

# Chapter 1

## Review on the Application of Lexicon–Based Political Sentiment Analysis in Social Media

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### ABSTRACT

*This chapter presented an analysis of the application of lexicon-based political sentiment analysis in social media. The aim is to identify the most frequently used lexicons in political sentiment analysis, their results, similarities, and differences. For this, the authors conducted a systematic literature review based on PRISMA methodology. Afinn, NRC, and SenticNet lexicons are tested and combined for data analysis from the 2020 U.S. presidential campaign. Findings show that political sentiment analysis is a new field studied for only 10 years. Political sentiment analysis could generate benefits in understanding problems such as political polarization, discourse analysis, politician influence, candidate profiling, and improving government-citizen interaction, among other problems in the public sphere, enhanced by the combination of lexicons and multimodal analysis. The authors conclude that polarity was one of the critical dimensions identified for finding variations in the behavior and polarity of sentiments. Limitations and future work also are presented.*

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## **INTRODUCTION**

Opinion mining and sentiment analysis has been applied to different areas of knowledge such as marketing, business, finance, and political contexts (Bing et al., 2012; Charalabidis et al., 2015; Valle-Cruz, Lopez-Chau, et al., 2021; Vinodhini & Chandrasekaran, 2012; Wang et al., 2020). Sentiment analysis allows identifying polarity in social media posts, inherent emotions in texts, images, videos, facial, and body expressions. Specifically, in social networks such as Twitter and Facebook, the analysis of polarity has been widely studied. However, some other classifications and models allow a multimodal analysis to determine different dimensions of emotional charges (Cambria et al., 2020; Valle-Cruz, Lopez-Chau, et al., 2021). Sentiment analysis, a neuralgic technique in natural language processing (Bing, 2012), is useful for social media analysis in different kinds of applications. These applications include prediction, profiling, emotion, sentiment analysis, polarity, and preference detection (Chau et al., 2021; López-Chau et al., 2020; Sandoval-Almazan & Valle-Cruz, 2020; Valle-Cruz, Fernandez-Cortez, et al., 2021), among others. Regarding the political context studies, from different perspectives, such as public policy, public administration, political campaigns, political communication, and discourse ideology; the analysis of conviction, polarization, as well as the emotions and biases generated are vital to understanding the phenomenon under study and its possible consequences (Rhodes, 2014; Riggs, 1965). In recent decades, the debate generated in social media around the political sphere has gained importance. Throughout the world, candidates use social networks to interact with citizens, express their ideology and promote their campaign promises. Although it is still necessary to campaign in the traditional way - not only virtually - but it has also become relevant to monitor the users' behavior towards the events that happen in the political scene. Political sentiment analysis makes it possible to identify the moods, sentiments, emotions, preferences, and impressions of potential voters in an electoral campaign (Anwar et al., 2021; Sandoval-Almazan & Valle-Cruz, 2020; Valle-Cruz, Lopez-Chau, et al., 2021).

Citizens' sentiments during political campaigns mediate between indifference, distrust, disinterest, hopelessness, anger, empathy, and joy. It is necessary to understand how these sentiments are dealt with, how they emerge, before which realities they are established, in which situations, and how they affect people. Sentiments move people to moral life and not reason. Decision-making and morals are expressions of the pleasure and joy that the pursuit of human happiness brings. Moral and political actions do not depend on reason but depend on the desires, passions, and affections of human beings. This does not mean following Hume's postulates (2004), that we cannot reason about the passions. Citizens acquire a sense of the public when reject -indignation- all those selfish actions that lead to sadness and feel happiness for those actions that bring about a greater good (Hume, 1989). Concern for the common good is a sign of the search for a good and dignified life. Sentiments express the vulnerability and rejection people feel in the face of any situation that shows moral harm. In other words, the preferences, approbations even the indifference of human beings in the face of misfortunes or the violation of rights erode or exalt the sentiments. Sentiments such as irritation and anger are closely related to situations of vulnerability in which people recognize the harm experienced. Sentiments express beliefs and generate reactions, finding a communicative and performative character (Nussbaum, 2006). For this reason, to create fear, a politician must convince the audience that bad things will happen and that such events cannot be prevented. Furthermore, if he/she seeks to generate anger, he must convince the audience that they have caused harm voluntarily and unjustly. The adoption of social media in the political context created a megaphone for political expression and communication, leading to the citizens' emotional exaltation and polarization, as well as the dissemination of subjective information.

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