

### **Fuzzy approach to streamline cumbersome in project cost management on construction sites**

The prime objectives of any construction contractor are to make reasonable profit in long run, goodwill, growth, prestige, client satisfaction and so forth. These objectives can only be achieved by ensuring a proper management of projects on hand. Project cost management is one of the essential element in the total construction management, to generate profit by eliminating unnecessary losses and delays thereby make sure other objectives and to remain competitive in the industry. But this is very information intensive spectrum of management, which discourages practitioners to exercise on sites, due to the cumbersome nature of data gathering and processing. However, with the current status of Information Technology, this dilemma can be off set successfully, provided that the problems and their answers are modeled properly in terms of its data, information, output and decisions.

The study aimed at developing an Information System for solving this problem. Interview surveys and documentary search were conducted to full fill the system analysis step. Subsequently it identified several user requirements for a computerised system. The followings are the important considerations:

1. Site persons need to know their future requisition of materials, plant and labourers for ordering and delivery. It is important therefore a system to be used for automated alarming considering the stock level and need.
2. Quantity of usage and wastage for materials as well as usage hours, idle hours, repair hours for plant are important for monitoring the cost.
3. Interim billing is a crucial part of the contract business, which highly influences not only the project cash flow but also the company's.

All these areas are highly interrelated, and therefore need to be designed and developed to assure full accountability for their interrelationship. Further, it is vitally important to couple them with progress of the project. Also, uncertainties and linguistic information are very discernible in this spectrum of management, which demands an advanced tool such as Fuzzy Logic to tackle them.

Hence, a diverse approach, encompassing database technique, scheduling technique and Fuzzy Logic are used to successfully realise the long dreamt need of the Sri Lankan construction industry.