

CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT

The effect of CDM arrangements on the delivery of Major UK Infrastructure Projects

Major UK Infrastructure Projects (MIPs) regularly face the challenge of late delivery and escalating costs as the result of multiple issues including contractual arrangements, design, and productivity, to name a few. All set out with detailed strategies and plans to manage time, cost, quality, and health and safety (H&S), but successful project delivery and completion is inconsistent at best. Focusing on H&S, the Construction (Design and Management) Regulations 2015 (CDM) require that clients 'make suitable arrangements for managing a project in a way that secures H&S' but what is the effect of CDM arrangements on the successful delivery of MIPs?

This study has explored this issue by reviewing the literature and conducting qualitative interviews with senior leaders who have been directly involved in the delivery of some of the most high-profile major infrastructure projects of this century. Whilst some major infrastructure projects might be considered to have delivered best practice in CDM, these views are often based on studies by informed spectators, often written after project completion when there is a risk of positive bias. The study was therefore designed to research the experiences of those central to delivery with a focus on the effect of CDM during the construction phase of the works and on whether any common trends and insights emerge that other MIPs might consider beneficial.

The first notable conclusion from the research is confirmation that CDM 2015 is recognised as an important consideration effecting the delivery of major infrastructure projects and that its effective implementation is a key factor in improving the likelihood of a successful project outcome. Furthermore, those interviewed agreed that effective project management went together with good H&S, cost, quality, and environmental considerations, and that all factors needed to be considered together at the earliest stage of the project. Specifically for MIPs it was highlighted to be even more important to get the CDM arrangements correct due to their scale and complexity.

From further analysis of the responses received, a theme in the responses indicated that a conjoined approach to how the contractual arrangements and the practical delivery of CDM were established at the very outset of the project was an important consideration. Another important insight shared by those interviewed was the importance of specific arrangements that managed the interface risk on MIPs especially on congested sites. It was also stated that spending time building an effective leadership team culture, and a wider project culture resulted in the benefit of an efficient delivery organisation. Clarity across all duty holders of their roles and responsibilities was another common theme, including the importance of ensuring the correct people and duty holders were appointed early, and empowering them to deliver the roles for which they were competent, and employed to discharge.

This study concludes by highlighting the key insights identified from the analysis that might benefit existing and future major infrastructure projects. The study goes on to suggest that current MIPs should review their current CDM arrangements against the themes identified by the research to identify any opportunities for improvement. The study also recommends that major infrastructure projects, businesses, and professional and regulatory bodies, review the findings and look to improve their current approaches to capturing and sharing learning from MIPs, such that existing and future leaders might be able to better adopt the lessons already experienced.