

## ABSTRACT

Since the beginning of the 21<sup>st</sup> century, many specialty contractors became more and more involved in the construction industry. In such altered environment, a general contractor/construction firm overhead cost increases comparable to direct costs. Construction firms overhead cost can be approached through dividing construction costs into two classifications which are direct and indirect (overheads) costs. Direct costs are considered to be the costs for labor, materials, production equipment, and supplies that must be incorporated into a distinct feature in order to complete the work. Indirect (overhead) costs include other items that are not made a part of the completed work such as contractor's overheads, profit, and contingencies during the construction period. Overhead costs generally are divided into two categories: general overhead costs and site overhead costs.

In the absence of systematic information based technique, which could quantify overhead costs for any given construction project, in both the first and the second categories of construction companies, in Egypt. The construction firms could not take the necessary measures for achieving the optimal overhead cost percentage for any construction project.

Resulting in a firm having a small project overhead cost percentage and thus, leading to incorrectly having the lowest total bid cost. This leads to a decrease in the profitability of the company performing the project, or even unsuccessful completion of that project.

The main objective of this research is to establish a Neural Network program that will able any construction firm to assess its site overhead cost for any building project. This may improve the construction industry performance and the ability to overcome the national and international market difficulties. Through improving the bids accuracy and also leading to:

- Decrease the time, effort and money spent during overhead cost prediction;
- Some up all the governing overhead cost parameters in one well defined technique;
- Increase the probability of adequate assessment of overhead cost percentage; and