

Patterns in Engineering Design Processes

Characteristical structures to enable systematic process analysis

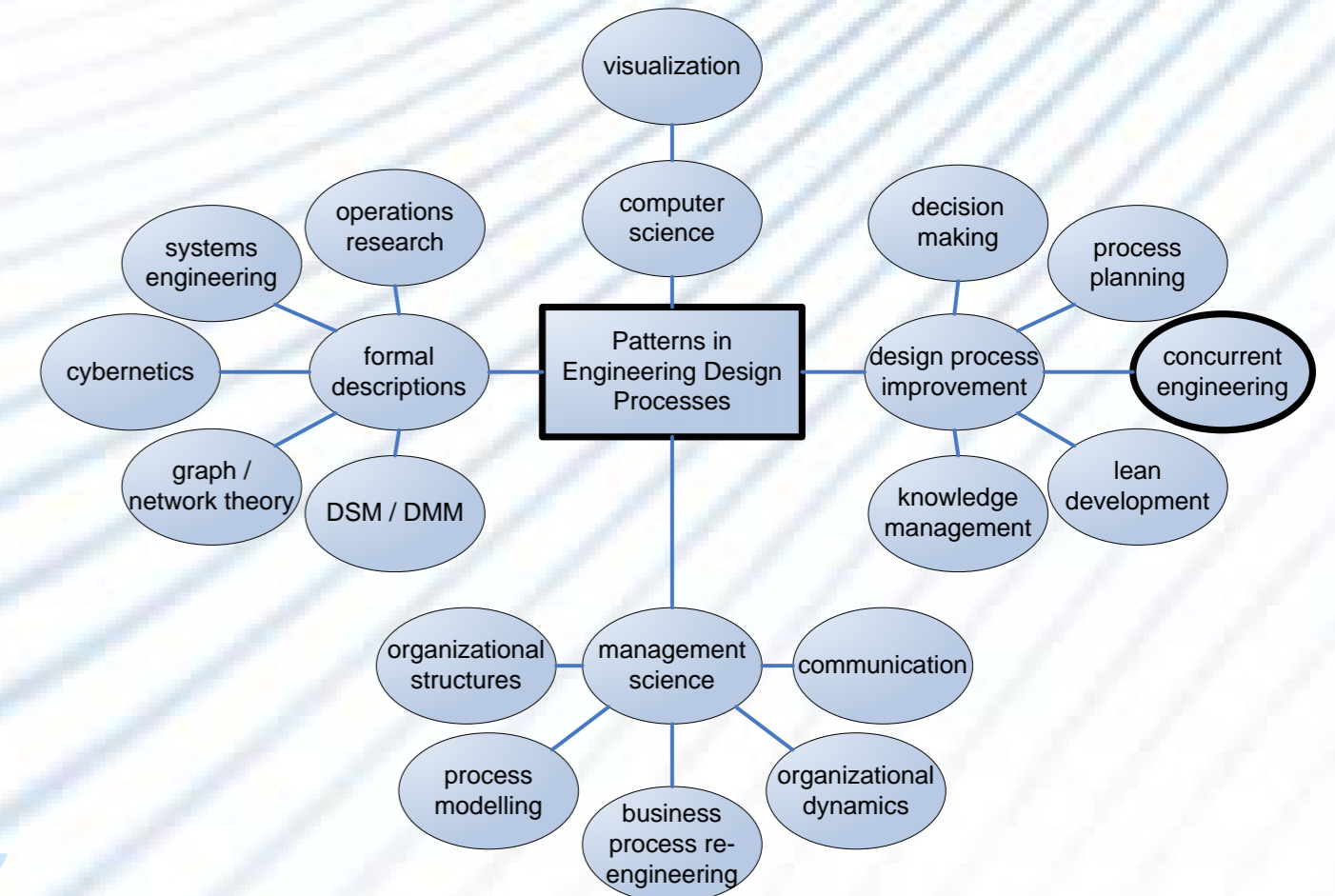
Matthias Kreimeyer (Dipl.-Ing., Ingénieur ECP)
Institute for Product Development
Boltzmannstrasse 15, D-85748 Garching
Phone: +49 89 28915136
Fax: +49 89 28915144
Email: matthias.kreimeyer@pe.mw.tum.de



Background:

- process improvement projects are common in all kinds of industries
- the domains involved (processes, information exchange, organization, and resources) are not independent of each other
- only limited methodical support to identify possible problems in a process is available, particularly with holistic focus (i.e. more than one domain at a time)

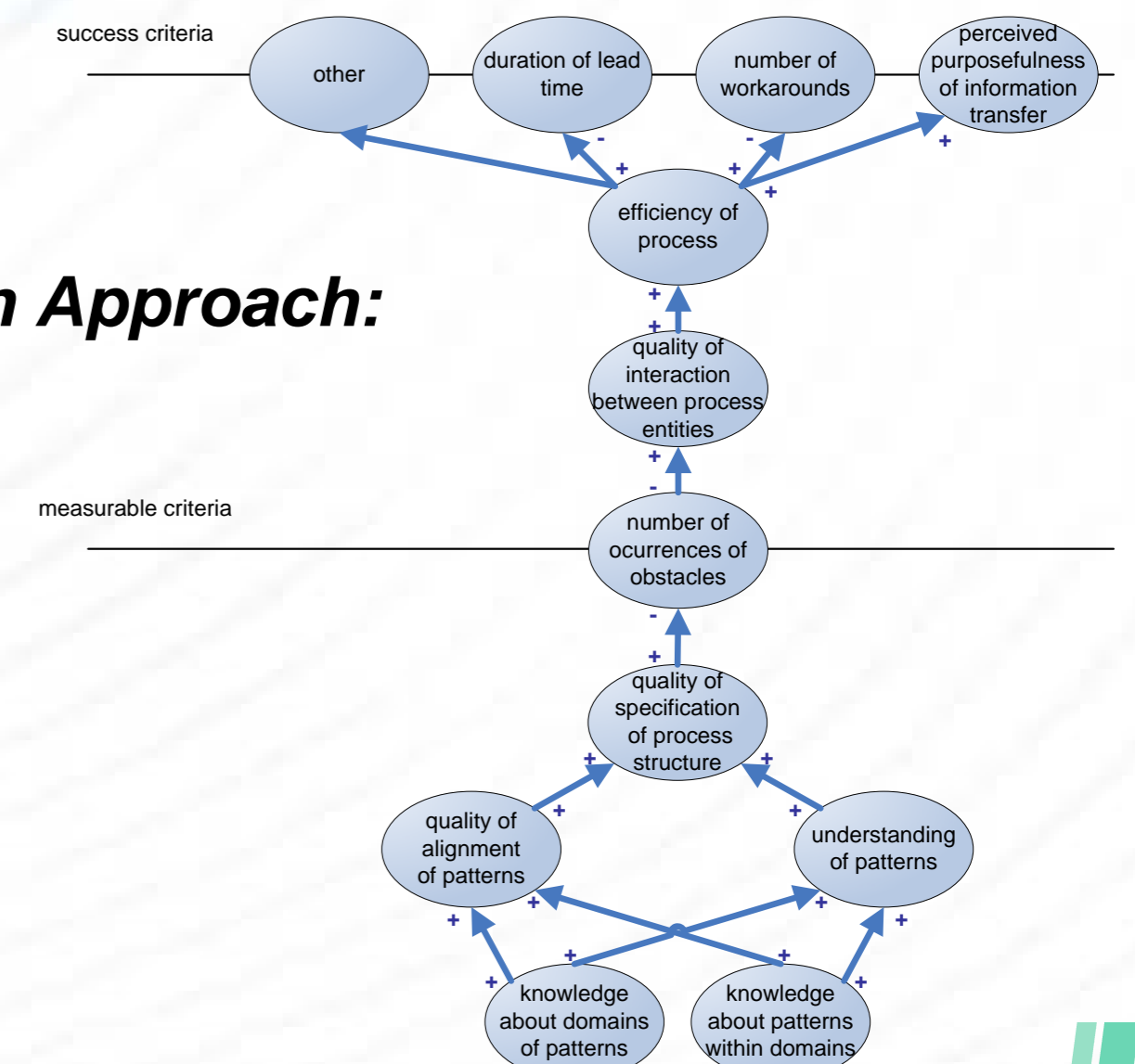
Theoretical Foundation:



Research questions:

- What patterns dominate an engineering design process?
- To what improvement potentials do these patterns relate?
- How can the patterns be detected in a process chart?

Research Approach:



Expected results:

- list of generic patterns that describe how engineering design processes can be characterized
- description of improvement potentials linked to each pattern and of how the patterns need to be aligned to achieve a well-tuned process
- mathematically well-founded approach to detect these patterns