

Organizational Closeness Centrality Analysis on Workflow-supported Activity-Performer Affiliation Networks

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Abstract— This paper analyzes a special type of social networks, which is called ‘workflow-supported activity-performer affiliation network.’ A workflow model specifies execution sequences of the associated activities and their affiliated relationships with roles, performers, invoked-applications, and relevant data. Especially, these affiliated relationships exhibit a series of valuable organizational knowledge and utilize to explore business intelligence concealed in the corresponding workflow model. In this paper, we particularly focus on analyzing the affiliated relationships between activities and performers in a workflow model by measuring the organizational closeness centralities of performers as well as the organizational closeness centralities of activities. We devise a series of algorithms for analyzing the closeness centralities of activities and performers, and describe the ultimate implications of these analysis results as activityperformer affiliation knowledge in workflow-supported organizations.

Keyword— workflow-supported affiliation network, ICNbased workflow model, organizational closeness centrality, business process intelligence



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