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A Lifecycle Social Network Analysis Framework for BIM Adoption in Major Construction Projects

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This study presents a critical review and discussions on the need for a project lifecycle oriented social network analysis (SNA) framework to enhance the effectiveness and efficiency of adopting BIM as a socio-technical subsystem in major construction project delivery. The described research adopted literature review and technical analysis in the context of using SNA to support managerial performance enhancement in BIM pervasive major project environment, and to develop a lifecycle oriented SNA framework at strategic level for major construction project management. Based on a preliminary research, this study first provides information on how BIM adoption can interact with major construction project stakeholders in such a new socio-technical subsystem with regard to their needs, responsibilities, and possible contributions, and then presents a strategic framework to integrate SNA in major project management. The SNA framework presented here can inform further research and development with regard to managerial activities at tactical and operational level throughout the lifecycle of major construction project where challenges from BIM adoption, which has been forming a new socio-technical subsystem, need to be well tackled in major construction project delivery. The described research originally established a strategic framework for using SNA to enhance managerial performance in BIM pervasive major construction project management. This SNA framework is established through literature review and technical analysis in related areas, and can well inform further research and development to facilitate the adoption of this framework at tactical and operational level for project clients.

Keywords: *BIM, Social Network Analysis, Stakeholders, Major project.*