

Variability propagation in the production planning and control mechanism of construction projects

Zegarra, O., & Alarcón, L. F. (2017). Variability propagation in the production planning and control mechanism of construction projects. *Production Planning & Control*, 28(9), 707-726. <10.1080/09537287.2017.1304588> Accessed 29 Apr 2021.

Abstract

One explanation for the often-problematic performance of projects is poor execution of the production planning and control function. This function's supply, an arrangement of managerial processes, plays a key role in driving a project's construction operations and the variability propagation across them. However, the variability propagation across the function's supply structure has not been considered. This research addresses this gap by exploring the behaviour of outcomes over the function's supply. To do so, this paper studies the existence of variability propagation in the function supply during the construction stage of five infrastructure projects that used the Last Planner® System as a tool. A plausible propagation pattern was found. The pattern expresses the complex behaviour of the function's supply. Further work is required to address the impact of the pattern on the performance of the function supply and the pattern's implications for improving the function supply..

Keywords

Lean management, last planner, language action perspective, bullwhip effect, complex adaptive systems.