SUMMARY

One glaring obstacle is the traditional way of evaluating bids by placing importance predominantly on product price and placing lesser consideration on other factors. Therefore, the contractors pay more attention to controlling their costs and perhaps also completing the works on time rather than attempting to achieve better quality all round to satisfy the client’s requirements.

This research proposes a competitive bidding system to overcome the obstacles caused by the traditional bidding evaluation method. It is based on Total Quality Management (TQM). The TQM approach to the bidding evaluation process can maximize the probability of project success to meet or even exceed the client expectation through its total approach. The successful bid will be selected by synthesized results considering all criteria, rather than solely one score i.e. relying on the price alone. In order to increase the chances of winning the contract, the contractors will therefore pay more attention to improve their integral competitiveness. By doing so, it promotes the environment to implement Total Quality Management in construction industry as well.

This research explores how the TQM can be applied to bidding evaluation. Among five principles of TQM, customer focus as well as team work and participation are found to be the most relevant for bidding evaluation. The bidding evaluation system recommended mainly includes the pre-qualification process, bidding evaluation process, and selection of contractor process. This system is expected to achieve the property of total approach in TQM adoption. The Analytic Hierarchy Process (AHP), a multiple decision-making model, has been selected as the decision-making model
for the evaluation method. AHP is a customer centered tool, which can transfer client needs and project requirements into judgment. It provides a simple and effective procedure to finalize the decision. In order to ensure that the final decision represents the opinion of all the team members, the consensus decision method is also used in the process of applying AHP model.

The system developed for selection of contractor is tested with a school project. Sensitivity analysis is also conducted to check the stability of the decision model. The bidder with lowest price has been found to rank last due to his weaknesses in other criteria. It can therefore be concluded that the lowest price bid does not necessarily mean the best-qualified bid. The system would thus exclude an unqualified bidder who will decrease the probability of project success if he is wrongly awarded the contract.