

CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT

The value of offsite construction to clients; a building services case study

Offsite construction (termed 'offsite' in this research) has long been considered key to modernisation of the construction industry; however, research suggests it represents just 3-7% of the UK construction market (Taylor, 2009, Vokes, 2013, B&ES, 2015). Industry leaders argue the slow take up of offsite is down to a lack of quantitative evidence of its value. This research focuses on offsite within the building services sector and investigates its value to clients and how it might be demonstrated.

A review of the literature found that key value drivers of construction clients are: lower cost, faster delivery, and improved certainty. Industry case studies and academic research provide limited quantitative evidence that delivering building services using offsite methods provides value to clients. The literature also highlighted the paucity in research of standard methods used to evaluate the overall impact of offsite.

Influenced by Greek philosopher Aristotle who famously quoted "the whole is greater than the sum of its parts", this research investigates if the value potential of offsite is greater at the module 'micro' level, or the project impact 'macro' level. A building with extensive use of offsite building services modules and bathroom pods was selected for a case study. The micro evaluation analysed cost and labour time data of each module and pod used on the project and compared it against a traditional install. The macro evaluation considers the combined impact of modules and pods, and investigates any differences in time, cost and certainty found from undertaking the offsite activities traditionally. The two sets of findings are compared and contrasted to conclude that contractors must look beyond the typical 'micro' level module evaluation and focus on quantifying the impact of offsite to demonstrate the greatest potential value to clients.

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