Designing a hospital with integrated project delivery

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Over the past seven months, I have been on a journey into the world of integrated project delivery for a new 142-bed hospital in Henderson, Nevada. According to the AIA, IPD is a project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize efficiency through all phases of design, fabrication and construction.

In my 18 years of providing interior design for health care environments, this was my fist IPD experience. I was excited to provide design in a new and more efficient way. One can't describe IPD without lean principles involved, which for an "Achiever Type A personality" is inspiring.

If there is one nugget of information that I can share with the design and construction community, it would be about the benefits of "pull planning." The Lean Construction Institute defines "pull" as a method of advancing work when the next-in-line customer is ready to use it. A "request" from the customer signals that the work is needed and is "pulled" from the performer. Pull releases work when the system is ready to use it. LCI defines "planning" as "the act of conversation that leads to well-coordinated action."

The project team meets every Wednesday in what we fondly call The Big Room for a full day of constant dialogue and information sharing. After introductions, rules of engagement and hot topics, we stand up and head to the 40-foot pull plan board. The board has weeks labeled along the top, starting with the current day or week on the left and expanding out two months to the right. Below the dates, running horizontally, are swim lanes for each trade partner, including architect, mechanical, electrical, interiors, structural, site, constructor and owner, each trade with different colored sticky notes populating the lanes.

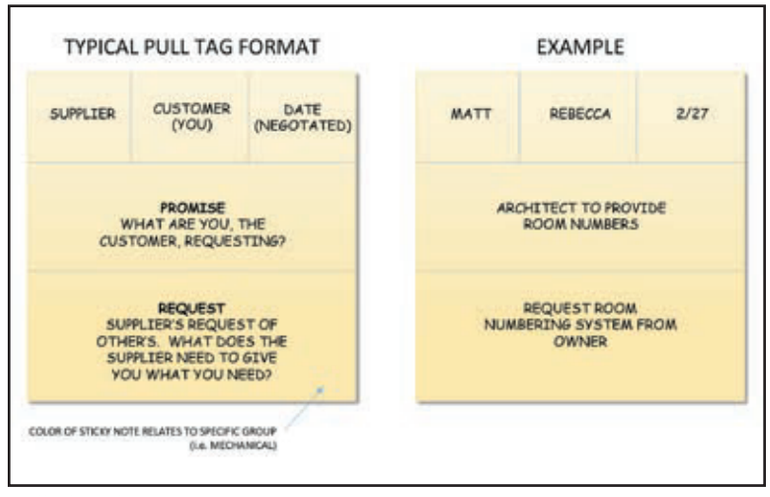
Pull planning is working backward from a target completion date (milestone). Tasks are defined and sequenced so that their completion releases work. When our project team is pull planning, we start downstream with a specific task, event or deliverable, and work backward to current date with each of us asking, "What do I, as a customer, need from others in order to meet my commitment to the milestone?"

If I have a need, it is requested on a sticky note and placed in the swim lane of the supplier. Before I place the request on the board, a conversation is had between the customer and the supplier, which creates understanding, commitment and agreement. Both parties negotiate the due date. This pull tag may result in the supplier becoming a customer for a need from another supplier.

Pull planning is an effective technique for outlining and meeting scheduling deadlines for construction projects. When handled correctly, pull planning eliminates miscommunications and allows every key player to be integrally involved in the planning process. There are key components to successful pull planning:

1. Define the phasing of work (milestone) and determine completion dates for the phases. Go to the pull plan board with a purpose and a focused task at hand. A team cannot work backward if they do not know what the deliverable is or the date needed.

2. Have the right people present. Typically a single activity, event or deliverable is the focus of a pull-planning event, so having all key trade partners who have a stake or a share in the final deliverable is key. A customer can't write a request, assign the supplier and give a date if the supplier is not present. The risk is that the supplier may not be aware of the request made of them, fully understand the request or may not be able to commit to the deadline set. Also, having someone stand in as a substitute for others runs a risk because the conversation surrounding the request and commitment cannot be completely understood unless the stakeholders are present.



Pull plug diagram

3. Promote a global understanding. Everyone needs to thoroughly understand the work, not just their own scope of work, but also the scopes of work of other trades. Why? Because on a construction project the various trades are interdependent on one another, and each individual must know the preceding and succeeding trades to contribute.

When done correctly, pull planning is very effective at meeting milestones. Pull scheduling often will expose the need for smaller batches, just in time delivery, improved leveling of resource and reduced lead times. Workflow becomes more reliable and efficient as the waste of waiting, redundancy and overprocessing are eliminated. These are all characteristics of a growing lean culture.

If you ever have an opportunity to initiate or participate in an IPD project, I highly recommend it. Our firm has internalized the concepts and process to become more efficient and effective at what we do and are striving to build a lean culture. Face it, who doesn't want to remove waste from their work and daily lives?