

CONSTRUCTION ENGINEERING MASTERS DISSERTATION ABSTRACT

The climate for innovation in the construction industry: a construction context for West's 4-factor model

Government has repeatedly called on Construction¹ to innovate (Latham, 1994; Egan, 1998; HM Government, 2013; Farmer, 2016). However, barriers to innovation including; fragmentation, bespoke outputs, commercial models that stifle investment (Farmer, 2016) and a focus on certainty and consolidation, have frustrated the industry's ability to meet the challenge.

Construction has reacted with calls to government for improved payment practices and a consistent, visible pipeline of work to invest in but it also recognises that it must take action as innovation is crucial for survival (Jung, Chow and Wu, 2003; Gambatese and Hallowell, 2011). The scale of the industry in both employment and financial terms creates the potential for enormous benefit from successful innovation. However, Construction continues to suffer from a reputation for being slow to identify and adopt new ways of working.

The effect of organisational culture on innovation is well recognised (Fadhil Dulaimi et al., 2002) particularly the effects of a highly developed climate for innovation (Gambatese and Hallowell, 2011). There is consistency in the factors that promote innovation and enhance the climate for innovation (O'Reilly, 1989) and this consistency supports West's 4-factor model (1990). Tools have been developed to measure this climate, but none of these tools has been refined to the nuances of the construction industry. There is an opportunity therefore to develop a simple Construction specific tool that measures its climate for innovation and informs its innovation strategies.

The objective of this study is to test and refine West's model for a specific industry context, Construction in this case. Adopting a social constructivist approach, summary definitions of each of West's 4 factors have been refined and contextualised for Construction through semi-structured interviews with Construction professionals. Interview participants comprised 2 specific demographics; organisational leadership and project-based staff, to provide a broad range of perspectives and insight.

Whilst the study supports West's model these findings suggest that the current climate for innovation tools are not adequate to address the specific needs of Construction. The findings suggest there are specific features of innovation in Construction that extend West's theories. First, the role of governance is pivotal to the climate for innovation but paradoxical; whilst strict governance is thought to stifle innovation (Gambatese and Hallowell, 2011) interviews indicate that it enables innovation by creating the certainty and success that allows investment in innovation but also contributes to perceptions of security and safety that are critical if innovation is to flourish. Second, there is a "time to think, and a time to do" in Construction and understanding this dichotomy is critical to the composition of teams and design of governance. Third, a significant, emerging theme is that, to secure its future, Construction must compete to attract the diverse talent that will deliver its innovation

¹ Throughout this paper the capitalised word "Construction" refers to the construction industry and not an interpretation or explanation of an idea or theory.

agenda. The challenge of attracting innovation enhancing talent to a conventional, low-margin industry provides Construction with yet another imperative to address its lack of diversity.

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August 2021