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SentScore: Autonomous Text Sentiment scoring and Summarizing System related to Complaint Management

Sharanjaa Senthurvelautham
Department of Computing Informatics Institute of Technology Affiliated with University of Westminster
Colombo, Sri Lanka
sharusenthu@gmail.com

Saman Hettiarachchi
Department of Computing Informatics Institute of Technology Affiliated with University of Westminster
Colombo, Sri Lanka
saman.h@iit.ac.lk

***Abstract*— In traditional markets, customer complaints are considered as an important source of information. Since complaint management is recognized as a central for customer satisfaction, any measure of complaint behaviour should consider the degree and quality of the underlying customer satisfaction. Therefore, analyzing customer complaints is part of the process of a business. A prompt, reasonable and efficient response to a complaint can win you a loyal customer, and develop your business's reputation for top quality service. This project would be analysing customer complaints, in order to improve customer experience.**

As the solution to solve this issue, the proposed solution would address issues with respect to consumer complaint data in a textual format (complaint by phones), which are identified with the IT field (Technical Support Complaints). Furthermore, literary data written in English dialect will be considered. Moreover, SentScore ought to be savvy enough to interpret data identified with complaints efficiently and effectively, classify and analyse sentiment score precisely, summarise them into aspects, and distinguish how the customer feels about those aspects.

With this proposed solution the Customer Complaint Operators are able to extract a summarized analysis of the complaint solution by assigning weights to the complaint and aspects including Internet, Television and Facility, which are the main aspect categories considered when analyzing the customer complaint. The system makes utilization of Natural Language Processing, Machine Learning and Sentiment Analysis concepts, to provide the highest accurate sentiments or opinions expressed by the customer in complaints, to present the end users with accurate and effective summarized outcome of the customer complaints and aspect of it.

Key Words- Natural Language Processing, Machine earning, Aspect Based Sentiment Analysis, Text Processing, Complaint Data

I. INTRODUCTION

Consumer discussions in Web 2.0 are an important source of data for organizations. Organizations are curious to know about customers' needs, interested to gather their opinion about products or features, and to know about the reputation of the organizations in the market. Also, customers have more power than before. If customers have a positive experience, they will share this experience with friends, family and connections, which can lead to turning new business, all at zero cost. But if company fails to provide a positive customer experience, customers will complain. Therefore, organizations need to consider customer complaint behaviour for their products/services.

Therefore, Understanding the complaining process is essential. Figure 1 maps out various phases of the customer experience for the simple case of newspaper subscription. The customers mostly have the accompanying types of communications [9]:

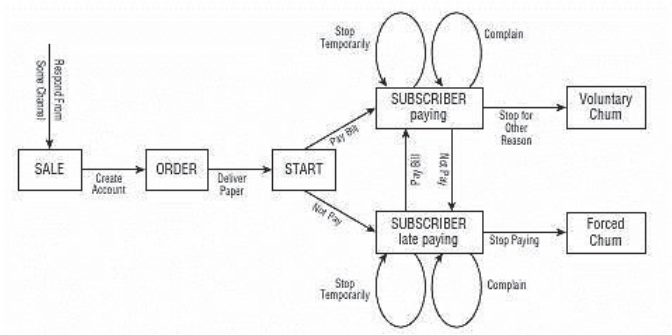

Fig 1: Type of Customer Interactions

Furthermore, companies generally expect customer complaints of any sort to be imperative pointers of unacceptable execution. Without a customer's feedback, the organization will be unaware of the issues. Lau and Ng identified that, dissatisfied customers who complained had a remarkable re-purchase conception than the customer who did not complain [8]. Moreover, previous researchers have also proved that many unfulfilled customers favor to change suppliers or brands and tell their connections about the bad experience, rather than complaining or raising the issue to organizations. Bearing this in mind, it can be concluded that Customer Complaint Management needs serious advertence.

Customer complaint behavior is an essential area of research, which contacts with the analysis and identification of the aspects related to customer feedback to a service or product defeat, and the recognized dissatisfaction.

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