



What does it mean to be lean?

A lean company is focused on creating value for the client and end users.

This involves a major change in **thinking** – *thinking about* improving the end-to-end design & construction process, optimising the system and the project as a whole, *thinking from* everyone across the supply chain—employees, customers and suppliers—using real data from the workplace and from the client in a scientific way. *Respect for people* is integral to this way of working.

The three opportunities

As Will Lichtig and Greg Howell have observed, going lean in design and construction will allow your projects to create the conditions for:

Impeccable coordination

Constructors, designers and the client/end-user working together from the outset to achieve shared goals in design and in construction

- To work for the best interests of the project
- To make explicit the client's underlying human concerns and develop solutions to meet them

The *Last Planner System* is a critical tool.

The project as production system

Designing the production system at the same time as designing the building or structure; assembling teams around systems rather than disciplines.

- To reduce the waste of rework in design
- To use off-site fabrication when it is appropriate
- To identify what makes the most sense in terms of *work structuring* – who is best placed to do something

The project as a collective enterprise

- To allow one trade partner to be compensated for investment that saves another even more (moving money across boundaries)
- To enable the client to effectively manage risk *and* cost on the project

Some of these may require different legal and other structures in order to realise the full benefits – all are possible within existing structures given the right intentions of the parties.

The flavours of lean in construction

Lean Construction is project-based production. It is different from the production we see in factories and requires the application of lean thinking and

principles in ways closer to the *Toyota Product Development System* than to the *Toyota Production System* that sits at the root of *Lean Manufacturing*.

Lean manufacturing informs the ways sub-assemblies and components are manufactured off-site and the way that they are delivered to site.

Lean service is appropriate to many administrative functions – accounting, invoicing, marketing and many aspects of facilities management.

Lean manufacturing, service and construction share underlying principles and like all lean applications **it is important to think applications – including tools – through from first principles** – just because it works somewhere else, even in another construction company, is no guarantee that it will work in yours.

Culture eats change for lunch, so if you want to keep the changes you make, they need to be designed in the

context of the culture, or system, of your organisation – it may be preferable to change the culture or system first so that it supports the values and behaviours you want (and that *may* be the only change you need to make).

What does it take to be lean?

You don't need all of these from day one – but you will have to develop them.

- A willingness to change the way **you** think
- Top level commitment and leadership
- Leadership for the long-term – 5-10+ years
- Respect for people – system-wide
- Recognition of the way *the system* causes most of the problems in your organisation and a willingness to change it.
- Systematic application of PDCA – Plan-Do-Check-Act
- A learning orientation where people feel safe to make mistakes & any topic is discussable.
- Long-term, collaborative relationships
- Constantly improving your system *as a whole*

What will kill lean?

- Command and control, blame culture
- Top leadership with inconsistent goals
- Decisions based on hunch & assumption
- Organising work in adversarial ways
- Fear & anything else stopping people learning

Alan Mossman – 14 oct 08

Keep everything simple
Make it visible
Trust your people to do the right thing
President of Toyota N America
quoted by Michael Kennedy in
Ready, set, dominate