


Chapter 71

Using E-Reputation for Sentiment Analysis: Twitter as a Case Study

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ABSTRACT

In a competitive world, companies are looking to gain a positive reputation through these clients. Electronic reputation is part of this reputation mainly in social networks, where everyone is free to express their opinion. Sentiment analysis of the data collected in these networks is very necessary to identify and know the reputation of a companies. This paper focused on one type of data, Twits on Twitter, where the authors analyzed them for the company Djezzy (mobile operator in Algeria), to know their satisfaction. The study is divided into two parts: The first part was the pre-processing phase, where this research filtered the Twits (eliminate useless words, use the tokenization) to keep the necessary information for a better accuracy. The second part was the application of machine learning algorithms (SVM and logistic regression) for a supervised classification since the results are binary. The strong point of this study was the possibility to run the chosen algorithms on a cloud in order to save execution time; the solution also supports the three languages: Arabic, English, and French.

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1. INTRODUCTION

Nowadays, given the strong competition and the diversity of the products offered, each company focuses on its image and its impact in the market. In order to attract the most customers and increase its turnover, the company's reputation on the web in general, and social networks more precisely, is a factor. And its success depends heavily on it. To maintain a good E-Reputation, the economic structures study and analyze the number of positive and negative opinions on their companies, products and services.

E-Reputation is a concept that has emerged as a result of the evolution of web 2.0 and interactions. Of Internet users. According to Digimind: The Leading Social Media Listening and Analytics Solution, a specialist in business intelligence software (Tran, 2019), E-reputation is "the perception that Internet users have of your company, your brand or people who collaborate (managers, employees) and which is potentially visible on many supports of the net" (Uikey & Bhilare, 2017). 66% of consumers seek advice before buying a product and 96% seek advice before buying a product are influenced by the E-reputation of a brand during a purchase. From the moment companies became aware of the importance of mastering their E-Reputation, the construction of a strategy to manage their E-Reputation became a key element for their communication. However, companies must face the lack of control over Internet users' conversations on the web and as a result, the fear of a crisis on the net is growing because, faced with real-time information relays and the resulting chain reactions (Louisot & Girardet, 2012), An on-line crisis can have a catastrophic and devastating effect on a company's e-reputation, but also on its turnover. Companies must then analyze any data that may impact their E-reputation (Pan, 2011). It is in this context of E-reputation that our work is part of it.

In our project, we propose a case study at the level of a telecom leader in Algeria, namely: Djezzy the aim is to analyze the different opinions that are in the form of comments found on social network: Twitter, use Automatic Learning (Tran, 2019) and Data Mining techniques (Tran, 2019) To detect strengths and anomalies of the company, and create a dashboard offering an overview of its E-reputation (positive or negative) and its distribution by geographical area. The proposed solution can be implemented on a Cloud server for various advantages, such as execution time, storage capacity and above all ease of access, for which a solution based on cloud computing is highly recommended.

2. BACKGROUND

In this section, we present the principle of E-reputation and sentiment analysis

2.1. E-Reputation

Boistel (2008) reminds us that two theoretical trends contribute to the definition of reputation. A first approach consists in considering that reputation results from the different images of the company (Fombrun, (1996)), from the perceptions that all stakeholders develop (Davies et al., 2002; Chan et al., 2006). The second posits that reputation is "a reflection of the history of accumulated perceptions of observed identity and experiences". Whatever the approach chosen, it emerges that the reputation of an object (company, brand, and product) is built through the different signals emitted by the object, the experiences that each member of the stakeholders has lived in relation to this object. This last point is fundamental (Boistel (2008)).

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