

A way to higher productivity in construction



Source: construction site Inselspital Bern, Baufeld 12 am 15. März 2019, Peter Scherer, 2019

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Head of future education in Virtual Design and Construction

professional interests

VDC | IPD | BIM | processes | automation | energy | “lean”

active in associations

GNI | SIA | Die Planer. | CEN | ISO | buildingSMART International

Working groups

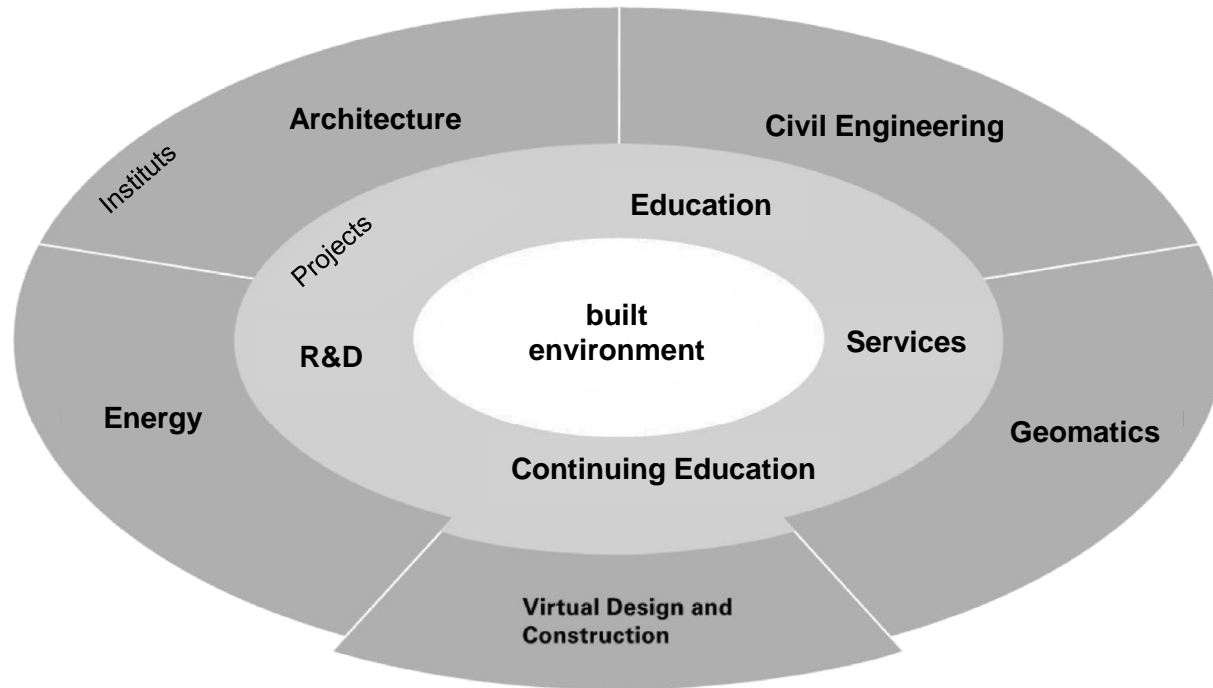
SIA MB 2051 | SIA D0270 ff | CEN/TC 442 | ISO

Private

married | 2 kids | photographer | ski tours | hiking



University of Architecture, Construction and Geomatics

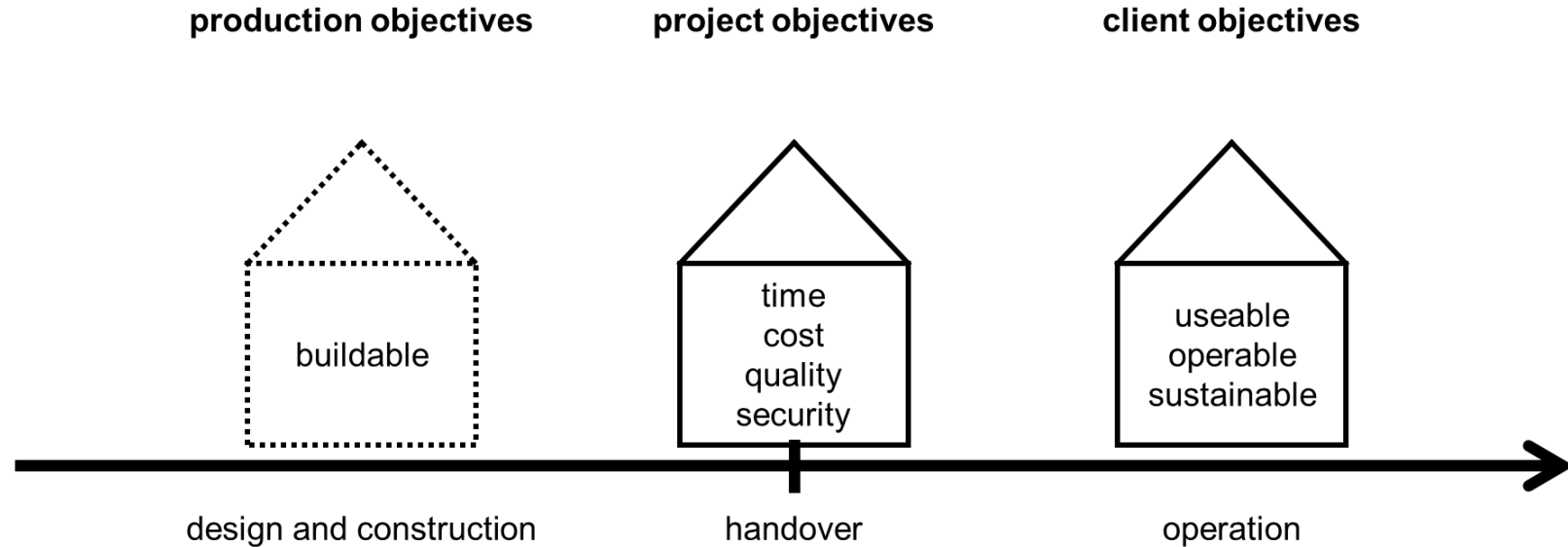


international collaboration Stanford University – University of Oslo

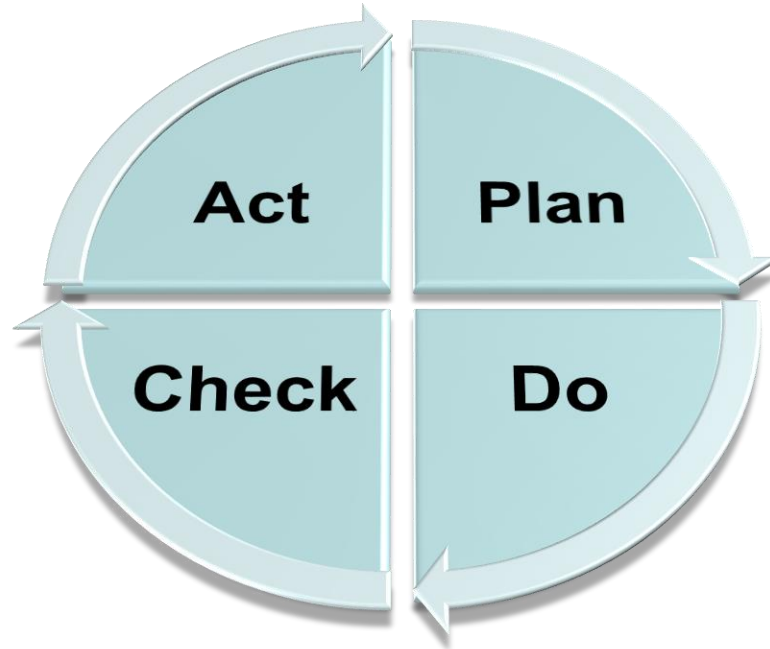


Source: Peter Scherer, FHNW

What do we really know about productivity?



Do we have a strategy to improve?

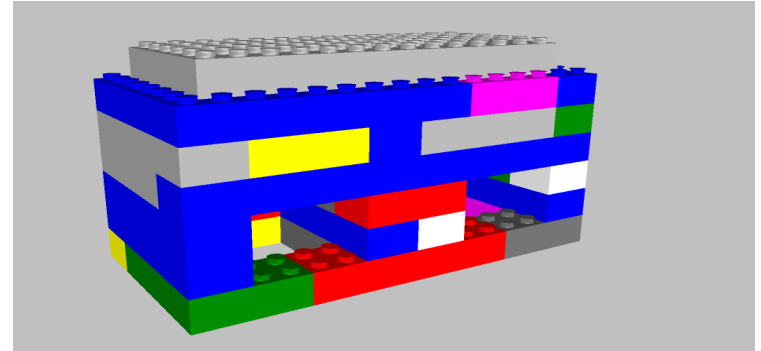


Source: Peter Scherer, FHNW

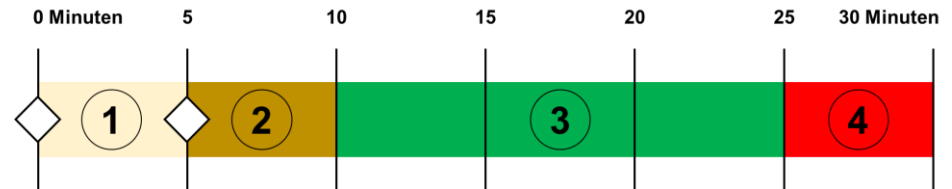
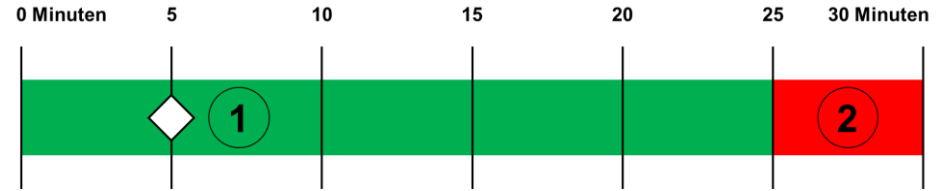
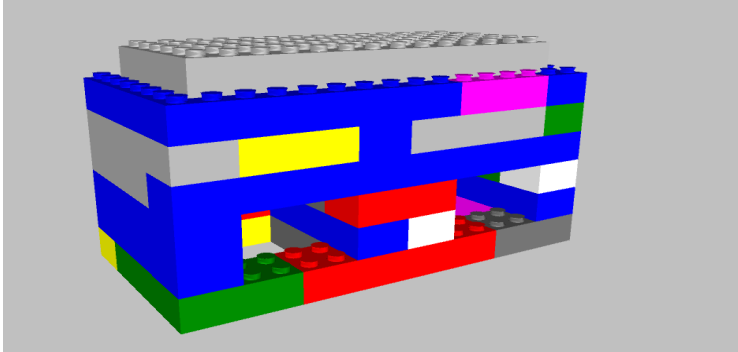
What do we know about processes in design and construction?

Results from over 40 similar workshop experiments with 500 different persons from design, construction and operation:

- there is almost no time spent on organizing the work
- tasks are always underestimated, until just before the work should be completed
- results are not checked before they are delivered
- Blaming each other is the explanation for the bad result



Reflection



silos



rethink design and construction

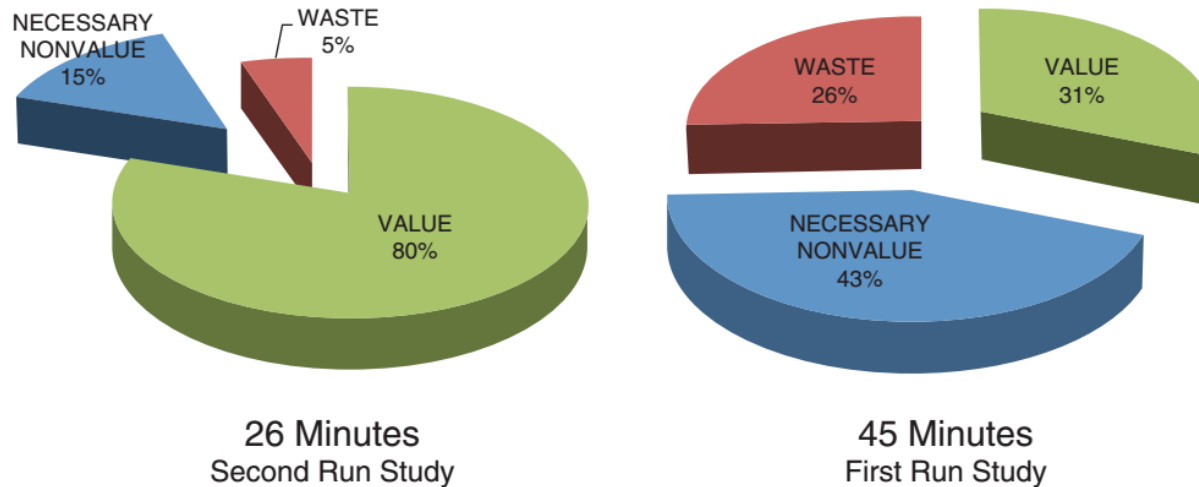


drywall frames prefabrication increases productivity of 25 %



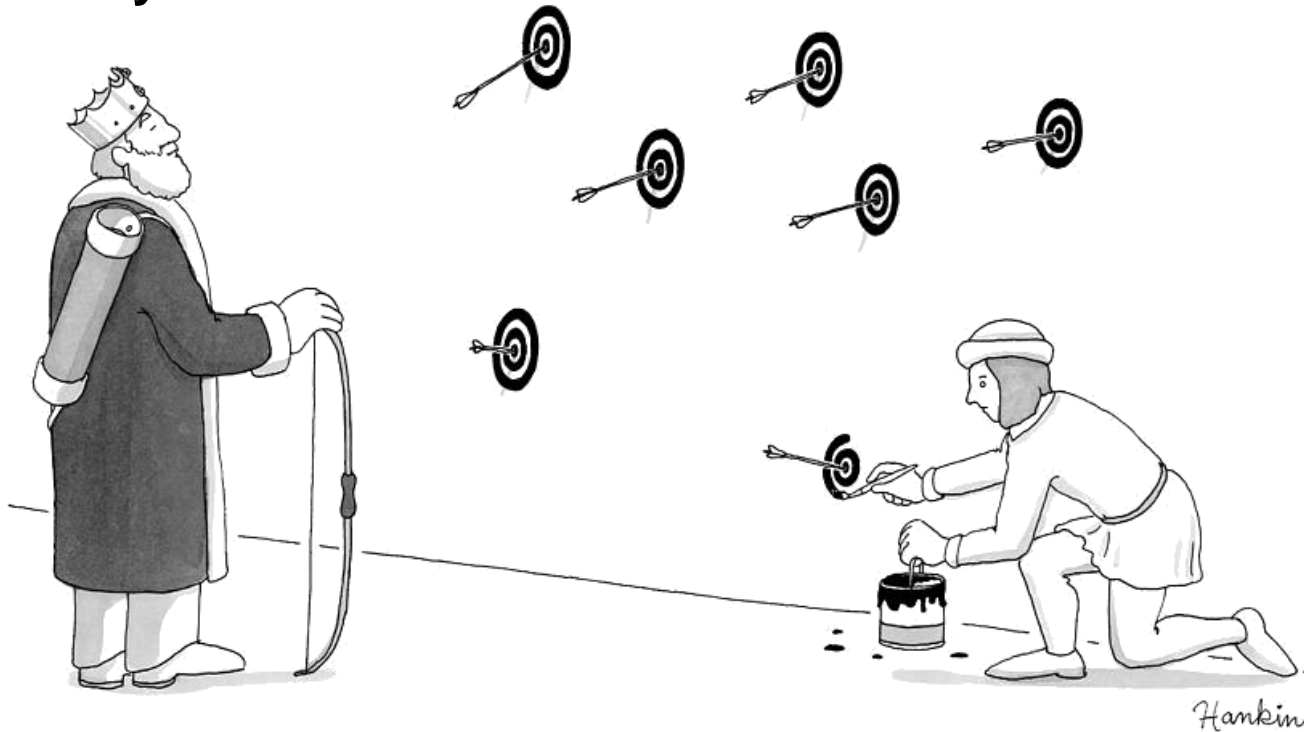
Source: DPR Construction

example of self-optimization from practice

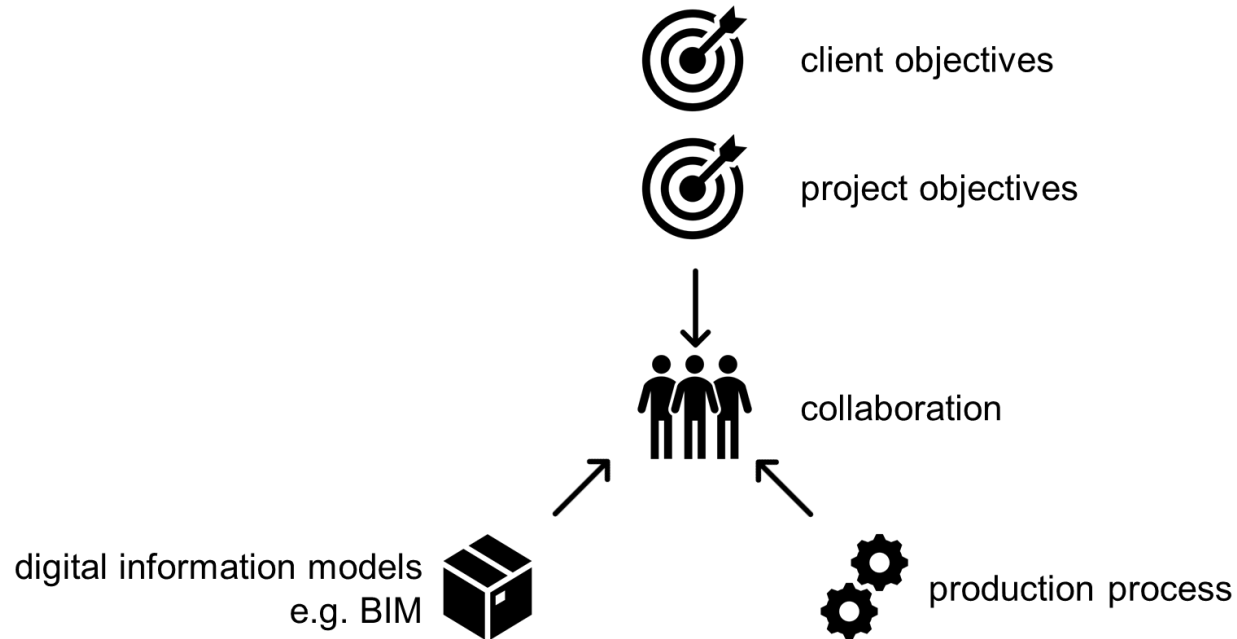


Source: Fischer, Ashcraft, Reed, Khanzode, 2017

What is really valuable for the client?



Virtual design and construction, VDC



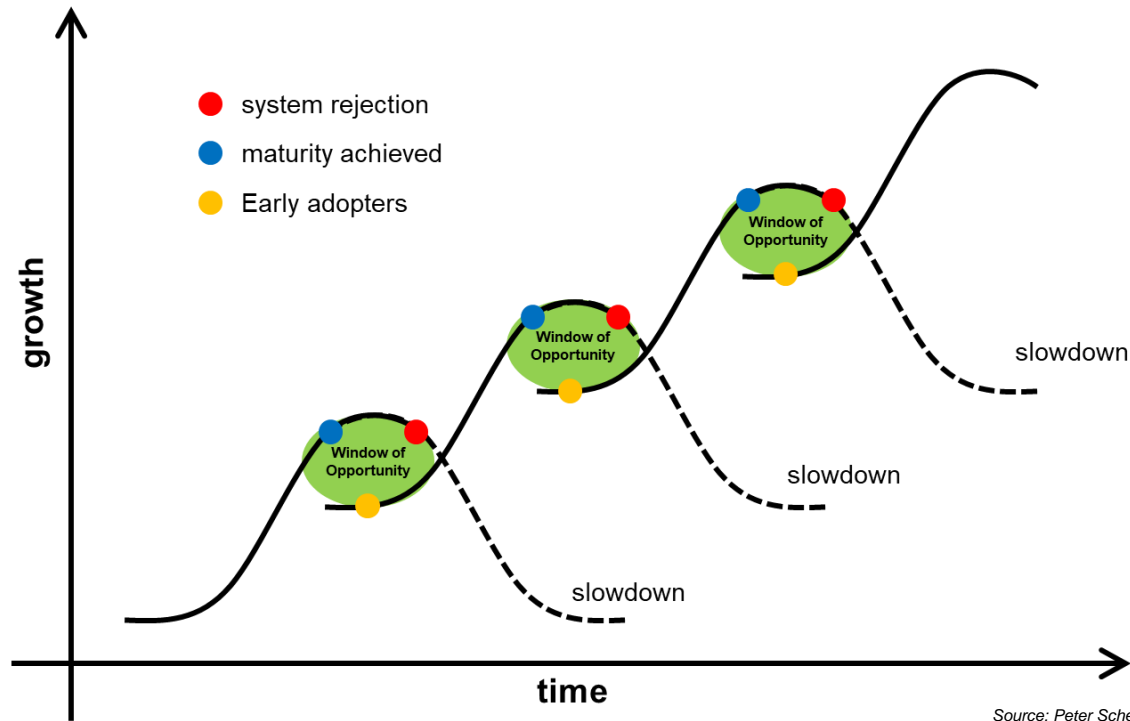
Source: Peter Scherer, FHNW according to Prof. Dr. Martin Fischer, CIFE

Integrated Project Delivery, IPD

**“Collaboration and information sharing
is a cultural attitude and not a
contractual agreement.”**

How can productivity be increased?

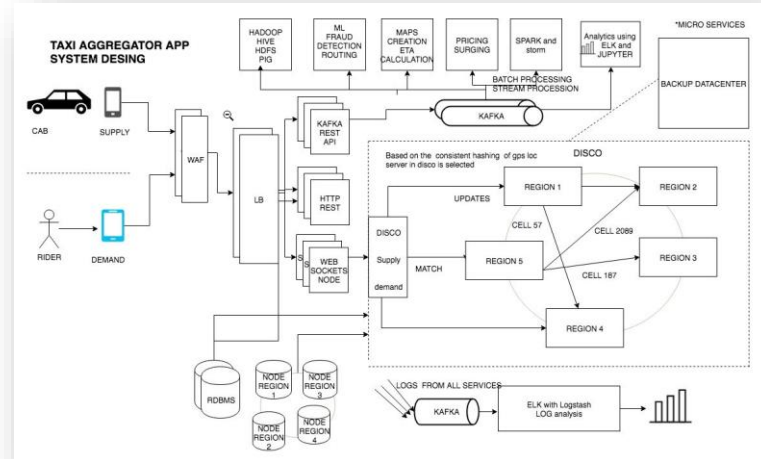
Fundamental changes are necessary



Source: Peter Scherer, FHNW, according to (Everett, 2003)

design and construction is complex and not simply complicated

**Uber as a system is complicated
but not complex**



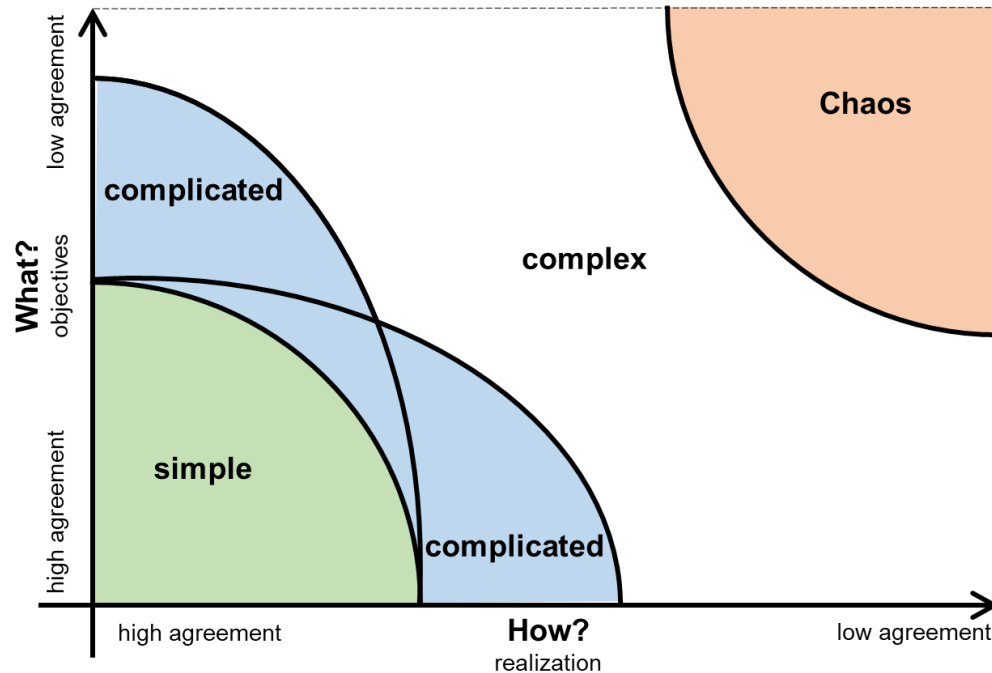
Solution: primarily technological

**Design and construction
as a system is complex**

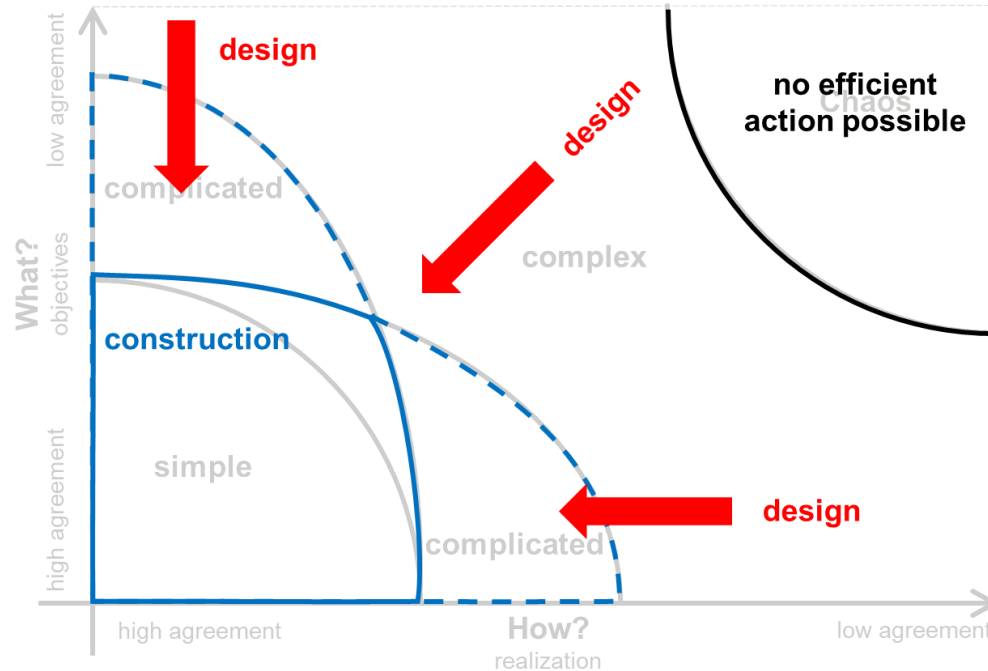


Solution: primarily procedural

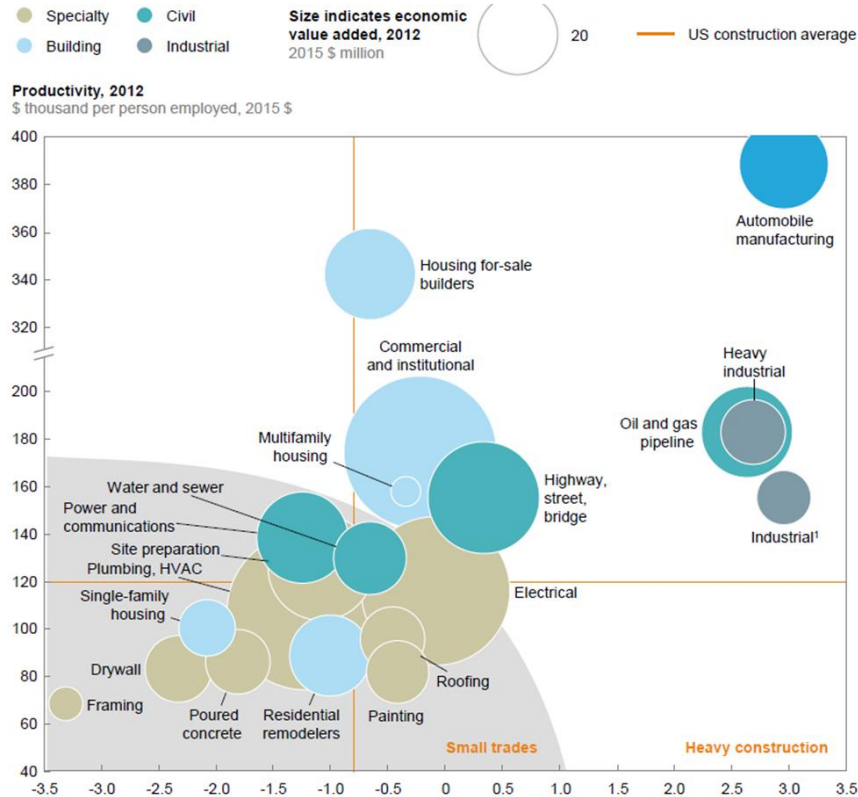
Dealing with complex systems



Dealing with complex systems

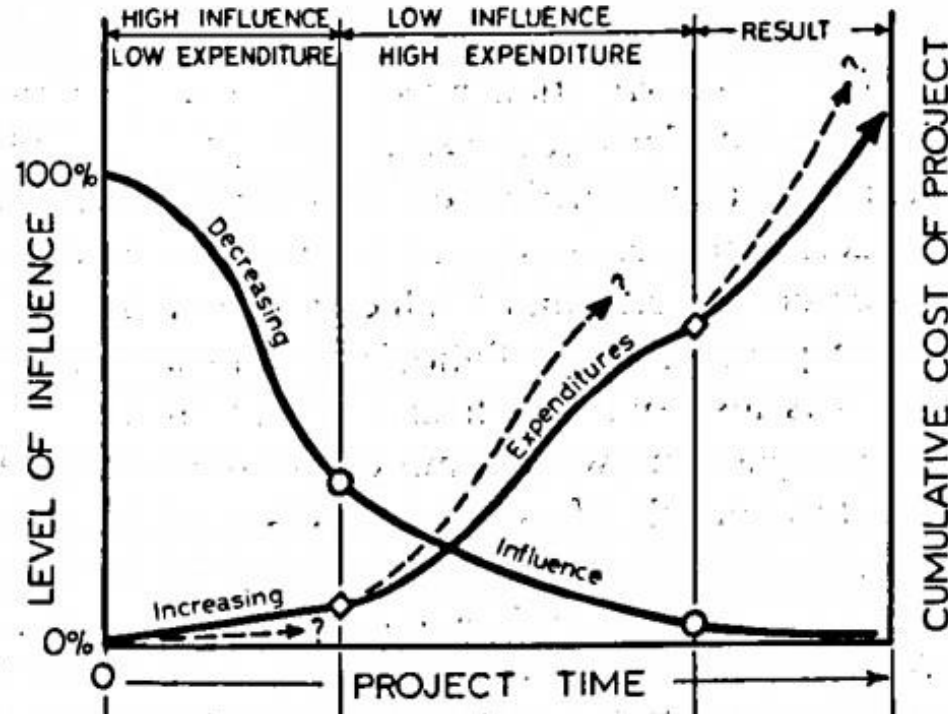


Productivity



Source: McKinsey Global Institut, 2017

Changing project delivery towards industrialization



Source: Journal of the construction division, 1976

“If you digitize a fuing process, then
you will have fu**ing digital process”**

translated from German, original quote by
Thorsten Dirks, CEO Telefonica Deutschland AG

«Culture eats strategy for breakfast»

Peter Ferdinand Drucker, Pioneer of modern management theory