UNIVERSITY OF CAMBRIDGE
Department of Engineering

CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT

Virtual teams: Effective leadership attributes for project managers

Virtual Teams are becoming more widely adopted as a strategy to deliver major infrastructure design projects globally. The implementation of a virtual teaming strategy enables organisations to work across geographical and time boundaries, and to also improve responsiveness to their projects and clients. However, the impact of this strategy on how teams effectively work together is not necessarily acknowledged in the operational culture of the companies involved or addressed through the leadership of project managers.

There is limited guidance for the construction sector on effective mechanisms and leadership styles for leading virtual teams delivering major infrastructure design projects.

The shift to adopting virtual teams has occurred somewhat in the absence of considering the impacts on the 'team', putting at risk the benefits of adopting a virtual teaming strategy in the first place. It is well established that leadership is a key factor for ensuring effective project delivery using a virtual team and recognised that the leadership attributes are different to those required for co-located project teams. This research aims to investigate the effective leadership attributes for a project manager to implement within a virtual team environment.

The methodology adopted a qualitative research approach that elicited views of engineering professionals with project experience of virtual teams. The research involved nine workshops with engineering professionals with the aim to establish the baseline knowledge of the team and identify key leadership attributes for the virtual teams. Six of these workshops were conducted within one organisation that was an international engineering design consultancy and three workshops were undertaken at similar organisations within the industry for comparison.

The results are categorised into four key parts for the leadership attributes of a virtual team consisting of the "Project Environment", "People", "Processes" and "Technology". This allows the key issues of the virtual team environment to be appropriately defined.

Interestingly, a common theme across all workshops was the requirement for the project manager to travel to the other team's home office to facilitate the initial relationship and trust development. This suggests that a combination of co-located teams and virtual teams may be the most effective teaming strategy for projects. The study ranked the effective leadership attributes and found that setting clear and engaging directions along with specific goals was the most important element for virtual team leadership. The research recommends that project managers are trained to be culturally aware, understand the virtual team complexities, network widely and be collaborative. These attributes will ensure future project managers are prepared to effectively lead virtual teams to deliver major infrastructure design projects globally.

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