

MASTERFORMAT-BASED SYSTEM FOR EVALUATING THE PERFORMANCE OF CONSTRUCTION PROJECTS USING BACKWARD CHAINING

ABSTRACT:

Evaluating project performance is vital for practicing control over construction projects. Structured analysis of data to detect deviations is very crucial for efficient project evaluation. Limited research efforts were done to develop standard evaluation systems. Among problems that faced researchers is the uniqueness of construction projects. Moreover, work breakdowns of projects, even within the same construction category, are usually structured differently. Recently, standard work breakdown structures were introduced and become well-recognized throughout the industry. These structures offer a big potential to structure the analysis process and produce standard evaluation systems. Masterformat is a work breakdown structure that has been adopted by entities of the industry as the basis of coding product literature, organizing construction bids, and producing commercial cost estimating, cost accounting, and guide specification systems. This paper utilized Masterformat to structure and standardize the analysis process to evaluate performance of construction projects. Control ratios, which were previously developed in literature, were employed in the analysis to identify work items having potential problems at project micro level. Backward-chaining mechanism was used to automate the implementation of the standard analysis. This study presents a prototype for a potentially user-friendly, generic, and standard system that can be used to monitor construction projects.