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Analysing the Brexit Debate on Twitter: Insights from Graph Theory and Network Analysis

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The present study focuses on the online debate surrounding the Brexit process, five and a half years after the historic referendum that sanctioned the United Kingdom's exit from the European Union. The contentious and polarising nature of the debate, with passionate arguments and little room for compromise or consensus, make it an intriguing case for examination. In our analysis, to explore the evolution of the debate, we employ graph and network theory to analyse a corpus of over 33 million Brexit-related tweets exchanged on Twitter between December 31, 2019, to February 9, 2020. In this context, graph theory provides a powerful analytical framework for discovering patterns of association between words and topics, which may then be further examined to uncover clusters of often co-occurring terms indicating the most important themes. More specifically, in our work, we use cluster analysis of co-occurrence word networks to investigate the corpus of the Brexit debate on Twitter. The necessity to quantify network similarities poses considerable theoretical challenges. To address these issues and to effectively deal with the networks' geometrical constrains, we adopt a recently established framework for statistical analysis of manifold data. Overall, this research demonstrates the power of modern analytical methods for analysing social media data and understanding public conversation. The findings may provide fresh insights into the communication and discourse patterns that underpin political decision-making, with consequences for policymakers and researchers alike.

Keywords

Brexit, online debate, Twitter, network analysis, cluster analysis, co-occurrence word networks

Topics

Textual data analysis and network methods

Primary author(s): CUCCO, Alex (Imperial College London); PRONELLO, Nicola; Mr. DEL GOBBO, Emiliano

(Università di Foggia.)

Presenter(s): CUCCO, Alex (Imperial College London)

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