

Why Do Projects On a Lean Basis?

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4 Rock-Solid Answers

1. Throughput increases dramatically
2. To counteract the compound effects of dependence and variability
3. Increased productivity without the focus
4. Vernacular for working effectively together

What Is a Project?

- A project is a special-purpose, often temporary, organization created for the sole purpose of fulfilling a promise to a customer
- Without a customer there is no project
- Without a promise there is no project
- Projects have a beginning and an end

What Do We Mean by Lean?

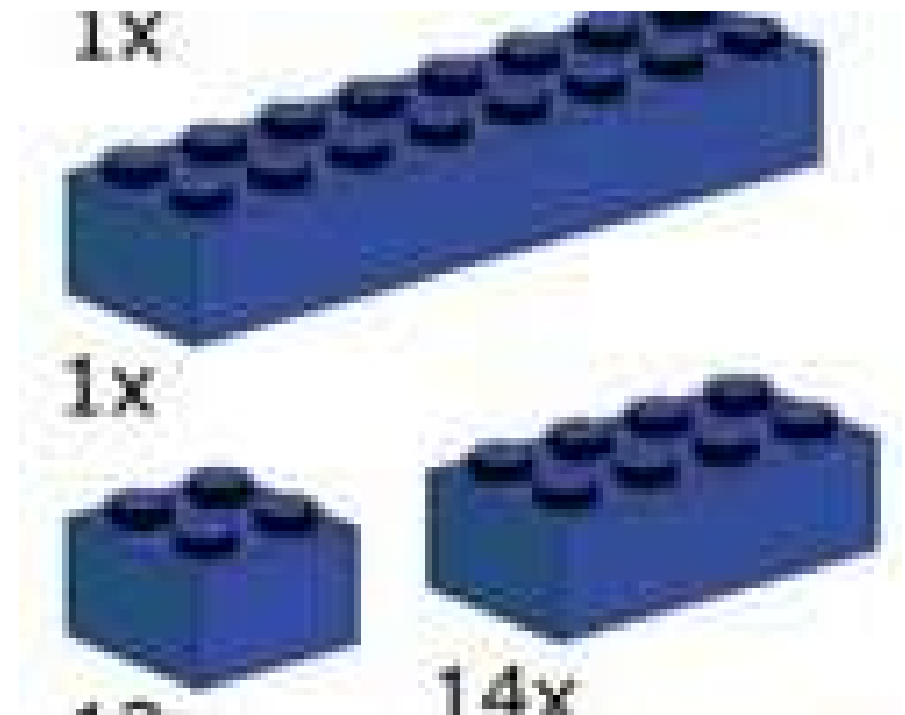
- *Lean* is the term used to characterize the Toyota Production System
 - Define value from the client's perspective
 - Take only those actions that deliver that value
 - Make the work flow
 - Do that work at the pull of the customer
 - Pursue perfection
- Implication: absolute attention to planning, coordination, and learning

Origins of Lean Project Delivery

- Taiichi Ohno and Shigeo Shingo
 - Toyota Production System
- Eliahu Goldratt
 - Theory of Constraints
- Fernando Flores
 - Action Workflow
- Glenn Ballard and Greg Howell
 - Last Planner System[®]

Production System Design

- All project work is at some level production work
- Airplane game shows a 10X opportunity in doing good design of production operations



Dependence and Variation

- The story of a Boy Scouts' hike teaches us about the compound effects of dependence and variation on linked operations
- Minor variations in the results at one step are amplified in later operations.
- The more steps the worse the situation gets
- Production losses accumulate
- Project completion time can't be predicted

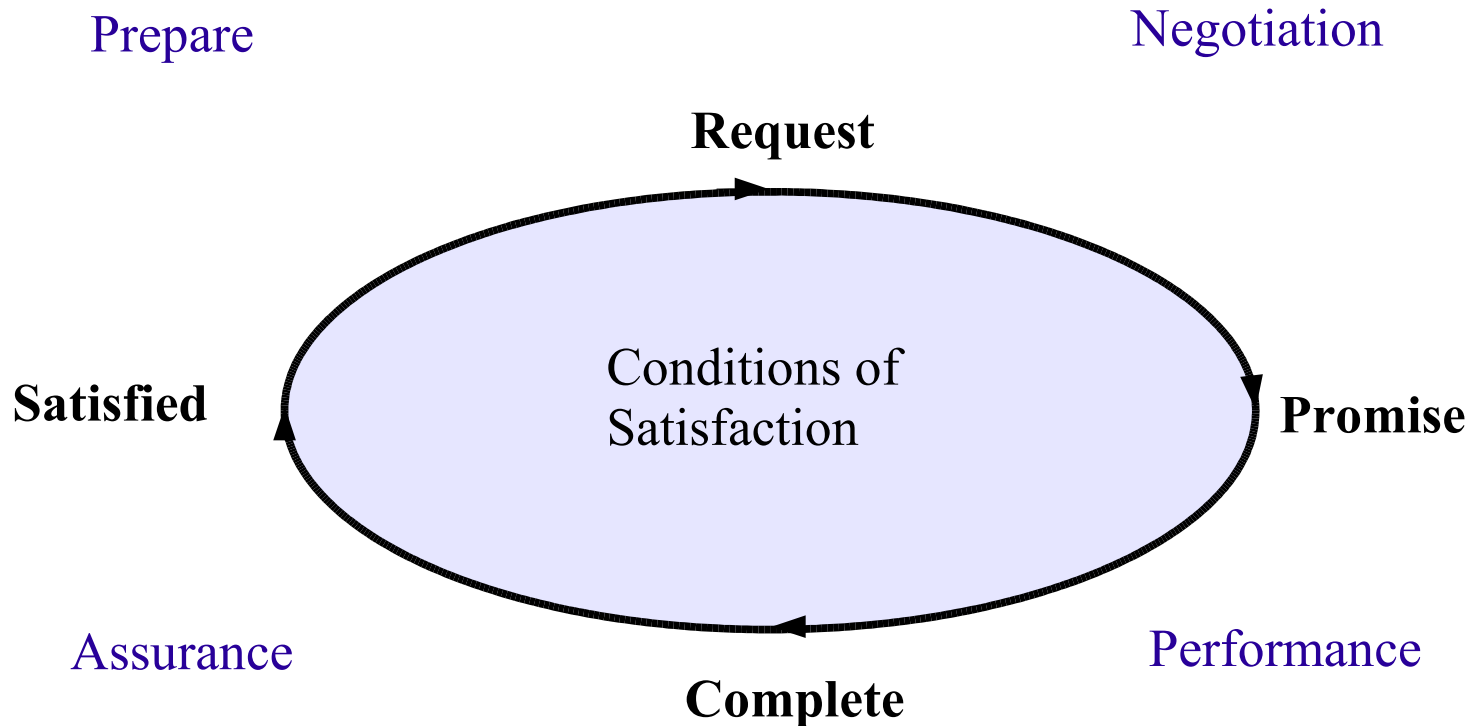
Work Structuring Matters

- Specialization of labor in the attempt to increase productivity has led to increased work assignments
- As the number of assignments increase so does the unreliability of the work stream
- Re-thinking the design of operations can result in fewer hand-offs, errors, and increased reliability
- The result is less waste

Conversation Matters

- Projects are conducted as **networks of commitments**, normally invisible to all performers on the project
- Articulating and activating that network arms the performers to adjust to the predictable variances to the planning
- The project is carried out as (somewhat) autonomous agents navigate an unfolding future

Action Workflow



Last Planner System®

- **Should – Pull Plan**
The work needed to keep the team promise?
- **Can – Look-ahead Plan**
Make that work ready for performers
- **Will – Weekly Work Plan**
Make specific promises for completing tasks
- **Did – Daily Coordination**
Performers declare complete and work is accepted

The Last Planner is a trademark of the Lean Construction Institute
www.leanconstruction.org

Pull Planning

- Establishes the *should*
- Results in a set of requests for meeting some major portion of the project
- Developed collaboratively with performers



Look-Ahead Planning

- **Make-ready** process for preparing the requests for a promising conversation
- Surfaces and resolves constraints and impediments
- Look-ahead plans are 'authorized' each week as a basis for weekly work planning.
- Someone's role to see that coming work can be promised as needed

Weekly Work Planning

- Produces the alignment of individuals' actions with the promise to the customer
- Performers make and negotiate offers consistent with the **authorized** look-ahead plan
- Review performance keeping promises, all or nothing
- Track the reasons for plan failures to address system-level issues
- Conduct **plus|delta**

Daily Coordination Meeting

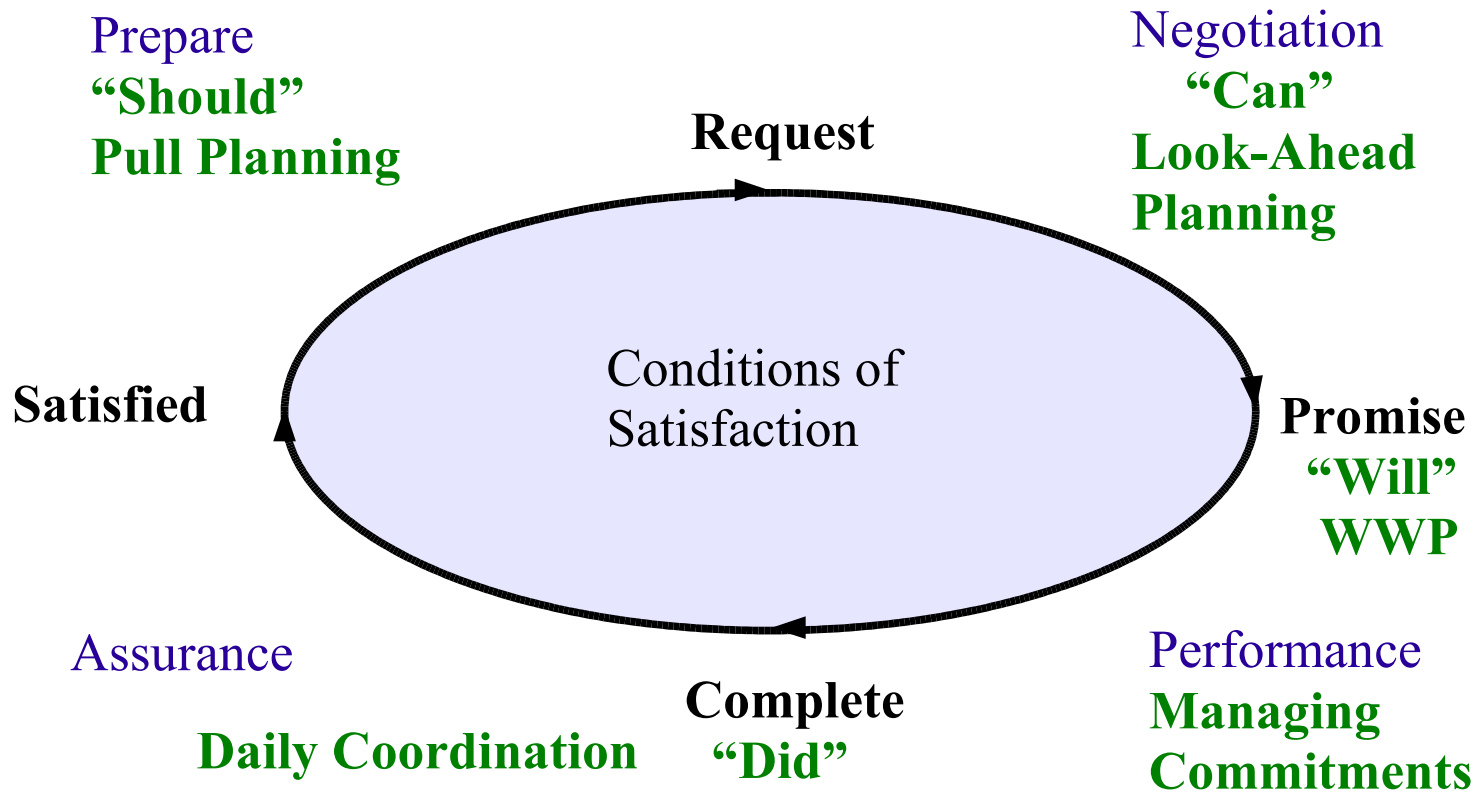
- Opportunity for performers to declare complete on the day's promises
- Keeps the work flowing from one performer to the next
- Timely recording of plan failures and the reasons
- Setting for re-promising
- Time for adjusting plans for the coming day

Managing Commitments

- In all but the simplest projects the promises made between performers exceed the number of planned requests
- System is needed to bring attention to what needs to be done next

The screenshot shows the AgileWorkforce Status Visualizer interface. At the top, the logo for AgileWorkforce is displayed with the tagline "Enabling the Adaptive Enterprise™". Below the logo, the text "Status Visualizer" and the email address "halmac3@hmacomber@leanproject.co" are visible. The interface is divided into a left sidebar and a main content area. The sidebar contains a list of fields: Author, Opening Action, Requester, Performers, Observers, Subject, Project, Reference #, Attachments, Milestones, and Description. The main content area contains a form with the following elements: a "Select Type" dropdown menu, a text input field, a "None" dropdown menu, a "Select Document Reference" dropdown menu, a "Reply By" date picker set to Jul 30 2005, and a "Complete By" date picker set to Jul 30 2005. Below the date pickers is a rich text editor toolbar with options for Font, Size, Color, Bold (B), Italic (I), and Underline (U), along with various icons for text formatting and editing.

LPS as Action Workflow



Lean Project Delivery

5 Big Ideas

1. Manage the project as a network of commitments using the Last Planner[®]
2. Collaborate, really collaborate
3. Tightly couple learning with action
4. Increase relatedness of project participants
5. Optimize the whole rather than the pieces

Progression of Thought

- *Underlying Theory of PM Is Obsolete*, Koskela and Howell, 2002
- *A Linguistic Action Perspective*, Macomber and Howell, 2003
- *An Update on Last Planner*, Ballard and Howell, 2003
- *Time for a Shift from Fayol to Flores*, Howell and Macomber, 2004
- *Two Great Wastes*, Macomber and Howell, 2004
- *Managing Commitments*, Macomber and Howell, 2005