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Optimizing Design Works in Construction Consultant Company: A Knowledge-Based Application

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Abstract : The optimal construction design used during the execution of a construction project is a key factor in determining high productivity and customer satisfaction, however, this management process sometimes is carried out without care and the systematic method that it deserves, bringing negative consequences. This study proposes a knowledge management (KM) approach that will enable the intelligent use of experienced and acknowledged engineers to improve the management of construction design works for a project. Then a knowledge-based application to support this decision-making process is proposed and described. To define and design the system for the application, semi-structured interviews were conducted within five construction consulting organizations with the purpose of studying the way that the method' optimizing process is implemented in practice and the knowledge supported with it. A system of an optimizing construction design works (OCDW) based on knowledge was developed then validated with construction experts. The OCDW was liked as a valuable tool for construction design works' optimization, by supporting organizations to generate a corporate memory on this issue, reducing the reliance on individual knowledge and also the subjectivity of the decision-making process. The benefits are described as provided by the performance support system, reducing costs and time, improving product design quality, satisfying customer requirements, expanding the brand organization.

Keywords : optimizing construction design work, construction consultant organization, knowledge management, knowledge-based application
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