

Abstract

Generally Twitter is social media that used to dissemination of information. If known who was the most influential user on Twitter in a certain group, then it will facilitate the dissemination of information in it. We can know the highest Twitter user influence (centrality/importance) by calculating follow, mention, and reply relation that occurs between the user by using the method of centrality measurement in social network analysis (SNA). Laplacian centrality (LC) is one of the centrality measurement method that not only takes into account the local environment immediately around it (local) but also a bigger environment around its neighbors (global). However, to obtain the appropriate results with the state of existing networks and relation, then used the weighting with PAI which will compare the value of weight relation with the total relations that user owned. Implementing PAI in LC will affect the user's ranking results when compared with the results of LC without PAI implementation as well as the addition of weight value of certain relations between the users. Using PAI in LC can be applied to an undirected-weighted graph to determining the most influential user in the dissemination of information in a certain group on Twitter based on the highest LC value.

Keyword: *Laplacian centrality, Probabilistic Affinity Index (PAI), Social Network Analysis (SNA), Twitter*