost and more to satisfy the user requirements.

IV. ADVANTAGES

A.ADVANTAGES

- Easy to use and requires no special training or equipment.
- It is not same in the case of twins also.
- High accuracy in terms of security.
- No manual errors.
- No false intrusions
- Relatively low cost.
- Maintenance of time.

APPLICATION

- Opinion mining for restaurant reviews.
- To know popularity of any events.
- Tourism industry in the nation
- Reviews for product marketing.
- Presidential Elections

V. CONCLUSIONS

In this paper, we have proposed a framework to predict the best product in the e-commerce website by taking all the important aspects and opinions given by various customers. The framework mainly contains five components, i.e., product feature identification, opinion collecting, opinion mining, classification, and Product Rating.

We utilize the Pros and Cons opinions for improve the feature identification and opinion classification on text reviews. We then developed an aggregate ranking algorithm to summarize the importance of various features of a product from numerous users' reviews. The algorithm simultaneously inspects the aspect frequency and the influence of customer opinions are given to each feature over collected opinions.

More over in this paper we implemented the comparison of products belonging to only one website, In future we will enhance this work to implement in comparing the product in different websites in order to get the best product with good

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