

Hybrid intelligent vehicle system for managing construction supply chain in precast concrete building construction projects

Abstract

Purpose: While the adversarial nature of precast concrete (PC) building construction is frequently cited in the PC building construction press, only a few researchers have investigated construction supply chain management within the construction industry. Due to the interdisciplinary transportation environment, which inevitably results in disruption, the uses of construction supply chain and recovery from construction supply chain risk must be a subject of real interest, yet transportation management research in this area is scarce.

Design/methodology/approach: The purpose of this study is to discuss the weakness in system approaches and their application for managing precast concrete building in the context of construction supply chain practice and how to overcome it. As a precursor to this paper, the paper reviews current construction supply chain management occurrence on PC building construction and explores the hybrid intelligent vehicle tools and techniques currently being used on such management. This paper also presents the new hybrid intelligent vehicle-based approach to manage construction supply chain risk and reduce associated tension on PC building construction schemes. **Findings:** The findings reveal the need for more sophisticated construction supply chain management solutions which accord with the needs of PC building construction schemes. **Originality/value:** The paper concludes by presenting a research framework for developing such a system in the future.

Keywords

Construction; Hybrid intelligent vehicle; PC building; Precast concrete; Risk; Supply chain management