WeGov Toolbox - Politicians engage with Citizens

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The WeGov[5] toolbox is a website for policy makers that provide tools and techniques to engage with citizens on well-established social networking sites (SNS). Three different analysis components allow users and comments to be identified with respect to a particular topic: (i) the topic opinion analysis creates groups of words that represent the topics within a discussion; (ii) the user activity analysis predicts which posts are going to generate more attention; (iii) and the user behavior analysis classifies users according to their behavior and interactions within the SNS.

1. WeGov Toolbox

The WeGov toolbox is a web application to support policy makers' everyday interactions with citizens on SNS. Politicians login with a username and password to see the landing page showing updated search and analysis results in a set of widgets that can be customized around topics and groups of their choice. In addition to widgets on the landing page, the toolbox supports a search page with further functionalities and detailed search and analysis results.

1.1 Topic Analysis

The topic analysis identifies groups of words that represent several areas of discussions that arise within a wider debate. This analysis is used for re-sorting individual comments and users into the different groups of words. Each group of words composes one topic. For each topic approximately three users (key users) and three comments (key posts) are displayed. The characteristic of key users and key posts is that they strongly refer to these topics. The analysis considers content related factors such as word frequency and the use of hash tags (#). Non content-related factors such as the number of re-tweets are ignored. [2,5]

1.2 Discussion Activity Analysis

The purpose of this analysis is to predict which posts are expected to generate more attention. The results of our analysis indicate that in order to generate attention the content of the post is more important than the reputation of the user within the SNS. In particular, the posts that generate high levels of attention generally fit the following characteristics: not written in the afternoon, written in a familiar language (the readability is high and the information content is rather low), written by people who follow many users and listen what they say (high out-degree), the statement tends to be negative (stronger negative polarity). In the WeGov toolkit

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the output of this analysis is translated into top posts to watch. The top users to watch are computed by adding the scores of the top posts for each user. I.e., the top users generate more top posts (post that are likely to generate higher levels of attention). [3,4]

1.3 User Behavior Analysis

The purpose of this analysis is to classify users according to their behavior and interactions within the SNS. For this analysis we only use user features, in-degree, out-degree and the properties of user participation in the information (number of posts, length of use, and frequency of posts). Within WeGov the following groups are considered: broadcaster, information source, daily user, information seeker, rare poster. According to these behavioral characteristics, the most influential and engaged role is the Information Source. [1]

2. Policy Maker Engagement

During the design of the WeGov toolbox policy makers' have been engaged in almost all phases of the development process. Hereby the challenge is to join the politicians' needs with the technical feasibility of the analysis components. Therefore the methodology of software prototypes and semi-structured interviews is applied. Currently the following groups are engaged: members of parliament (MP) or the MPs staff from the EU Parliament, the German Bundestag, the State Parliament NRW in Germany and parties and cities as well. The resulting requirements are related to identifying comments, groups and users with respect to a particular topic (e.g. nuclear power) and a geographical restriction on search results (e.g. constituency), as well monitoring discussions, topics and groups [6].

3. Workshop Objectives

The workshop aims to present the final WeGov toolbox to the scientific community of e-government and e-governance to explore potential use cases and end user groups that can be addressed in the future.

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