

## **Challenges and Opportunities for Implementing Integrated Project Delivery Method in Public Sector Construction**

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**Abstract :** The Integrated Project Delivery (IPD) method has been proposed as the solution to tackle complexity and fragmentation in the real world while addressing the construction industry's growing needs for productivity and sustainability. Although the private sector has taken the initiative in implementing IPD and taken advantage of new technology such as building information modeling (BIM) in delivering projects, IPD remains less known and rarely used in public sector construction. The focus of this paper is set on the use of IPD in projects in public sector, which is potentially complemented by the use of analytical functionalities for workforce planning and construction oriented design enabled by recent research advances in BIM. Experiences and lessons learned from implementing IPD in the private sector and in BIM-based construction automation research would play a vital role in reducing barriers and eliminating issues in connection with project delivery in the public sector. The paper elaborates issues challenges, contractual relationships and the interactions throughout the planning, design and construction phases in the context of implementing IPD on construction projects in the public sector. A slab construction case is used as a 'sandbox' model to elaborate (1) the ideal way of communication, integration, and collaboration among all the parties involved in project delivery in planning and (2) the execution of projects by using IDP principles and optimization, simulation analyses.

**Keywords :** integrated project delivery, IPD, building information modeling, BIM

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