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Title: A building cost estimation model based on cost significant work packages

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Abstract: Purpose - The objectives of this paper are to discuss the constraints stemming from the unstructured nature of the cost estimation practice in Turkey and introduce a generic computer aided building cost estimation model based on a cost significant technique for Turkish construction sector public projects in its detailed design phase. Design/methodology/approach - The research design was based on the simplified version of the bill of quantities method and a cost significant estimating model works on a cost database was suggested to overcome the problems. Underlying principles and basic steps of cost estimation based on cost significant work packages was explained by means of manual calculations. Findings - In order to automate the manual building cost estimation process, the software based on cost significant work packages was developed. Research limitations/implications - The software is currently in the testing phase and is being used for educational purposes. Making use of both public sector and current market prices in the cost estimation process, increasing number of projects stored in the database for more accurate results, estimating costs of different types of projects and calculating the cost significant value factor more precisely by using statistical techniques, those being employed by global cost models are suggested for future research. Practical implications - As the number of the similar projects in database is increased, the accuracy of the cost estimation is also increased. Originality/value - Estimators and graduate students can use the software to estimate building cost of public housing projects in its detailed design phase.

Keywords: Cost Allocation; Cost Estimates; Computer Applications; Construction Industry; Turkey

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