Introduction

Traditional project delivery delineates clearly between the design phase and the construction phase. These projects assume the build process is a commodity and the best way to drive value is to tender a bid and select the lowest cost qualified participant. Collaborative projects have shown that there is significant benefit when the trades and specialty contractors are invited to assist during the design phase. Input from the builders informs better constructability, identifies more material and product selection, and provides a more complete design. Additionally, it affords the project many alternatives in regards to pre-fabrication and component assembly, and significantly increases predictability through improved efficiency, safety and quality.

There are numerous benefits to bringing in partners early. The most significant among them are a cost savings and the elimination of waste.
1.0 Why

There are numerous benefits to bringing in partners early. The most significant among them are a cost savings and the elimination of waste. Early stakeholder involvement reduces the risk of having to reconfigure designs or work that could have been prevented. Additionally, the MacLeamy curve in Figure 1 below shows how it becomes more difficult to change a project the more developed it becomes.

Figure 1. MacLeamy curve. Adapted from MSA (2004) as introduced by MacLeamy (2004).

Other benefits of early stakeholder involvement include:

- Cost and delivery predictability
- Faster and more reliable cost estimating
- Reduced schedule through concurrent shop drawing/submittal processes
- Reduced schedule/better coordination through earlier material procurement
- Stronger team cohesion
- Opportunity to design for modular or prefabricated solutions
• More frequent and constructive conversations with owners and/or facility operators
• More innovative solutions from those closest to the work
• Better information to inform the drawings
• Greater accountability and engagement across the supply chain

Research shows that when partners are brought in earlier in a project, the level of shared knowledge among partners is acquired faster than in traditional design-bid-build projects. This reduces the traditional use of Request for Information, field changes, coordination errors and schedule delays.

Figure 2. Shared project knowledge by team members during typical Design-Bid-Build project delivery (top), and during Lean Project delivery (bottom). Adapted from Lichtig (2008), as presented by Feng and Tommelein (2009).
The approach to integrating partners earlier is fairly straightforward. Begin by developing a Request for Proposal that defines earlier stakeholder participation, then choose partners through a collaborative interview process structured more like a work session than a formal interview.

2.0 How

As part of the early stakeholder involvement process, determining who can add value during which portion of the project is a value-based decision. Rather than choosing by low price bid, you should look to other attributes such as a willingness to learn, chemistry among team members, innovativeness, skills, experience and expertise.

The approach to integrating partners earlier is fairly straightforward. Begin by developing a Request for Proposal that defines earlier stakeholder participation, then choose partners through a collaborative interview process structured more like a work session than a formal interview. Spend time defining the desired attributes of those partners so that those performing the selection understand the parameters (since the parameters are not transaction based, as in a traditional process).

This engagement should be structured so that partners are compensated for contributing during the design assist and pre-construction phases, and have the opportunity to continue into the build portion and/or compete to become full project partners. A request for commercial terms should contemplate current and future contracting alternatives so that they are understood up front. When developing the commercial terms—best value, unit pricing, lump sum, time and materials, or other—be sure to factor early partner involvement into project spend projections. While early stakeholder engagement has additional upfront costs, it results in lower overall costs for the whole project, since the risk for error will be significantly reduced.

Be aware of potential obstacles to involving stakeholders earlier in the process. It may be difficult to recruit partners to collaborate on a design before there is a defined scope of work. Traditionally, stakeholders respond to developed ideas better than they do to concepts and sketches. Many collaborative projects have found it beneficial to include a Lean Coach to serve as an advisor during the design, pre-construction, and build phases.
3.0 What

A key to successful project delivery is engaging all stakeholders at the best possible moment. This ensures that the expertise of the end users, skilled trades and other contributors is utilized in a manner that optimizes performance. This is a departure from how the building industry has traditionally operated. For example, trade partners are not typically involved as the design is being vetted or finalized; they are typically engaged during the pre-construction or construction phase.

References


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- Coaching: 73
- Distributed Leadership: 83

For additional readings and information, please see the below information.
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