

Political echo chambers on Belgian Facebook pages

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From the idealized Habermasian public sphere to the criticized "echo chambers": online public forums are often described as spaces where a potential democratic ideal can unfold. In this research we mobilise data scraped from the social networking site Facebook to construct two interlinked data-sets, in order to investigate the political diversity of online discussions before the 2014 federal Belgian election. At first, a bipartite network made of 800 pages from the political parties and its users is constructed. Then, by means of the *Louvain* community detection algorithm, users' political orientation is proxied by their *liking* pattern.

The main analysis happens on a second data-set, made of 22 Facebook pages from common Belgian newspaper, where 18% of the users are common with the previous political network. We measured the *ideological diversity* of each post on the media pages, defining a new metric based on the entropy of the distribution of community assignments for these previously identified users. Finally, the diversity index is used as the independent variable in a multilevel model, where posts are at the first level and pages are at the second.

The results show small but significant differences between pages whereas most of the inner variance is explained through user metrics (number of unique user, amounts of likes, amounts of shares); however, posts categorized as political lead to a small decrease in the ideological diversity of the commenting users, reflecting a small but significant echo chamber effect.