

## **Abstract**

**The modern technology that emerged recently in the world has changed our vision towards many social and economic concepts and exposed the global community to issues that are more complex than before.**

**Technological advances in the field of constructions industry are the most modern and important; they improved work performance, quality and efficiency and saved money and efforts.**

**The development which crowned the execution of construction project due to technological advances and increased project size and complexity led to the emergence of overlap in specializations and work tasks sequence, and to highly complete work environment. All these will not permit continuity in trial and error approaches that was previously adopted, and at the same time put the need to develop more complete managerial system that guides project execution a top priority.**

**Problems and challenges that face the execution of construction projects differ from country to country and from project to project. Such difficulties increase the need to develop a complete administration which is qualified and able to overcome the problems and to face challenges either it is technically equipped or not. It is recognized that the importance of a competitiveness administrative system is comparable only to the project itself. Since the administrative system is the key factor in the process that translates the project from drawings to a building in the real world.**

**This research introduces a unique approach for the development of a managerial system which is equipped and able to execute construction projects following scientific methodologies. The research also presents the following concepts: the importance of technical and managerial supervision; the roles and goals of managerial supervision; the selection process of a site engineer; preparation of administrative organization structure. The study also, defines the roles of the executive managerial system at the various construction stages in cooperation with**

**the site engineer. Such process is comprehensive for it combines theoretical concepts practical assess as encounter on site.**

**The main goals of this study are as follows:**

- 1. Is to provide the supervisory structural body (technician, engineers and contractors) and all other stakeholders and those who are linked to the construction industry with the necessary information that enable them to plan and direct the execution of projects using a methodology that defines the tasks that emerged during projects execution.**
- 2. To focus on the practical and applied side on the field which is based on practical experiences without neglecting theoretical concepts in the field?**
- 3. To determine technical supervision activities linked to project implementation.**
- 4. To determine work steps related to the planning and programming of project implementation, also to supervise project costs.**
- 5. To determine the method of managing contracts, project delivery steps, and of contract clearing.**
- 6. To bridge the gap between theory and practice.**
- 7. To determined construction operations and engineering procedures.**

**The study adopted both theoretical and practical approaches to achieve the objectives of this research. Data from books, periodicals and the other researches experiences in the field were used to identify the difficulties and problems facing the engineering management in at project execution stage. Also, the study considered data from a real project (Elnasr project, one of the projected implemented by the company where the candidate work) at the analysis and discussion stages of this research, and briefly defined stages of project execution and the managerial system involved. The study also suggested approaches to improve technical supervision for the purpose of achieving distinctive projects that comply with modern and global specifications and at reasonable cost.**

**Further, the study highlighted the following points as recommendations the importance of continuity of scientific research in the field, fore it improves the quality of engineering project conceptually and practically; the importance of using total project assurance programs; importance of using security, safety ,**

**environment and risks management programs; the importance of the process of selecting main contractor and sub-contactors.**