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A Comparative Study of Construction Project Management Tools: Identifying Optimal Tool Combinations for Medium-Sized Architectural Firms in India

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Abstract

With the increasing complexity in project scales and scope in the construction industry in India, project processes are getting increasingly complex. Handling multiple projects at the same time adds further factors that require juggling multiple processes across numerous timelines. Due to the risk of error or disarray, at any step in the construction phase, while managing multiple stakeholders in multiple projects, it is realized that there is an undeniable need for organization and structure. Although most people devise their own systems and procedures, they may not necessarily be optimized, or made as efficient as possible. It is to offer a solution to those looking for such a solution, that this research is carried out. 10 tools and software, each across all 10 knowledge areas, will be considered and rated based on the respective set of criteria established for each of the knowledge areas. Each tool or software's performance will be compared for every knowledge area and then using a Multi-Criteria Decision Analysis (MCDA) methodology through the use of weighted averages, an optimal set will be found for every one of the 9 typologies of medium-sized architecture firms obtained from the proposed framework of classification of medium-sized architecture firms in India.

Key Words: Optimal Tool Combination; MCDA Evaluation Method; Knowledge Areas; Medium sized Architecture Firms