

## **A Decision Support System for Maximizing Contractor Actual Profitability**

### **Abstract:**

Contractors are always concerned with making decisions that increase competitiveness and profitability. Many techniques were developed to help contractors determine the optimum markup percentages to put in project bids. However, the actual profitability the contractor will be able to make at the end of the project is greatly influenced by the cost of financing. Overdrafts represent the most common method of financing construction projects. The maximum overdraft requirements, the interest rate applied to the overdraft, and the duration of the overdraft determine the cost of financing through overdrafts. The maximum overdraft depends on factors including the pace of work progress, amount of markup, amount of retainage, delay between billing and payment by the owner, bid unbalancing, and amount of the advance payment. In addition, the scope of subcontracting and material supply constitutes an important role on determining the maximum overall requirement. This paper presents a decision support system that help contractors make decisions and that maximize the actual profit at the end of the project. The system employs a financial analysis module to calculate and define the overdraft profile. Finally, the usefulness of the system is demonstrated through an example project.