

Detecting social structures using library loan data

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Library loan data provides information about the how the individuals interact with the library collection forming a new data source to study the reading culture. Currently this data source has not yet been exploited and this paper demonstrates the possibilities of social network analysis in detecting social structures and relations between the books.

Social network analysis is based on graph theory characterizing networked structures in terms of nodes (individual actors, people, or things within the network) and the ties, edges, or links (relationships or interactions) that connect them.

The hypothesis in this study is that simultaneous book loans by the same individual indicates a relationship between the books. By analysis of library loan data it is possible to identify simultaneous loans and generate a networked structure where the books represent nodes that are connected with relationships.

Analysis of this networked structure generates new information about how the network as a whole is operating, reveals the degree to which the network is focused on one or a few nodes, and identifies book clusters.

In the first part of this study the Social Network analysis is verified as research method by using a limited dataset containing Magazine and Travel book loans. In the second part of the structures of the novels, romans and fiction books are analysed more closely to identify central or essential books, book clusters in the network, and those books serving as bridgers in the network.

The contribution of this work is to demonstrate the potential of the social network analysis as a methodology to provide new kind of information about the structures and relationships between the books and their readers.