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Customer Reviews on Through Online and Feedbacks Using Customer Relationship Management Process

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Abstract:

Customer satisfaction is the lifeline for the growth of any organization. Now a days, basic concept of marketing is not selling the product to customers but it is to reach to the hearts of the customers so that they can feel a sense of belongingness with the organization. The organizations and individuals having right access to the right information at the right moment of time will be the one to survive. In spite of having ever growing data bases the problem is that the organizations fail to fully capitalize the true benefits which can be gained from this great wealth of information, as they are not able to extract valuable information from these huge data bases. The solution lies in the use of Data Mining tools for customer segmentation and profitability, marketing and customer relationship management. This paper throws light on the underlying technology and the perspective applications of data mining in customer relationship management.

Keywords **— Economic Growth, Data Mining, Risk Management, CRM.**

INTRODUCTION

With the rapid expansion of e-commerce, more and more products are sold on the Web, and more and more people are also buying products online. In order to enhance customer satisfaction and shopping experience, it has become a common practice for online merchants to enable their customers to review or to express opinions on the products that they have purchased. With more and more common users becoming comfortable with the Web, an increasing number of people are writing reviews. As a result, the number of reviews that a product receives grows rapidly. Some popular products can get hundreds of reviews at some large merchant sites. Furthermore, many reviews are long and have only a few sentences containing opinions on the product. This makes it hard for a potential customer to read them to make an informed decision on whether to purchase the product. If he/she only reads a few reviews, he/she may get a biased view. The large number of reviews also makes it hard for product manufacturers to keep track of customer opinions of their products. For a product manufacturer, there are additional difficulties because many merchant sites may sell its products, and the manufacturer may (almost always) produce many kinds of products. In this research, we study the problem of generating feature-based summaries of customer reviews of products sold online. Here, *features* broadly mean

product features (or attributes) and functions. Given a set of customer reviews of a particular product, the task involves three subtasks: (1) identifying features of the product that customers have expressed their opinions on (called product features); (2) for each feature, identifying review sentences that give positive or negative opinions; and (3) producing a summary using the discovered information.

Our task is different from traditional text summarization in a number of ways. First of all, a summary in our case is structured rather than another (but shorter) free text document as produced by most text summarization systems. Second, we are only interested in features of the product that customers have opinions on and also whether the opinions are positive or negative. We do not summarize the reviews by selecting or rewriting a subset of the original sentences from the reviews to capture their main points as in traditional text summarization. Our task is performed in three main steps:

(1) Mining product features that have been commented on by customers. We make use of both data mining and natural language processing techniques to perform this task. However, for completeness, we will summarize its techniques in this paper and also present a comparative evaluation. (2) Identifying opinion sentences in each review and deciding whether each opinion sentence is positive or negative. Note that these opinion sentences must contain one or more product features identified above. To decide the opinion orientation of each sentence (whether the opinion expressed in the sentence is positive or negative), we perform three subtasks. First, a set of

adjective words (which are normally used to express opinions) is identified using a natural language processing method. These words are also called opinion words in this paper. Second, for each opinion word, we determine its semantic orientation, e.g., positive or negative. A bootstrapping technique is proposed to perform this task using Word Net . Finally, we decide the opinion orientation of each sentence. An effective algorithm is also given for this purpose. (3) Summarizing the results. This step aggregates the results of previous steps and presents them in the format

I. IMPLEMENTATION OF SENSOR NETWORK

1. User login

This is user login module. Here User can login if registered early. Otherwise Register their details and login to this module. In registration module user can get the user name and password to access their account.

2. Admin Login.

This is administrator Login module. In this module Admin can login using their username and password. Admin can login here and view the product purchase details and Customer feedback. Admin can update the product details for customers.

3. View product/purchase details.

In this module Admin can view the purchase details and user can view the product details. Product details module have the details about product name, product model and price details. Purchase details module have the product name, no. of product to be sell,

product purchase date, product price details.

4. Product Updating

In this module admin can update the product details for customer. Admin can view the user feedback for change the product categories. Feedback module can be very useful to admin for updating their product information.

DISCUSSIONS
RESULT ANALYSIS

The semantic classification of reviews available training corpus from some Web sites, where each reviews already has a class (e.g., thumbs-up and thumbs-downs, or some other quantitative or binary ratings), they designed and experimented a number of methods for building sentiment classifiers. They show that such classifiers perform quite well with test reviews. They also used their classifiers to classify sentences obtained from Web search results, which are obtained by a search engine using a product name as the search query. However, the performance was limited because a sentence contains much less information than a review. Our work differs from theirs in three main aspects: (1) our focus is not on classifying each review as a whole but on classifying each sentence in a review. Within a review some sentences may express positive opinions about certain product features while some other sentences may express negative opinions about some other product features. (2) The work in does not mine product features from reviews on which the reviewers have expressed their opinions. (3) Our method does not need a corpus to perform the task. Compare reviews of different products in one category to find the reputation of the target product.

However, it does not summarize reviews, and it does not mine product features on which the reviewers have expressed their opinions. Although they do find some frequent phrases indicating reputations, these phrases may not be product features (e.g., "doesn't work", "benchmark result" and "no problem(s)"). In discuss opinion-oriented information extraction. They aim to create summary representations of opinions to perform question answering. They propose to use opinion-oriented "scenario templates" to act as summary representations of the opinions expressed in a document, or a set of documents. Our task is different. We aim to identify product features and user opinions on these features to automatically produce a summary. Also, no template is used in our summary generation.

II. PROPOSED IMPROVEMENTS

The system performs the summarization in three main steps (as discussed before): (1) mining product features that have been commented on by customers; (2) identifying opinion sentences in each review and deciding whether each opinion sentence is positive or negative; (3) summarizing the results. These steps are performed in multiple sub-steps. Given the inputs, the system first downloads (or crawls) all the reviews, and put them in the review database. It then finds those "hot" (or frequent) features that many people have expressed their opinions on. After that, the opinion words are extracted using the resulting frequent features, and semantic orientations of the opinion words are identified with the help of WorldNet. Using the extracted opinion words, the system then finds those infrequent features. In the last two steps, the

orientation of each opinion sentence is identified and a final summary is produced. Note that POS tagging is the part-of-speech tagging from natural language processing, which helps us to find opinion features. Below, we discuss each of the sub-steps in turn.

In this research, we study the problem of generating feature-based summaries of customer reviews of products sold online. Here, features broadly mean product features (or attributes) and functions. Given a set of customer reviews of a particular product, the task involves three subtasks: (1) identifying features of the product that customers have expressed their opinions on (called product features); (2) for each feature, identifying review sentences that give positive or negative opinions; and (3) producing a summary using the discovered information.

VI. FUTURE ENHANCEMENT

In our future work, we plan to further improve and refine our techniques, and to deal with the outstanding problems identified above, i.e., pronoun resolution, determining the strength of opinions, and investigating opinions expressed with adverbs, verbs and nouns. Finally, we will also look into monitoring of customer reviews. We believe that monitoring will be particularly useful to product manufacturers because they want to know any new positive or negative comments on their products whenever they are available. The keyword here is new. Although a new review may be added, it may not contain any new information.

V. CONCLUSIONS AND FUTURE DIRECTIONS

In this paper, we proposed a set of techniques for mining and summarizing product reviews based on data mining and natural language processing methods. The objective is to provide a feature-based summary of a large number of customer reviews of a product sold online. Our experimental results indicate that the proposed techniques are very promising in performing their tasks. We believe that this problem will become increasingly important as more people are buying and expressing their opinions on the Web. Summarizing the reviews is not only useful to common shoppers, but also crucial to product manufacturers.

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