DIVERGENT BELIEFS ABOUT PRODUCTIVITY DESPITE CONCURRENT ENGINEERING AND PULL PLANNING, A CASE STUDY

by

Ida Marie Tvedt
The Norwegian University of Science and Technology, Trondheim, Norway
Why this study?
Contents

1. The issue
2. Research question and objectives
3. Research design
4. Context
5. Data and discussion
6. Conclusion
7. Implications
The Issue

- Productivity as a benefit from concurrent engineering and pull planning
- Unpredictable behavior
- Previous research on Lean Construction
Research question:

Do collaborative work processes cultivate a shared belief of productivity in design teams?

Objectives:

Examine why the designers feel productive,

how they perceive the team's level of productivity, and

in what setting they have a feeling of being productive.
Research Design

• The basis
  • 15 interviews
  • 30 hours of meeting observations
  • Project documents

• Limitation
• Inductive analysis
• Social perspective
Context

- Productivity shape employees’ behavior
  
  *Tangen (2002), Ruch (1994)*

- «You get what you measure»
  
  *Brown (1990)*

- Construction and design work
  
  *Koskela (1999), Ballard (2000)*

- Productivity is not a fact
  
  *Tangen (2002)*

- Concurrent engineering and pull planning
  
  *Ballard (1999), Tsao (2014)*

- Effect on behavior

- Aligning team members’ effort
  
  *Aziz and Hafez (2013)*
Data and discussion

Defining productivity

- Speed
- Delivery
- Plans

To have and to follow a plan that ensures that the team is delivering the right things at the right time
Data and discussion

How do they recognize productivity?

• Absence of a measurement system

• Obvious in concurrent work

• The BIM-model visualized it
How do they perceive the team’s productivity level?

• Project delay

• Level above average

• Contractor brought in too late
Data and discussion

In what situations do they feel productive and why?

- Meetings
- Work alone
  - Trust
  - Pulling together
  - Respect
- Time, feedback, communication, knowledge, pleased

"In [an episode] we had two meetings, and we presented to each other the issues, and after we had pondered a little, we could offer a solution that suddenly turned out to cover several needs"
Conclusion

Do collaborative work processes cultivate a shared belief of productivity in design teams?

• Project mechanisms affect team members’ beliefs
• More productive feeling in face-to-face situations

• Collaborative work processes cultivate the feeling, but not directly a shared belief of the definition of productivity.
Implications

Contribution:

- Divergent understanding despite collaborative work
- Discussion of delivery models

Future research:

- Psychological safety
- Virtual environment

Do not take the aligning of the understanding of productivity for granted.
Thank you!

Contact information:
ida.m.tvedt@ntnu.no