

*Determination of Telecom Customers
satisfaction from their Personality Traits using
Natural-language understanding and SVM*

Keroles magdy

Student of Information Technology
Department. Faculty of Computers and
Information. Beni-Suef University.

Ammar Adl

Doctor of Multi Media Department. Faculty
of Computers and Information. Beni-Suef
University.



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Abstract

This paper covers the affect of combination among three stages of the machine learning techniques, personality psychology and feedback system to measure satisfaction with high accuracy. Based on understanding the emotions behind customer's replies on conversation with expert chatbot

Keywords

Satisfied Customer, Dissatisfied Customer, Personality Traits, Natural Language Understanding, Tokenization, Customer Support, Telecom Companies, Customer understanding, Text analyzer, Service Quality.

Introduction

Marketing is one of the main departments in any telecom company, it helps spread services around the world to reach the target people

Relationship between marketing and customer satisfaction
this can help companies to increase the customer loyalty so maybe they're doing some marketing about the company's services between them without making any significant effort for the good quality of the service provided.

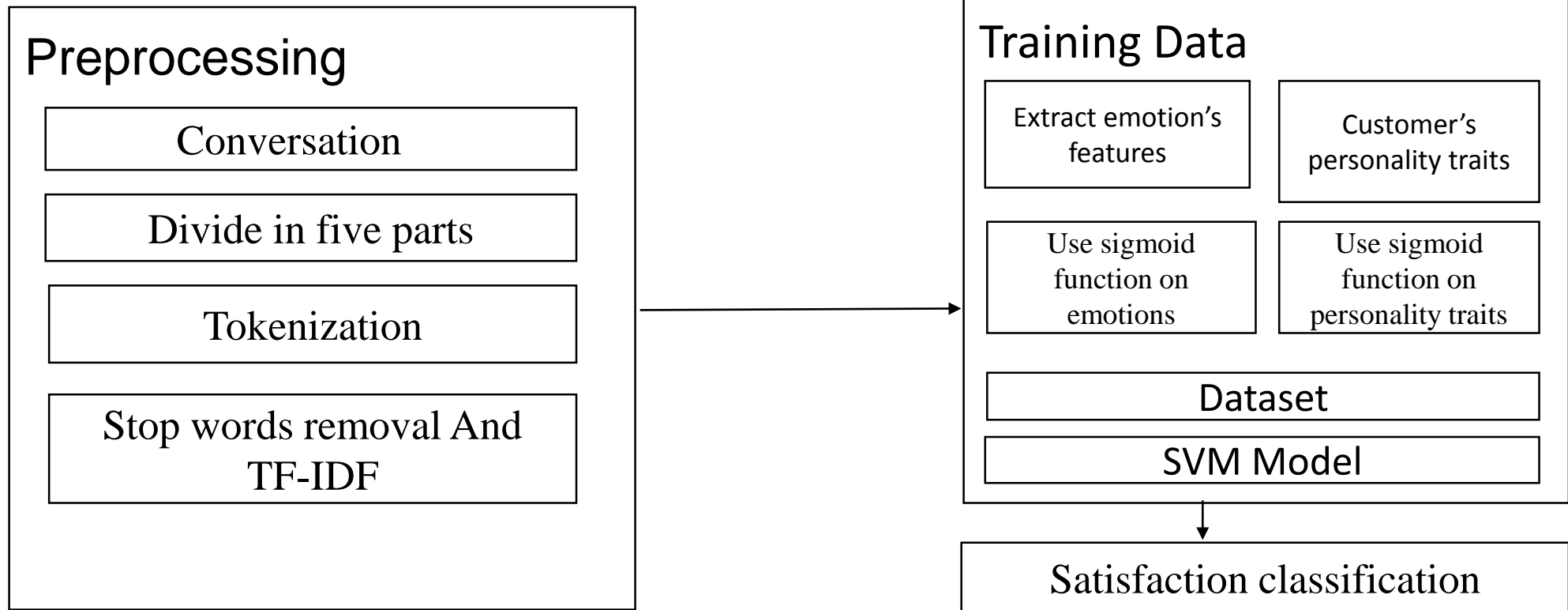
Related Work

- trying to examine the relationship between the personality of the agents and the customer perception on the service quality
- Another tried analyze which agents' traits influence on the customers satisfaction
- how to predict the customers behaviors to the services that are provided to him

Material & Methods

- Personality traits
 - predicted from customer's replies using personality Insights (IBM)
- Natural Language Understanding (NLU)
 - understand what customer emotions
- Dataset Collection
 - collected from different sources from internet free social media pages(Facebook, twitter)

Material & Methods



Results

.it was about 90% of the total customers who successfully measured their satisfaction. We change in the divided parts of the conversation and give us difference accuracy.

By changing the algorithm, we get a different accuracy. In this case, the accuracy was presented by SVM (linear) algorithm with an accuracy of 90%

Benchmarked

For prove this result, we tested the same conversation replies on tone analysis service provided by **IBM** that can give us a satisfaction tone of text. The following chart shows the different between accuracy using different conversations lengths in number of words.

Conclusion

This work provided an approach that can answer two important questions that help the Telecom services to increase the customer satisfaction and thus securing competitive leads; can satisfied customers be classified based on data which produced during a service visit? Can the satisfaction indicators be derived from service process data? In the presented.

Future work

There are suggested direction to continue this work in the future, first is to add the service prediction for any customers based on his personality traits and service features , this work will be implemented by using RNN.

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Thank You