

## ASSESSING QUALITY MANAGEMENT RELATIONSHIP IN PUBLIC CONSTRUCTION IN TAIWAN USING FAULT TREE ANALYSIS

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### Abstract

ISO 9000 has gained popularity and is being applied to manufacture-related companies all over the world as a system of standards related to quality assurance management and control. Fault Tree Analysis (FTA) is an important risk-evaluating technique and has been used to present the relationships among the elements of the ISO 9001 standard in ISO implementation. However, a review of the literature suggests that it is much more difficult to manage quality in relation to construction industry due to its generic nature.

This paper used FTA to evaluate the relationships among the elements of the ISO 9001:2008 standard and the root causes of defects on public construction quality assessed by Taiwan Public Construction Commission from year 2005 to 2007. Based on the results in this study, ISO 9000 quality management practices may be needed more emphasized in certain stages, the failed probability of check stage was potentially the highest. The implementation of plan stage was also likely to have a significant effect on public construction quality and this showed the importance of the two major elements of the ISO 9001 standard.

**Keywords:** Public Construction, ISO 9001 Quality Management System, Fault Tree Analysis, Taiwan.

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