



Switching to LPD: it's all about culture



deliver projects better, faster, together



Cultural Challenges of Implementation of LPD

Alan Mossman

Switching to LPD: it's all about culture.

LPD, Lean Project Delivery, is very different from the traditional way of delivering projects. LPD involves a different way of thinking, a different approach to procurement, high levels of collaboration, engaging the team in a way that makes them “advocates for the project”.

Our industry has a choice. Become way, way more efficient so that customers receive the project safely, on-time or sooner, at or below budget, with the full scope -- or customers will find others to create the facilities that they need to deliver their business plans, political goals or build, refurbish or alter their homes. It is that simple.

Switching to LPD involves the whole supply chain from customers to painters and landscape gardeners.

Our industry has been in crisis for years. Late delivery, exceeding the customer's budget, killing and maiming people, poor quality (defects and punch lists), rework that the customer ends up paying for. Construction productivity is lower than it was in the mid-60s. Even before Covid-19 there was a skill shortage in our industry. Now that may be worse.

Even though the crisis has been recognised for decades (witness a number of UK government construction reports), most people in construction appear to be satisfied with how things are. They know nothing else. The way things are now fits with what they learned as an apprentice, in college and at university; it fits with how things have been throughout their career in construction.

Tinkering at the margins of the way things are done does not work. Partnering has not worked, casual labour has not worked, Critical Path planning has not worked,

Even though most people don't know about it, there is another way. It is becoming more and more mainstream. When clients start to get it, change will come quickly. Meanwhile there is much that the design and construction supply chain can do to prepare for full-on LPD.

In this workshop Alan Mossman will talk about

- full-on LPD
- why it involves a system change
- what customers/clients/owners need to do to appreciate the benefits for them – and for the their supply chain
- what LPD-lite involves and how you and your company can work on company and project culture to support it.

Alan Mossman

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consultant, coach & author
gardener, singer, rebel



architecture & management degrees
user participation & systems management research
management & organization development - 25 years
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secretary, *Lean in Public Sector (LIPS)*, an int'l study group

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Why do we need to *switch* to LPD?

The dominant culture in construction is broken.

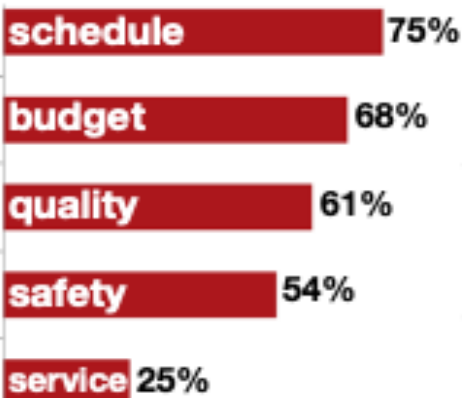
LPD and the dominant culture in construction are like chalk & cheese

After the COVID-19 crisis, construction will have a lot of catching up to do

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the dominant culture

How can you be sure
it is broken?



Delivers projects late

Delivers projects over budget

Delivers less scope than customers want

Is unsafe

Separates design from assembly & construction

Keeps corruption in plain sight

Teamwork is unreliable – siloed working

Delegates risk

Massive amounts of rework

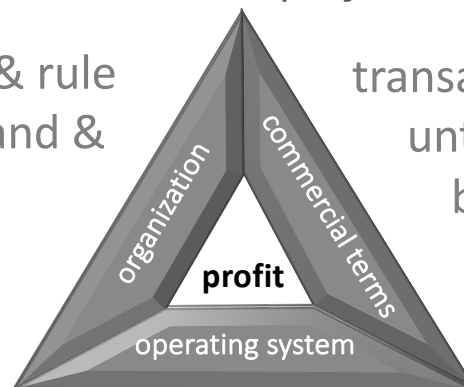
Nobody learns – mistakes are repeated

Dissatisfies customers

**in
the dominant
culture**

*everyone tries to optimize their own bit,
maximize profit*

divide & rule
command &
control



transactional
untrusting
bilateral
DBB
EPC

critical path method
push

it is coherent

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The dominant culture

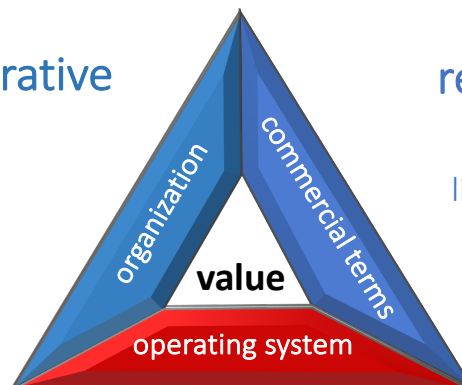
is based around DBB / EPC contracts
systematically separates design from
production on-site

**the lean project
delivery way**

*working together to improve the whole,
create flow & deliver value*

collaborative

relational
trusting
linking d & c



**addressing users'
human concerns**

short term planning
with Last Planner
pull & flow

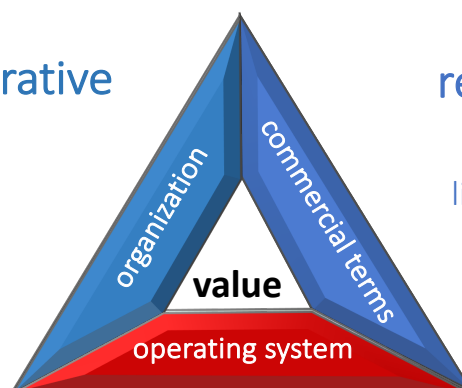
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**aligned integrated
optimized**

*working together to improve the whole,
create flow & deliver value*

collaborative

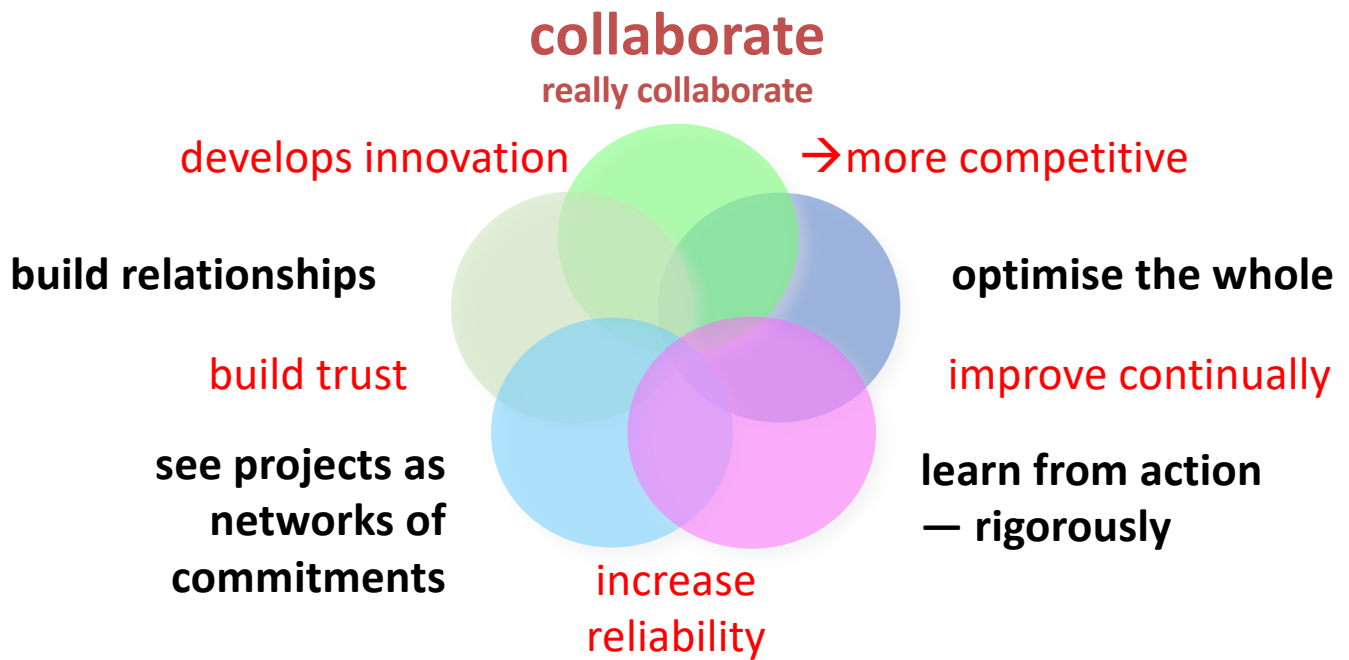
relational
trusting
linking d & c



**it is coherent
& profitable**

short term planning
with Last Planner
pull & flow

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Five big ideas developed by **Lean Project Consulting** for Sutter Health

Definition of Lean

Lean is a human-centered philosophy of work and of production.

Lean creates a culture of respect, trust, **improvement**, learning & collaboration.

Lean uses a set of principles, a management system, methods and tools.

Lean results in better safety, time, quality, cost, **flow**, customer & *employee* satisfaction.

after René Smith,

www.MakeWorkMoreHuman.com

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Lean works in any contract environment

It works best in

- LPD, IPD
- Alliances
- and other *relational agreement* settings

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Lean Operating System for Lean Project Delivery

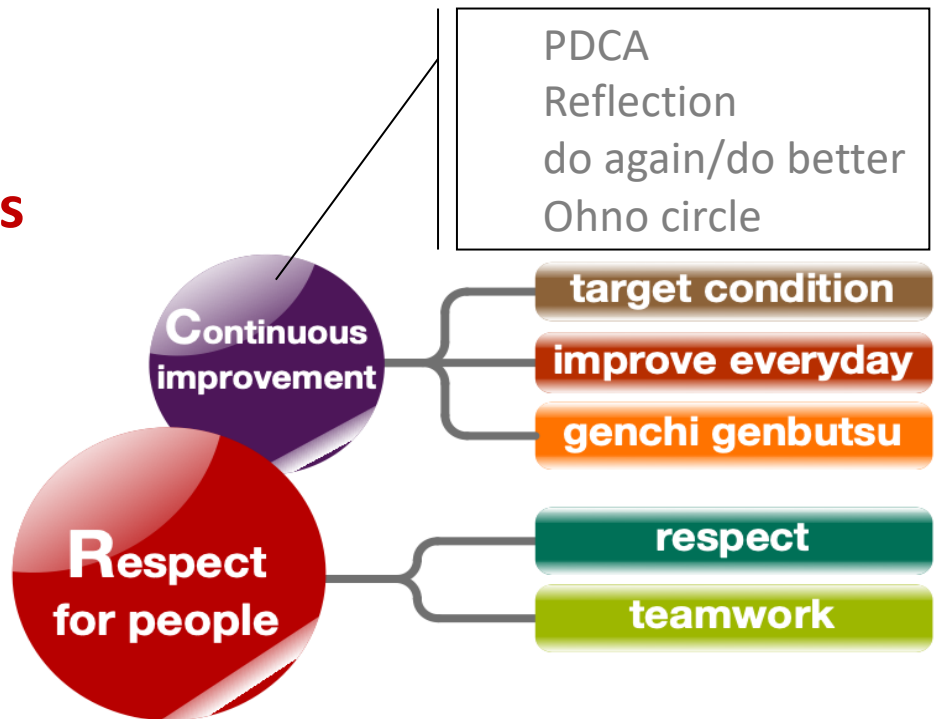
Foundation **pillars & principles**
collaborative procurement
collaborative communication
collaborative conditions
collaborative team organisation

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Foundation pillars & principles

Value
Value Stream
Flow
Pull
Perfection

Involve everyone
Whole system

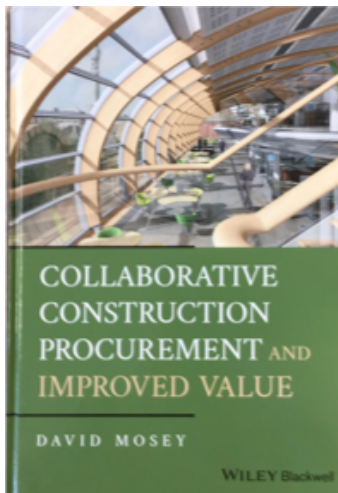


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Womack & Jones 1996, 2003

Toyota Way 2001

collaborative procurement



Procure a team that will work as a team

Incentivise teamwork

Link design and construction

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collaborative communication

Sound decision-making

- Choosing By Advantages
- A3 thinking processes

Declare breakdowns

5-Why root cause analysis

Conversations for Action

- Conditions of satisfaction
- Trust

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collaborative conditions

Last Planner

- Reliable, predictable delivery
- Flow focused on value
- Conversations for Action

Transparency/big room

- visibility
- knowledge sharing

Target Value Delivery

- structural tension
 - set-based design
 - innovation
- validation
- sound decision-making

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collaborative conditions

Incentivise collaboration

Choosing by Advantages

A3 thinking processes

BIM

pre-fabrication

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collaborative team organisation

clear leadership

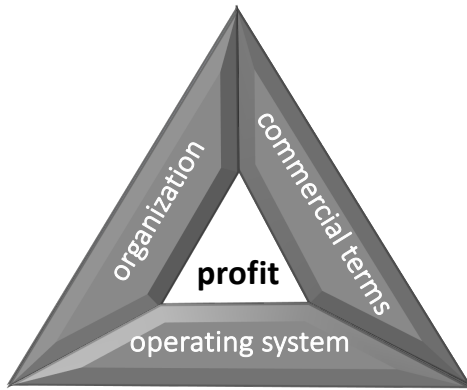
supportive facilitation

cluster structure

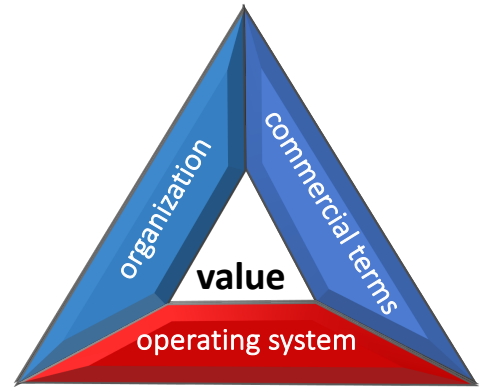
flat

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Moving from



to



requires a system change

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**Lean/LPD is a
system change**

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Any questions about what we have covered so far?

Please add them to the “Questions” tab
I will wait a minute for you to type them.

If not , think about what you already know about **culture**.

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the way we do things round here

What is culture?

*a pattern of shared basic assumptions,
invented, discovered or developed by a given group,
as it learns to cope with its problems of external
adaptation and internal integration,
that has worked well enough to be considered valid and,
therefore,
is to be taught to new members of the group
as the correct way to perceive, think and feel in relation
to those problems.*

Ed Schein (2010)

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Why is culture important?

Culture can give you **competitive advantage**

Culture influences behavior

Structure *determines* behavior

Structure is an integral part of culture

Culture eats strategy for breakfast

“Culture plays a critical role in personal and group decision making.

The faster you can make good decisions, the faster you can learn to be successful.”

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What is involved in culture?

These are structural elements of an organization

Structure determines behaviour

purpose

power & reporting relationships

who sits next to whom

who has access to information

who makes decisions and how

beliefs, assumptions, presuppositions, values

principles, procedures, policies, rules, standards

perceptions about how people are rewarded

what helps you get along or get promoted

rituals and routines

stories and symbols

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These elements are continuously changing in response to changes elsewhere in the organization & to changes in the environment

Complex Adaptive System (CAS)

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In a complex system, the same starting conditions can produce different outcomes, depending on the interactions of the elements in the system

Gökçe Sargut & Rita Gunther McGrath 2011
Learning to Live with Complexity HBR

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best practice doesn't work with either

Complex & complicated – what is the difference?



Unpredictable indeterminate outcomes

Open & dynamic *Complex Adaptive Systems* continually adapt to new developments

plaited, woven together

... in order to survive



Predictable, determinate outcome

involving a lot of different parts, in a way that is difficult to understand

folded together

... and can be understood

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Sargut & McGrath 2011 Learning to Live with Complexity HBR

This is the context for managing culture

Why are complex organisations difficult?

unpredictable
unexpected surprising

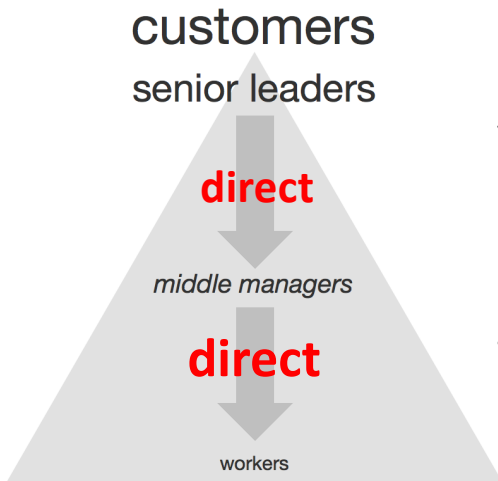
Systems that used to be separate are now interconnected and interdependent

difficult to predict what will happen,
complex systems interact in unexpected ways.
difficult to make sense of things,
the degree of complexity may lie beyond our cognitive limits.
difficult to predict,
past behaviour ... may not predict future behaviour..

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Sargut & McGrath 2011 Learning to Live with Complexity HBR

What is common in existing project culture



Organisation seen as pyramid

Workers ***who create value*** at bottom

middle managers direct workers

Senior leaders define procedures
designed to make their life easier

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Flipping the pyramid

is supported by

- lean thinking
- *relational project delivery arrangements*
- ideas of servant leadership

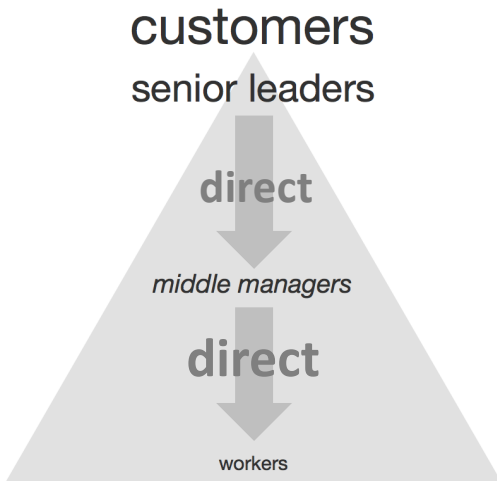
& supports

- Last Planner implementation
- collaboration
- the workers to manage handovers

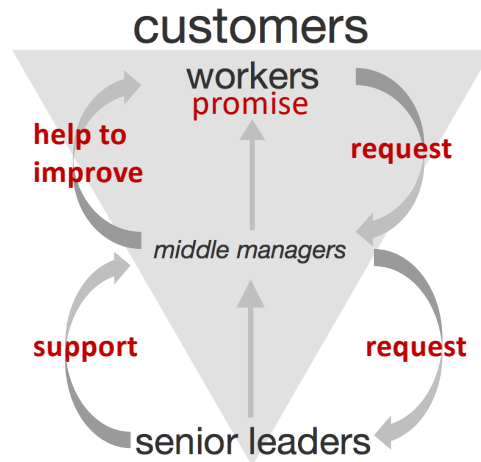
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this change will be difficult
for **middle managers**
- they will need help

Flipping the pyramid



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What is the role of leadership?

Changing CAS is not easy

c.f. the way work is now:

- 1) Leaders tell subordinates how to work and then control them, → hierarchy.
- 2) Procedures leaders create to save their own time → bureaucracy.

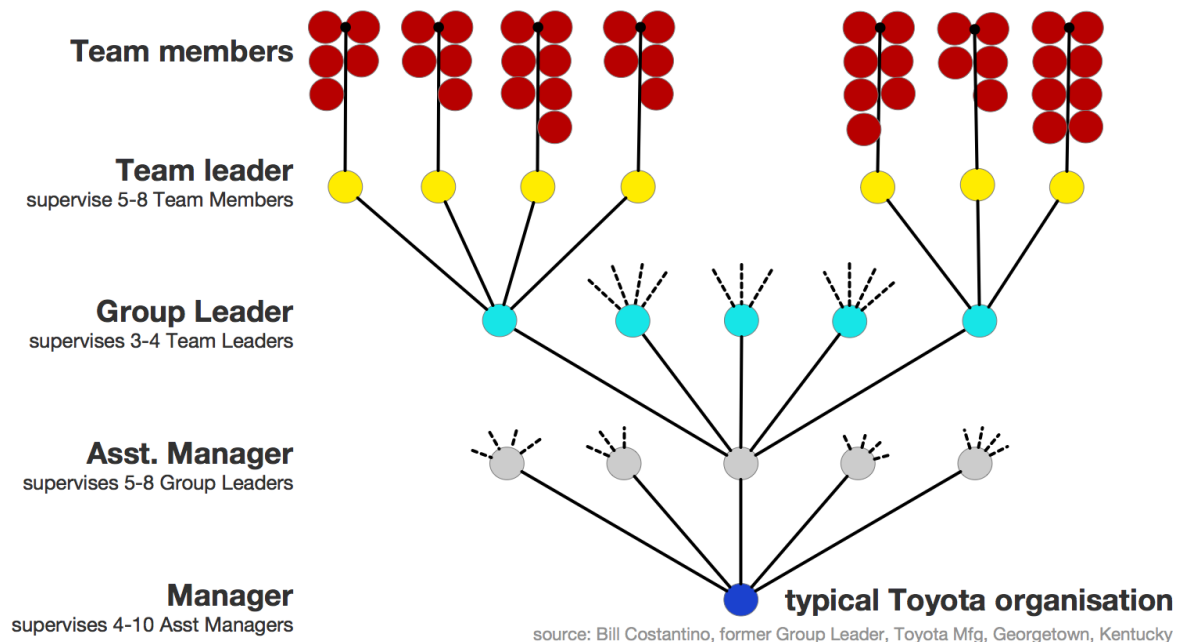
Workers work in a system.

The role of leaders & managers is to work on the system to improve it - with the help of the workers.

after: Myron Tribus 1988 Germ Theory of Management

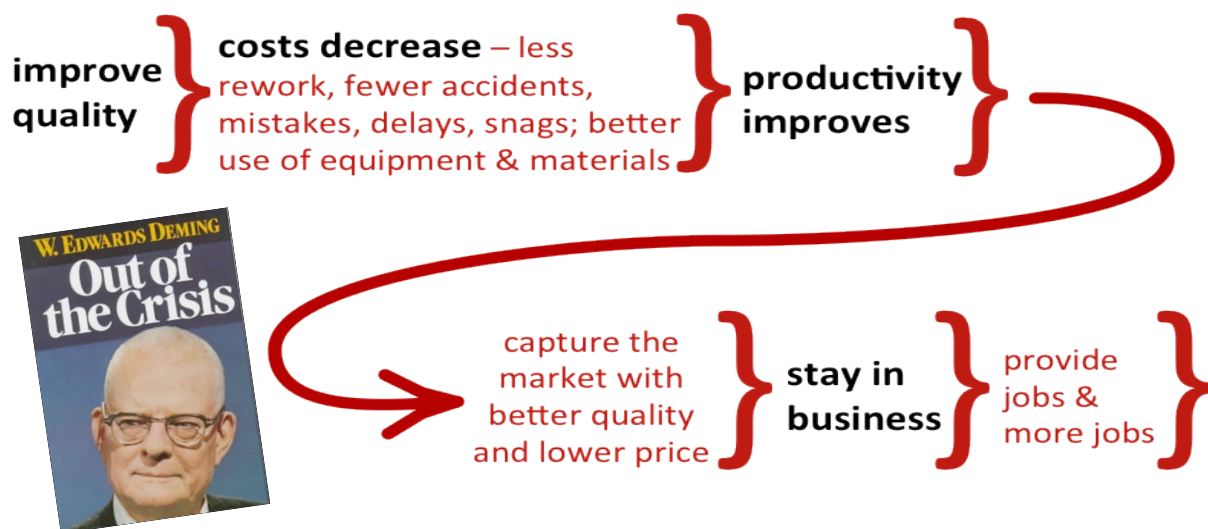
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This is how Toyota organize their workers



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Deming's quality chain reaction



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source: Deming 1985 Out of the Crisis p. 3

How can we improve?

Focus on what the customer wants

Make the work that delivers *what the customer wants* **flow**

Continually improve the way the work works so as to increase the rate of *flow*

these are the basics

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What will help?

This is a very different paradigm

Collaborative, relational contracts, agreements

- encourages & supports **early constructor involvement**
 - design production system alongside facility design
 - cost as you design
- encourages good teamwork
- encourages collaborative risk mitigation & open discussion of problems

Production management tools

- such as **Last Planner®**, Takt planning

Improvements focused at current bottlenecks

- so that the **work flows ever faster**

Level loading the work pipeline

- production flows, steady employment, learning, improvement

BIM + Virtual Design & Construction (VDC) + digitisation

- enables deeper collaboration, digital prototyping
- enables issues to be resolved before becoming problems on-site

Prefabrication, modularisation

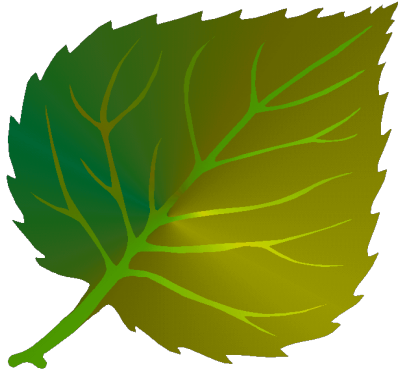
- safer, faster, lower cost, higher quality → bottleneck

Automation, robotisation

- safer, faster, lower cost, higher quality → bottleneck

... and together these will create **greener, more sustainable design**

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thank you

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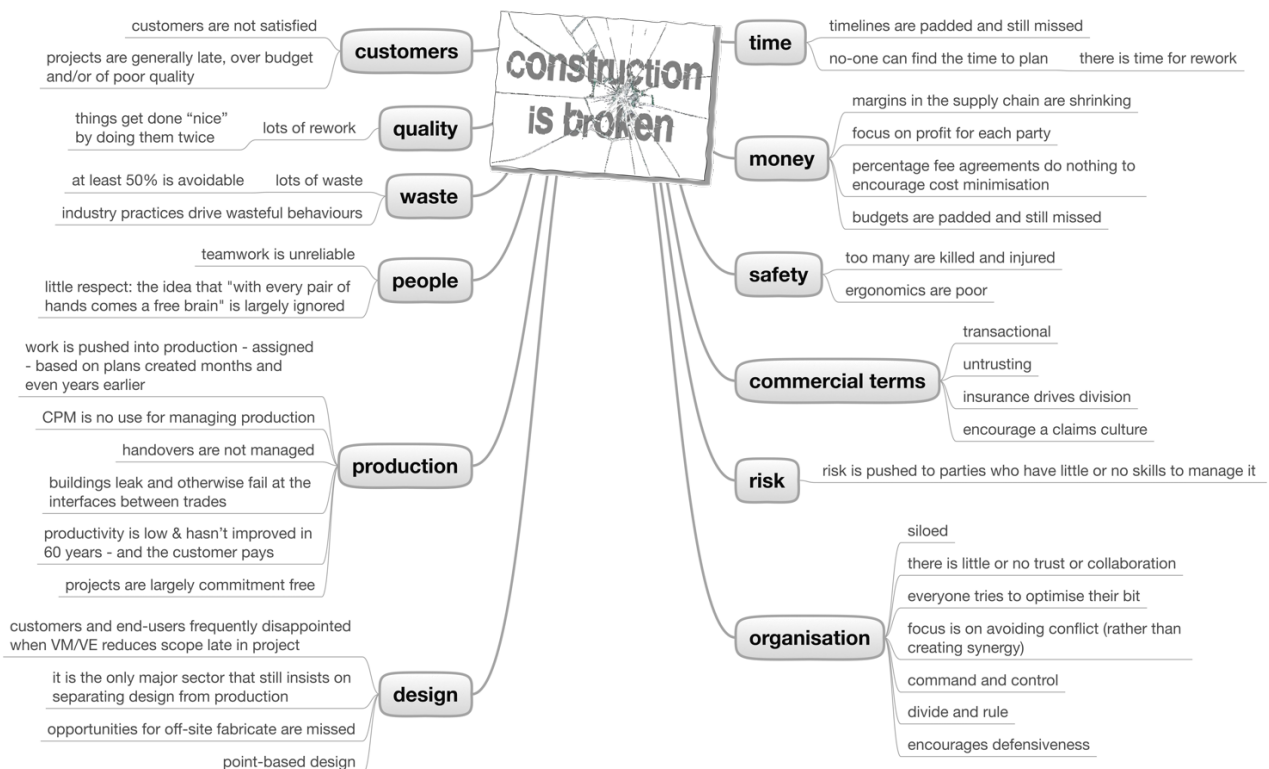
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Questions?
Comments?
Thoughts?

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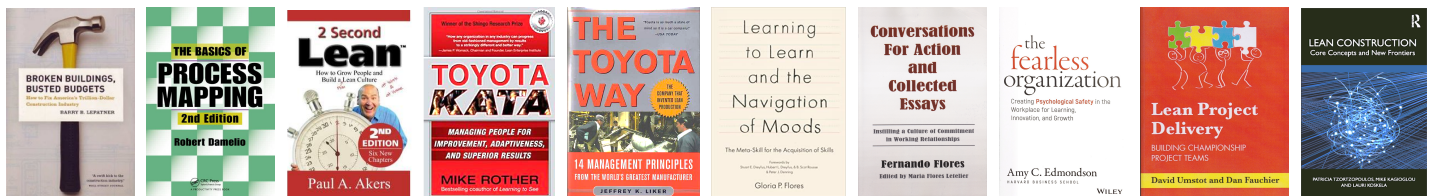


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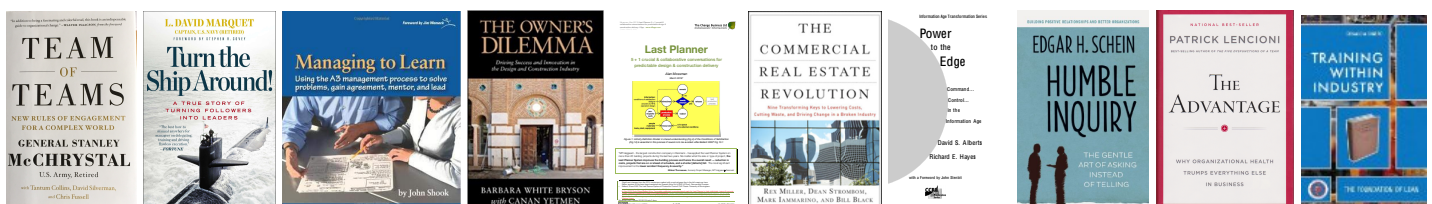
more to watch ...

- Getz, Isaac 2012 Liberate your company! TEDxESCP
<https://www.youtube.com/watch?v=sVBddXmynSc> 29Apr20
- Ian Martin Group 2020 Self-organization in practice
<https://www.youtube.com/watch?v=8nY7VrJOyig> 29Apr20
- Marquet, L.D. 2012. How Great Leaders Serve Others. TEDx talk at Scott AFB, IL. https://www.youtube.com/watch?v=DLRH5J_93LQ 29Jun15
- Marquet, L.D. 2013. Greatness: An Inno-Versity Inno-Mation adaptation.
https://www.youtube.com/watch?v=OqmdLcyES_Q 29Jun15
- McChrystal, Stanley. 2011. Listen, learn ... then lead. TED talk
http://www.ted.com/talks/stanley_mcchrystal?language=en 29Jun15
- McChrystal, Stanley. 2012. Leadership is a Choice. Address to Stanford Business Sch. <https://www.youtube.com/watch?v=p7DzQWjXKF4> 29Jun15
- McChrystal, Stanley. 2014. View from the top. Address to Stanford Business Sch. <https://www.youtube.com/watch?v=GgrQYSq5f4> 29Jun15

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further reading ...



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