# ESTIMATING THE ACCEPTABILITY OF NEW FORMWORK SYSTEMS USING NEURAL NETWORKS

**ABSTRACT:**

Continual development in construction techniques results in emergence of specialized formwork systems. A new system will have to compete with in-use systems for adoption in a target operation. Thus, it is essential that decision makers anticipate the acceptability of new systems before making decisions to acquire. Estimating acceptability basically assesses how features of a new system are comparable to that of in-use systems. Therefore, analogy is a focal factor for acceptability estimating process. Neural networks (NN) are more suitable to model construction problems requiring analogy-based solutions. A NN-based approach was employed to anticipate the acceptability of new formwork systems. The study collected data from a group of 40 users in Egypt. A set of 6 performance characteristics that mostly pertain to acceptability estimating were identified. The study used analytical hierarchy process (AHP) to produce pairs of a performance characteristics' vector and the corresponding acceptability value, and utilized the developed pairs to train NNs. Finally, tests on trained NNs using unseen data indicated satisfactory performance.