

Quality Management in Construction Projects

Richard Hannis Ansah¹ and Xueqing Zhang¹

¹Department of Civil and Environmental Engineering,
Hong Kong University of Science and Technology

Email: rhansah@ust.hk, zhangxq@ust.hk

Abstract

Quality management represents an increasing concern and a critical issue for project managers. Non-conformance to quality usually result in failures and defects, which may possibly require reconstruction, even with minor design and operations defects. Failures or defects in constructed projects can result in extensive costs, increased delays, and in the worst case, fatalities, injuries and other safety concerns. As the most important decisions are made during design and planning phases, components configurations, functional performance, and material specifications must be embedded in quality control to ensure conformance to original design and planning decisions during the construction process. This article focuses on the growing debate generated by researchers and project teams into how quality management should respond to the challenges of defects and failures of construction projects. Also, the research should reflect on the concepts of quality control or quality assurance (QC/QA), quality management systems, quality work functions, quality control versus quality assurance, quality management application to projects, project quality and energy-related regulations, design quality issues, site inspections, conformance to quality management requirements by project managers, and the benefits and challenges. The key questions are “how does quality management addresses defects and failures in construction projects?” and “how do we meet the challenges and achieve the benefits of quality management?” drawing on literature, case studies, and secondary data. The rest of the article is keen to an explication and critical appraisal of the quality management standards in the construction industries in developing economies. It is a step that requires further analysis, and that provide project managers with a window of hope, of taking control, of defects and failures of construction projects.

Keywords: Construction Project, Defect, Failure, Quality Management, Quality Assurance/Control (QA/QC)

Richard Hannis Ansah. Had his undergraduate degree at the University of Ghana and MSc in Industrial Management at the University of Malaysia Pahang. Currently pursuing PhD studies in Civil Engineering at the Hong Kong University of Science and Technology. Published and reviewed a number of journal and conference papers, worked with University of Malaysia Pahang, SASCO Group-Qatar, Ghana Statistical Services, University of Ghana, Legon, etc. Currently working as Teaching Assistant at the Hong Kong University of Science and Technology. Research interests: project management, sustainability, construction management, etc.

Xueqing Zhang. Associate Professor at the Department of Civil and Environmental Engineering, Hong Kong University of Science and Technology. PhD in Civil Engineering. Published series of books, journal and conference papers with honors and awards. Member of the board of several scientific journals, and editor in chief for some scientific journals. Research interests: sustainable development, project management, financial engineering, infrastructure asset management, management information system, computer simulation, etc.