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# Evaluations of Construction Project Participants' Attitudes Toward Quality Management in Turkey

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#### **Abstract**

In recent years, quality management became an important topic for the construction industry. This topic attracted the attention of many researchers and numerous researches were conducted in the literature. Although, quality management is common among institutionalized construction firms, small and middle-sized firms neglect it. Construction projects contain many project specific risks due to their complicated nature. Institutionalized construction firms with a quality management department and policy, minimizes wastes by effective material usage and productivity increasing. Therefore, they can prevent or bring under control time and cost dependent risks. On the other hand, lack of quality management policy or limited participation of project participants to quality management process will both negatively affect the management of the project and competitiveness of the firms. This will also decrease the survival potential of construction firms within the industry. In this study, it was aimed to determine the attitudes of construction project participants towards quality management. For this purpose, a questionnaire was administered to 120 participants of construction projects in Turkey. The results revealed that, although most of the participants have a positive attitude towards quality management, they are not able to evaluate it in a proper way.

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#### 1. Introduction

The primary goal of project management is to finish a project within its scope. However, numerous activities which require different expertise, and the relation among them make construction projects complicated. In addition, construction projects also involve many uncertainties due to outdoor production which is dominated by labor force. Therefore, managing construction projects, where finishing an activity errorless at the first time is aimed, is a complicated and though process. In this sense, an effective construction management can only achieved by incorporating different authorities from different knowledge domains.

Quality is one of the main components which determine the scope of a construction project. Therefore, finishing a project with the desired quality will provide an advantage to construction firms in the competitive industry. On the other hand, the quality of construction project is primarily determined by labors that perform the activities. In this sense, it is clear that quality cannot be achieved only by constituting a quality department and documentation. For an effective quality management, a participative management approach must be established in which labors are also involved to the process. This approach allows getting all participants' opinions for quality improvement. In this study, it was aimed to determine the attitude of construction project participants towards total quality management. For this purpose, a questionnaire was administered to employees of three different infrastructure projects in Turkish construction industry and the results were statistically analyzed.

#### 2. Total quality management in construction projects

Quality is a relative concept which creates different perceptions among people [1]. International Organization for Standardization (ISO) defined quality as "the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs" while Juran [2] simply as meeting the requirements. In the literature, quality definitions of construction projects have similar contents, but special emphasis on time and cost were laid due to their unique nature [1], [3], [4], [5], [6].

Although the definitions of quality show similarity, their scope changes according to some researchers. For example, Chung [1] restricted the definition with the building by arguing that a building has a good quality if only it operates as it was designed during its lifecycle. On the other side, Rumane [3] stated that not only materials and equipment used in the project, but also management mentality influences the quality and hence, included also project management concept to the definition. However, regardless of its scope to attain the desired quality in construction projects first customer requirements must be determined, then necessary activities that will meet the requirements must be planned and finally in the construction phase these activities must be properly realized.

Since the real quality of the buildings appears after many years later, the quality of the projects can only be interpreted from their design specifications [1]. In this sense, in construction industry management focuses mainly on the design and construction process qualities of the projects instead of the quality of building. In other words, it is assumed that if the project is accomplished with good quality then the building will also have a good quality. In Table 1 components of design and construction process qualities are summarized [6]. Actually, design quality components are the criteria which determine how an activity should be performed and show the expected situation after each activity is performed. Similarly, construction process quality components are the criteria which indicate how control activities should be performed to attain the desired quality. No matter how good the design quality is, attaining the quality depends on effective controls [3]. In this context, both designers and practitioners have a big impact on determining the quality of construction projects [4].

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