

A Systemic Review to Identify Grand Challenges in Adopting Lean Construction

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This study presents current research into identifying grand challenges in adopting principles and techniques of Lean Construction (LC) in construction management. This research is conducted through using nine square process (NSP), which is a practical qualitative technique of the TRIZ (Theory of Inventive Problem Solving) to form a systematic literature review. Findings: This research yields a structured LC oriented research documentation to support technical analysis to identify grand challenges in relevant research and practice. The structure and contents of this research documentation are developed and accumulated respectively through the NSP connecting with a wide range of relevant literature from academic research and professional practice. This study also presents a list of grand challenges identified from the research with regard to further LC oriented research and development, and these include the change of enterprise culture, the cost of implementation, and the lack of practical knowledge. The described research demonstrates a new research initiative in a systemic literature review to establish a research documentation, which is used to identify grand challenges in research and practice. It is expected that the structure of research documentation and identified grand challenges can well inform further research in innovative solutions for adopting LC in construction management. This study presents a unique example to use NSP to establish a systematic literature view in the context of LC and grand challenges in further research and practice. Both research method and findings are valuable for further research and development in adopting LC in construction management.

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