

CROSS-FUNCTIONAL PROJECT TEAMS IN CONSTRUCTION: A LONGITUDINAL CASE STUDY

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BACKGROUND AND IDENTIFICATION OF PROBLEM

A3 For many years traditional project delivery methods have been utilized in the construction industry, but new delivery systems such as IPD are being developed to answer the need for a more integrated approach. Studies have been conducted to assess the impact of project delivery methods on project performance but only a few focus on team composition and organization. This research concentrates on project organizations aiming for high collaboration and integration to improve project performance. In IPD projects, the contractual team creates cluster groups or cross-functional teams in order to combine skills to focus on a specific area related to the construction process. However, there is a noticeable gap in the understanding of factors taken into account concerning factors impacting the development and implementation of cross-functional project teams (CFPTs). Therefore the purpose of this qualitative case study is to understand how CFPTs organize and evolve on IPD projects.

Research Question: What are the organizational factors influencing the development and implementation of cross-functional teams for integrated project delivery?

RESEARCH OBJECTIVES

- Identify factors that define and differentiate the needed Cross-Functional Project Teams (CFPTs) for building projects
- Identify considerations and factors taken into account for the composition and evolution of CFPTs
- Explore the organizational considerations for aligning team roles and responsibilities with CFPTs purpose(s).

RESEARCH APPROACH

The approach taken for this research was to develop a case study by interviewing signatory members of the IPD project for the Agricultural Engineering Building Renewal at Penn State University, as well as with selected industry IPD experts. Interviewing participants of the IPD project permitted data from different perspective on the same project and to identify similarities and differences considering the CFPTs implementation.

The project is a renovation of a 16,000 square feet multistory historical section of the building, and, demolition and reconstruction of the rest of the 77,000 square foot, building. The project scope will incorporate new graduate education labs, research labs, offices, classrooms, a fermentation facility and an area maintenance shop. The project will be

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pursuing LEED certification for a total estimated cost of \$40 million, with a targeted construction start of summer of 2016 and completion in winter 2017.

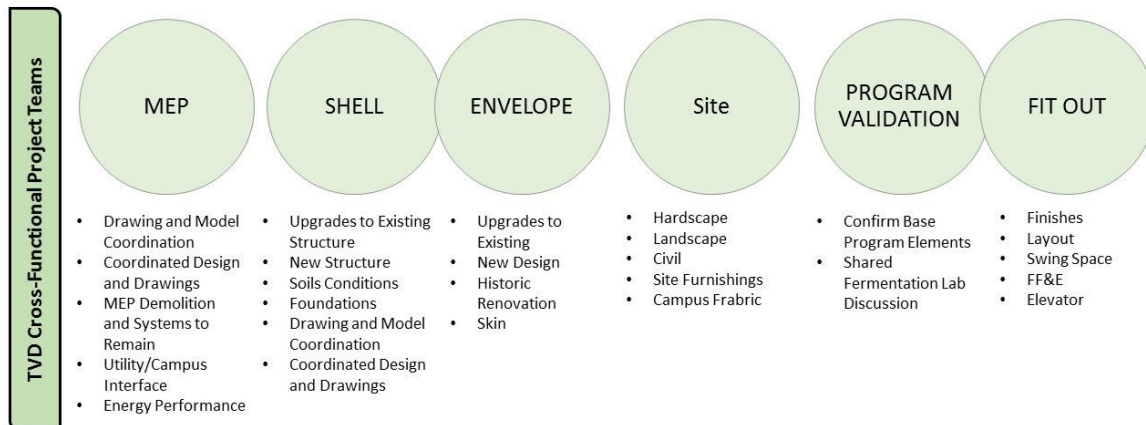


Figure 1: Case Study Cross-Functional Project Teams

SUMMARY

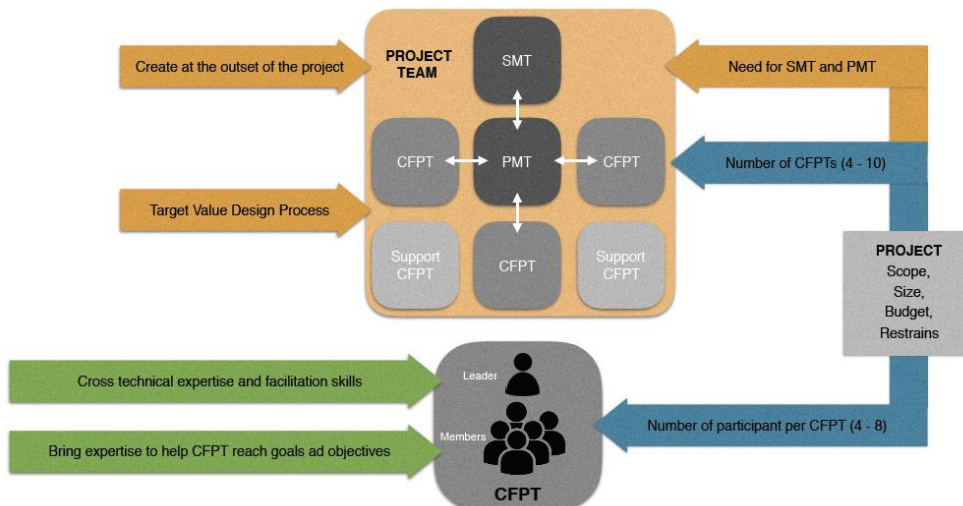


Figure 2: CFPT Design Recommendations

1. Cross-Functional Project Teams should be created at the outset of the project to avoid disturbances with on boarding participants later. They should be focusing on a balance between the project scope and main building systems, and, following the TVD process.
2. The project teams should consider the project scope and create four to ten CFPTs composed of four to eight participants. If a CFPT is not meeting its commitments, members and/or leaders can be switched to better fit the CFPT needs. A CFPT only stops when reaching all goals and objectives.
3. Participants of a CFPT are selected to bring technical expertise and help the team reach its goals. The project team should not focus on leaders with cross-disciplinary expertise only but should also consider facilitations skills.

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