



MULTIDIMENSIONAL NETWORK ANALYSIS APPLIED TO INTERNET AND POLITICS: CO- AUTHORSHIP, EXAMINING COMMITTEES AND BIBLIOGRAPHICAL REFERENCES NETWORKS

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Is Internet & Politics a specific research field or just a subtheme diluted in diverse communication and politics agendas? To answer questions like this one, the Thesis and Dissertations Directory at the Brazilian Association of Political Communication Scholars has been turning information on digitalized Brazilian postgraduate works dealing with Internet & Politics in structured data, making it possible to cross information about all institutions, supervisors, authors and co-authorships, Examining Committees, years of publications, bibliographies, languages, geographical location and themes involved, and also making it compatible with other datasets about the supervisors, publications and researchers identified, enabling future big data analysis. This research brings the preliminary result from the analysis of (a) 17,714 bibliographical references involving more than 6,500 different authors and 240 other sources, identified in 119 graduate thesis and dissertations dealing specifically with Internet & Politics (94 of them being master dissertations and 22 doctoral thesis) with a view to understand how Internet & Politics research took shape in Brazil between 2000 and 2017; and (b) the cross-institutional network that shape this field, obtained crossing invitations to researchers from different institutions made

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by supervisors in 139 Examining Committees of thesis and dissertations involving 65 different Graduate Studies institutions.

More than quantitative, this dataset is relational, allowing the composition and visualization of multidimensional network graphs (graphs where each sort of connections compose its own network in a parallel layer involving the same actors) with relations between bibliographies, supervisors and institutions subjected to network analysis and text mining. The present network has three different layers: authors of bibliographical references are connected with each other by collective productions, composing a co-authorship network; the references that are used to support thesis and dissertations supervised by Brazilian researchers compose the bibliographical references network, connecting supervisors and all bibliographical references identified; the participation in Examining Committees involving thesis and dissertations about Internet & Politics connects supervisors with each other and their institutions in a bipartite cross-institutional Examining Committees network (the supervisor is connected with the institution in which the supervision occurs and the invited members bring their institutions when connected to the former). That means that all the data gathered is connected and any single actor could be located in its relations and connections with others.

Once the constitution of a field involves shared paradigms, frameworks and references, we first give attention to the distribution of references to check for authors shared by most thesis and dissertations, considering the percentage of works in which they are mentioned, both in Internet & Politics and specific correlated themes. Then we compare the percentage of works reached and the number of mentions in general, differentiating thesis and dissertations. Authors present in more than 50% of thesis and/or dissertations, and simultaneously among the ten quantitatively most mentioned bibliographical references, will be the focus of this preview. They will be called main references.

We check which works are more cited, looking for possible concentration of references in few popular productions by comparing which of their productions are cited as reference and how frequently and its percentage in relation to other references to the same author. Authors could also reach large numbers with loads of productions cited just once in



specific thesis and dissertations, not necessarily helping to achieve common references. To check if that happens with the authors selected, we will check the difference between total productions and the ones mentioned just once. We also check the distribution of authors through Units of the Brazilian Federation, to identify possible relations between geography and bibliography.

The connections between those references and different supervisors could be seen and analyzed in the bibliographical references network, and the connections established between authors through collective publications link most of them in a co-authorship network. To understand the relative impact of national and international references in graduate studies we need to consider the languages involved and how it shapes the influence of different researchers, considering that we check the languages of main references works mentioned and how language variation of all references across time.

Finally, considering the institutional links identified in invitations for researchers in different Examining Committees, we check which researchers participate more in Committees: as supervisors presiding the Committee (potentially selecting more links to be made); as cross institutional links (invited to be a member in Committees on different universities); and as invited Committee member (independently of the institutions involved).