The Last Planner® System - Path Clearing Approach (LPS-PCA)

- Dr Emmanuel Daniel.
  Southampton Solent University.

- Prof. Christine Pasquire, & Paul Ebbs.
  Centre for Lean Projects, Nottingham Trent University.
What is the Last Planner System?
Last Planner® System
Should-Can-Will-Did-Learn Planning

As Needed

Should
- Define Milestones (30,000’)
- Master schedule
- Establishes promise of the project
- Set phase durations & overlaps
- Identify project constraints

Phase Planning
- Phase Schedule (10,000’)
- Collaboratively built using pull planning
- Focus on handoffs & Conditions of Satisfaction of processes within phases

Can
- Make-Ready Planning
  - Look-ahead Window
  - Make Work Ready (1,000’)
    - Identify constraints
    - Commitments to remove constraints
    - Constraint Log

Will
- Commitment Planning
  - Weekly Work Plan (100”)
    - Reliable promising
    - Tasks are defined, sound, sequenced & sized to match capacity

Did
- Daily Huddles
  - Daily Coordination (10’)
    - Rapid learning & adjustment to constraints
    - Capture Metrics
      - Percentage of Promises Completed (PPC)
      - Reasons for Missed Commitments (RMC)

Learn
- Learning
  - Root Cause Analysis
  - 5 Whys
  - Prevent reoccurrence (PDCA)

Creating and maintaining reliable workflow
LPS Background and Benefits

- Plan Compression
- Reduced Variability
- Cost Reduction
- Support Collaboration
- Better Coordination

LPS

Decision Making
Flow
Language Action

Emerged from Practice
Context of Research

Partial implementation
UK, Denmark, Norway, S.Korea

Current focus on project only

Implementation stalled at “CAN”
Context of Research

Partial implementation
UK, Denmark, Norway
S. Korea

Current focus on project only

Implementation stalled at “CAN”

No clear guidance

Broader approach needed
LIMITED REALISATION OF LPS BENEFIT

How do we move from here............
LIMITED REALISATION OF LPS BENEFIT

How do we move from here to here?

FULL BENEFIT REALISATION
LIMITED REALISATION OF LPS BENEFIT

FULL BENEFIT REALISATION

Path Clearing Approach to guide stakeholders!
HOW DID WE DO IT? Investigated projects: Building, Rail and Road

30 respondents interviewed

15 Projects observed

3 in-depth case study
What did we find out?

- Support needed at 3 levels: organisation, project, sector.
- Transparency and discipline are key social behaviours.
- Organisations need strategic capability and specific implementation strategies.
What did we do?

- Developed the LPS Path Clearing Approach to address these findings.
- Evaluated the approach with practitioner experts.
- Tested the LPS-PCA in a company – subsequently adopted into their processes.
What is the LPS-PCA?

- At organisational level – 5 steps
- At project level – 8 steps
- At sector level – 2 steps
LPS-PCA Organisational Level – Step Actions

1. Create the imperative for LPS leadership
2. Identify and understand the drivers and benefits for LPS implementation
3. Develop strategic capability and commitment to support LPS implementation
4. Identify behaviours arising from the contract
5. Create awareness on the strategic capability commitment for the implementation
LPS-PCA Project Level – Step Actions

1. Explicitly align PL with the OL strategy
2. Review current production planning and control practice
3. Review practice using the LPS Principles
4. Create enablers for LPS implementation
5. Adopt a standard approach
6. Understand and practice desired social behaviours
7. Gauge Practice
8. Gauging LPS implementation
LPS-PCA Sector Level Enablers– Step Actions

1. Engage with the external enabling factors
2. Continuous learning action and feedback loop
And finally……

*Lean construction* research seeks practical and applied solutions.

Working with a University has many benefits:
- objective, unbiased (not a conduit to “the bosses”)
- access to global knowledge and expertise
- expertise in developing experimental action cycles for performance improvement
Further Readings and Bibliography
