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Review

Metaheuristics for project and construction management – A state-of-the-art review

T. Warren Liao [a,*], P.J. Egbelu [a], B.R. Sarker [a], S.S. Leu [b]

[a] Department of Construction Management and Industrial Engineering, Louisiana State University, Baton Rouge, LA 70803, United States
[b] Department of Construction Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

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ABSTRACT

This paper carries out a detailed review of previous studies that employed metaheuristics to address problems/issues encountered in the life time of a construction or engineering project. The review is organized around critical problems/issues including engineering, cost estimation, planning, scheduling, and monitoring and control of project operations, with the objectives to optimize cost and time through the efficient uses of constrained or unconstrained resources. Metaheuristics are emphasized because they are especially suitable when approximate solutions are good enough in the case that the global optimum is either unknown or computationally too expensive to obtain it; both are characteristics of a typical large scale project. Based on the review, we offer our view of this research area and their potential for practical use. An attempt is also made to identify project management related topics where further advancement needs to be made.

Contents

* Corresponding author. Tel.: +1 225 578 5365; fax: +1 225 579 5109.
E-mail address: ieliao@lsu.edu (T.W. Liao).

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