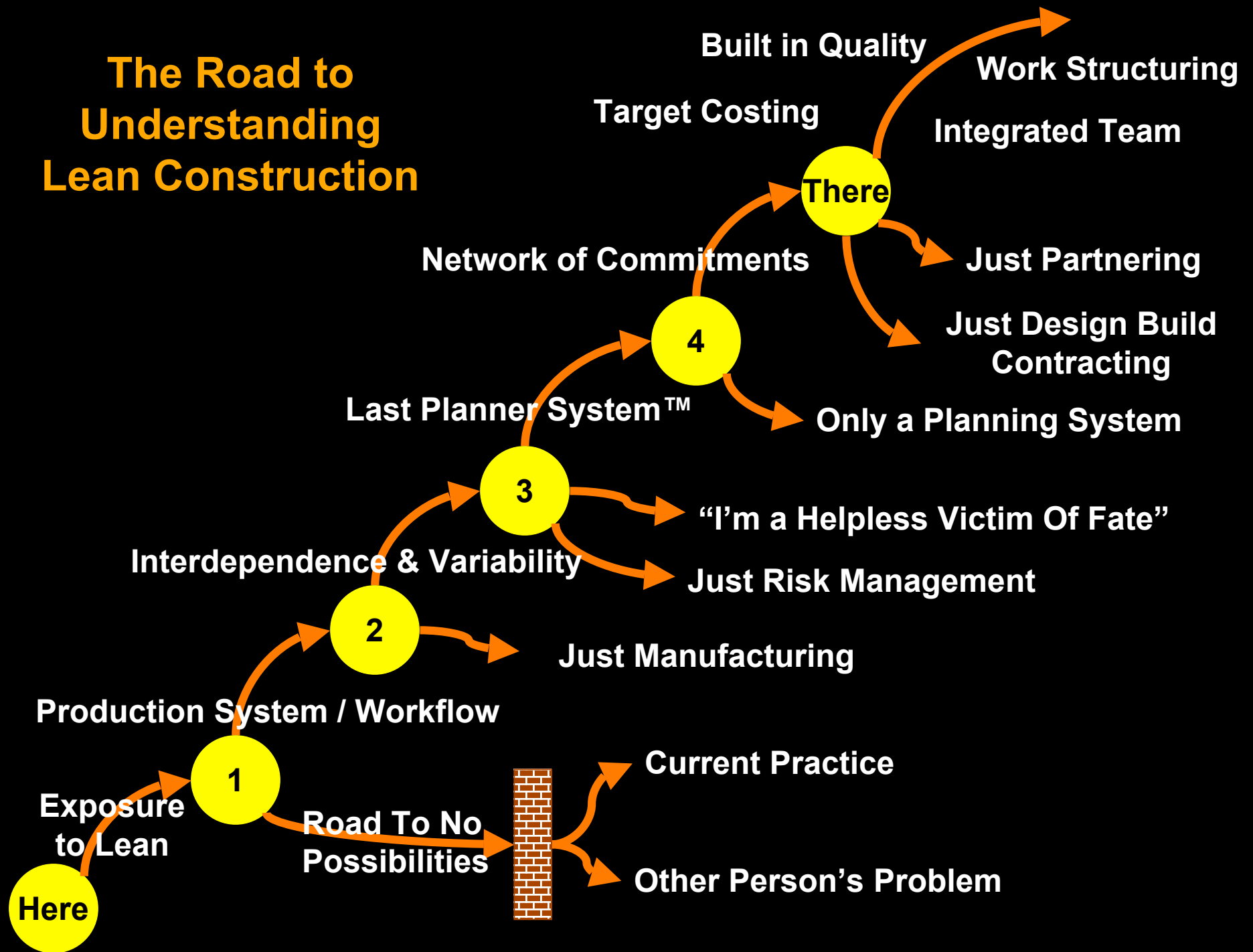


The Road to Understanding Lean Construction



Lean Thinking

James Womack in Lean Thinking

Eliminate **waste** through application of 5 principles



Identify **Value**



Map the **Value Stream**



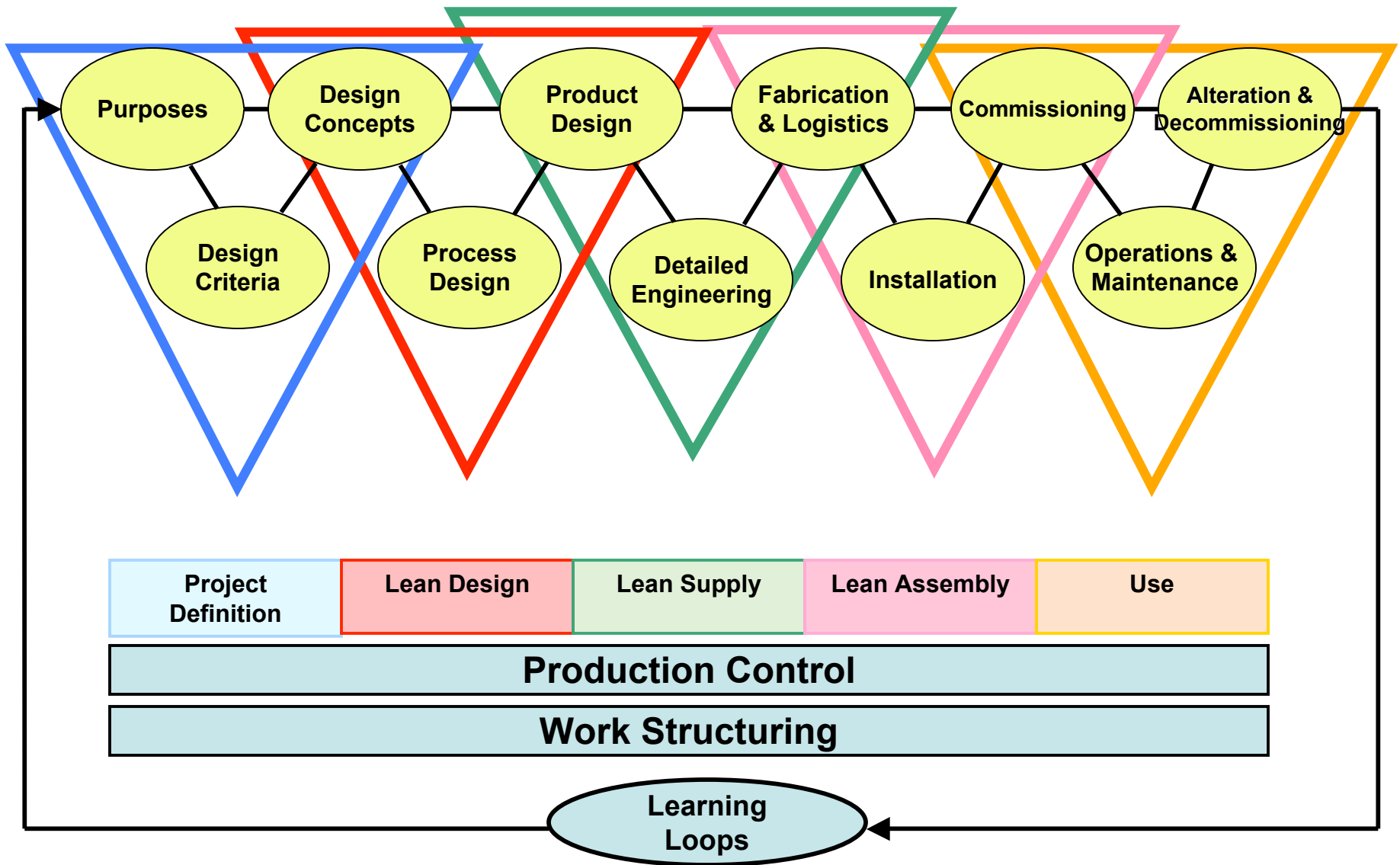
Make value-creating steps **flow**



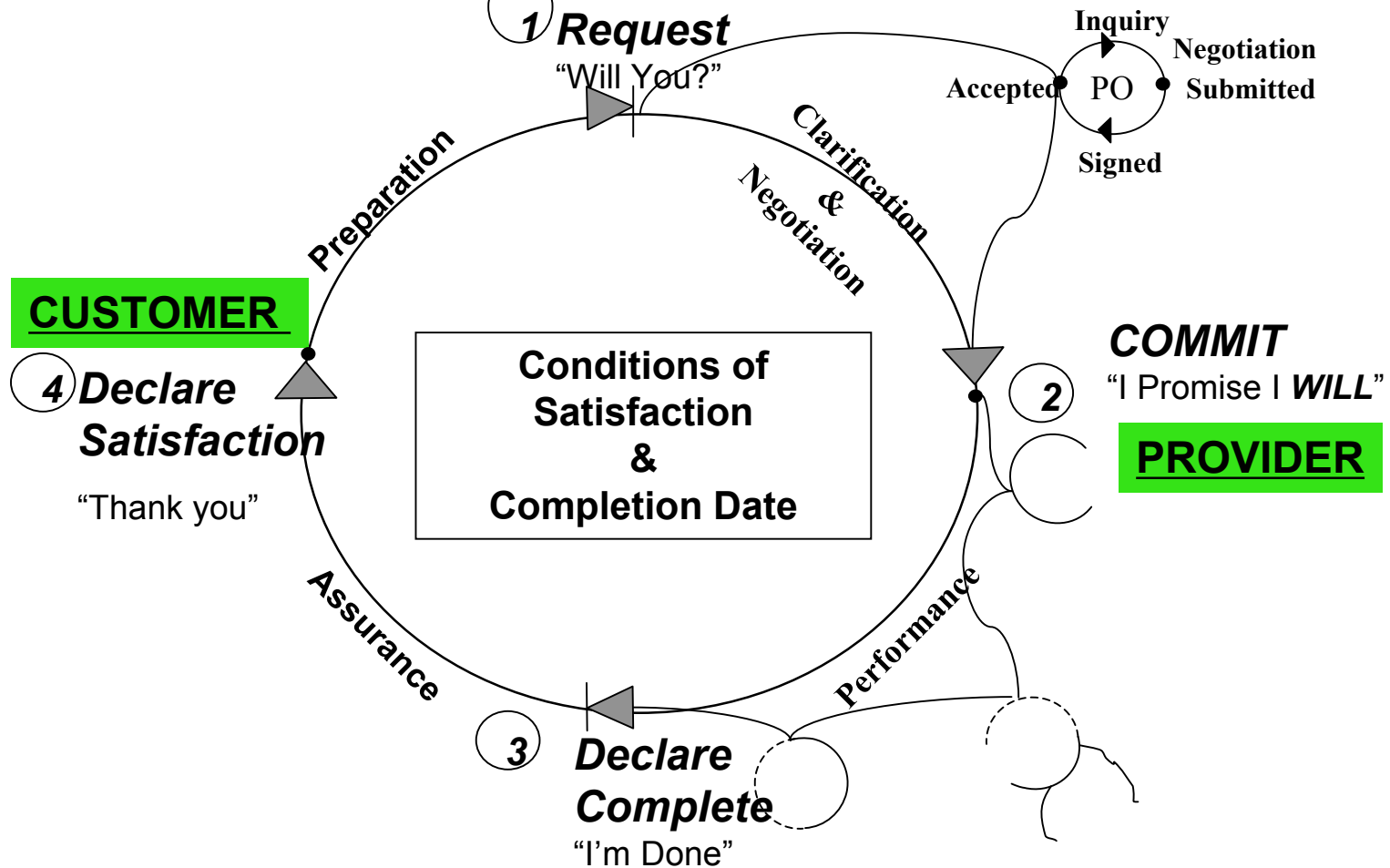
At the **pull** of the customer



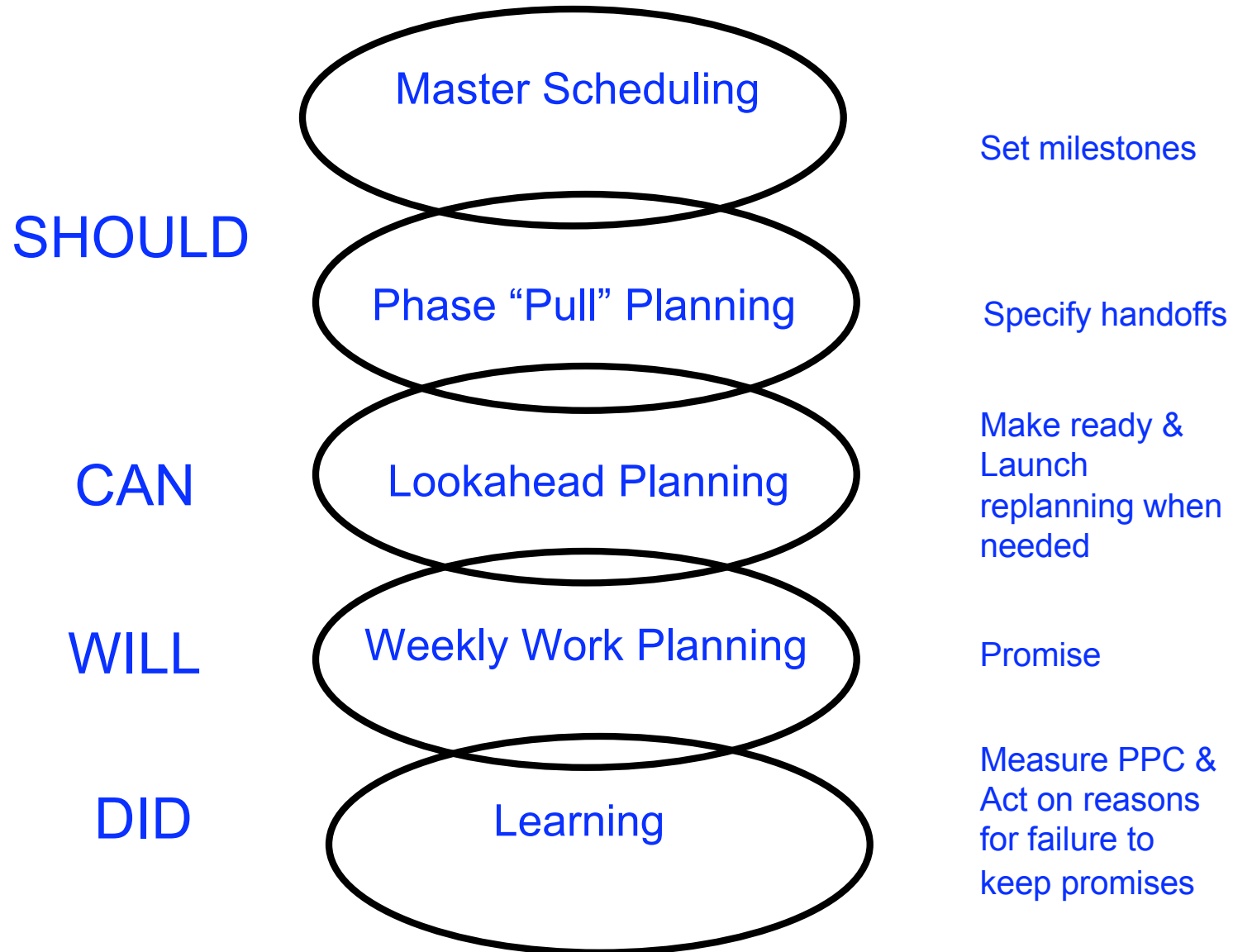
Strive for **perfection**

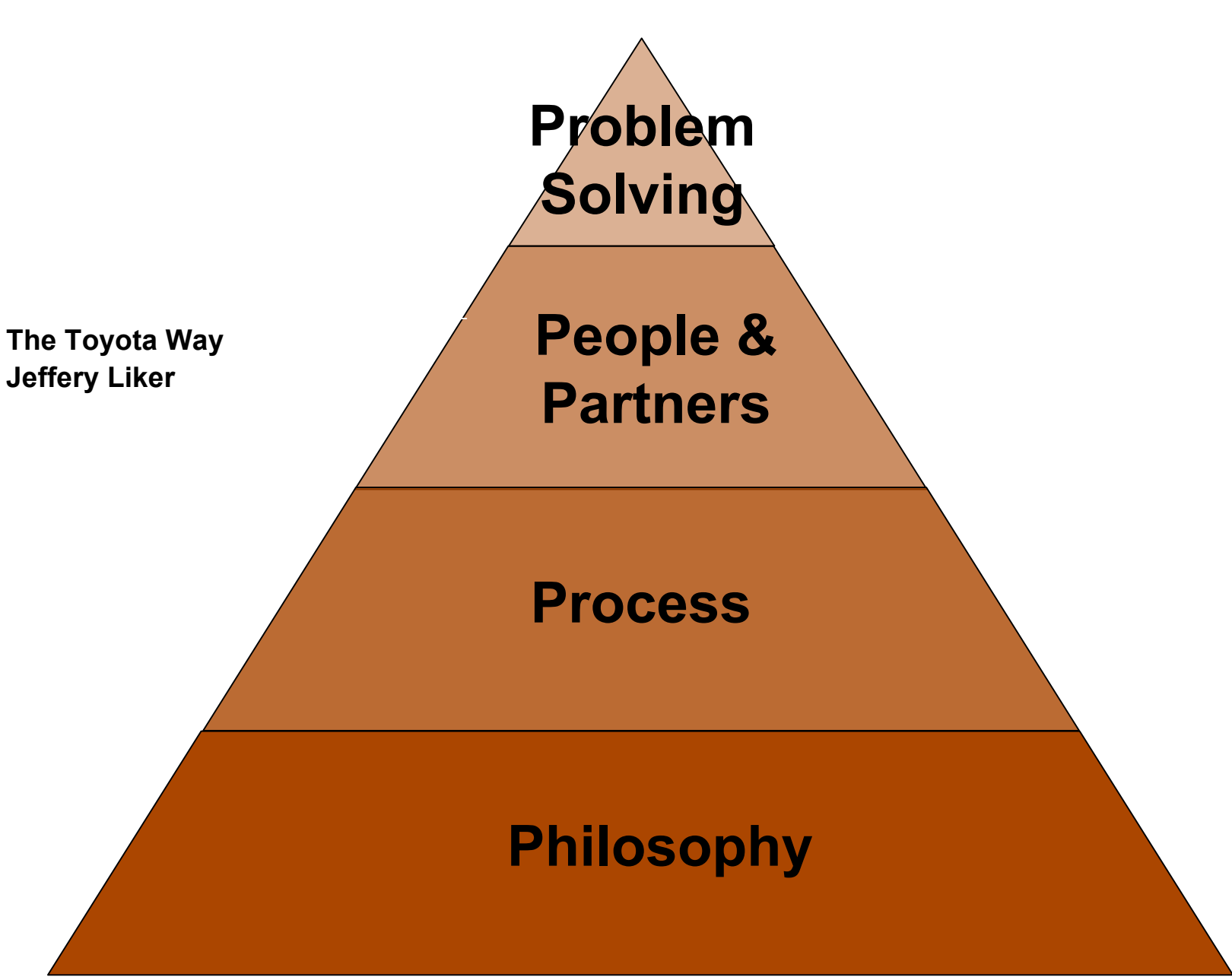


Projects as Promises: The “Physics” of Coordination



The Last Planner® System of Production Control





**Problem
Solving**

**People &
Partners**

Process

Philosophy

**The Toyota Way
Jeffery Liker**

Implement This!: The 14 Principles

(reworded by Digby Christian to avoid jargon and distracting images of mass production)

FOUND EVERYTHING ON A BROAD MEANINGFUL LONG TERM COMMITMENT

1. Maintain a Long Term Commitment to Your Philosophy, to Your Stakeholders, Your Employees, Your Suppliers, the Economy and Society

DEVELOP THE RIGHT PROCESS TO PRODUCE THE RIGHT RESULTS

2. Remove All Contingency from All Processes to Force Failures to be Addressed i.e. to Force Learning
3. Produce Only what is Needed,
4. Ensure No Resource Ever Stands Idle, Nor Ever Is Overburdened
5. Stop to Fix Problems in a Way that Prevents Recurrence
6. Stabilize Processes to Eliminate Variability in the Way The Organization Does its Work
7. Use Intuitive Visual Controls so Problems are Immediately Apparent
8. Use Only Technology that is Thoroughly Tested

DEVELOP YOUR PEOPLE AND PARTNERS

9. Grow Leaders who live the Philosophy and Teach it to Others
10. Develop Exceptional People & Teams who follow the Philosophy
11. Respect, Challenge and Help your Suppliers

CONTINUOUSLY SOLVE PROBLEMS TO DRIVE ORGANIZATIONAL LEARNING

12. Go and See for Yourself to Understand the Problem
13. Make Thorough Consensus-based Decisions, with Rapid Implementation
14. Apply all The Above Rigorously, Continuously, Ceaselessly

Emergent Outcomes

