

# IMPROVING COMMISSIONING AND QUALIFICATION DELIVERY USING LAST PLANNER® SYSTEM

## **William Power**

Productivity & Performance Manager, DPS Group, 4 Eastgate Avenue, Eastgate Business Park, Little Island, Co. Cork, Ireland.

+353 21 7305000

[willie.power@dpsgroupglobal.com](mailto:willie.power@dpsgroupglobal.com)

## **Dr Derek Sinnott**

Senior Lecturer, Department of Built Environment, Waterford Institute of Technology, Waterford, Ireland.

[dsinnott@wit.ie](mailto:dsinnott@wit.ie)

## **Aidan Mullin**

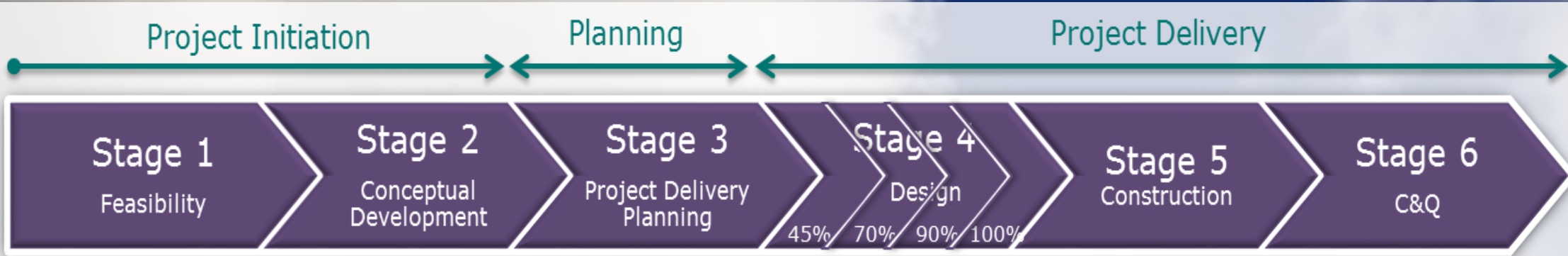
Senior Project Manager, DPS Group, 4 Eastgate Avenue, Eastgate Business Park, Little Island, Co. Cork, Ireland.

+353 21 7305000

[aidan.mullin@dpsgroupglobal.com](mailto:aidan.mullin@dpsgroupglobal.com)



# Background & Context

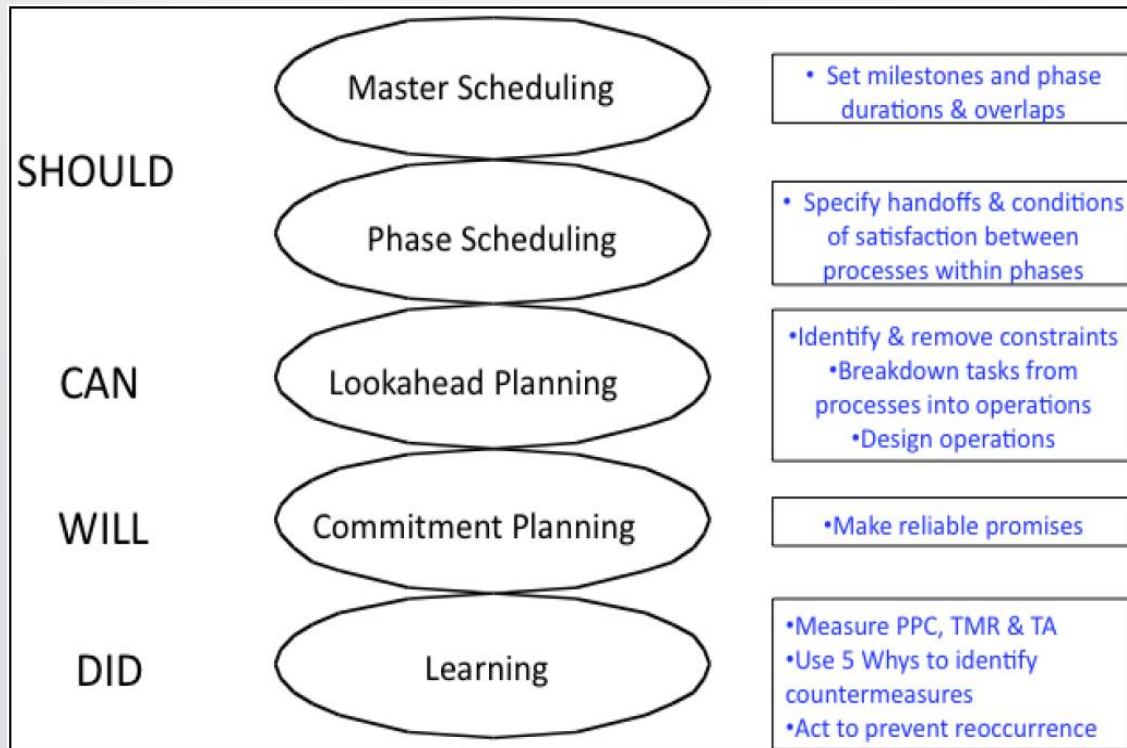


Project Stage 1	Project Stage 2	Project Stage 3	Project Stage 4	Project Stage 5	Project Stage 6
<ul style="list-style-type: none"> <li>• <b>Feasibility</b> (Evaluation of business opportunities)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Concept Development</b> (Development of best options)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Project Delivery Planning</b> (Finalise technology and project objectives)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Detailed Design</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Construction</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>C&amp;Q</b></li> </ul>



# Introduction

## Last Planner System



Ballard and Tommelein (2016)

## Commissioning & Qualification



“A clear refrain in the literature is that commissioning (i) needs deliberate project management, but (ii) is too often not given the attention it deserves. One of the issues with commissioning, which contributes to problem (ii), is that the value thereof is hard to quantify”.

Lawry and Pons (2013, pp.2)



# Research Design

Qualitative in Nature

Mixed-Methods Approach

Single Case Study

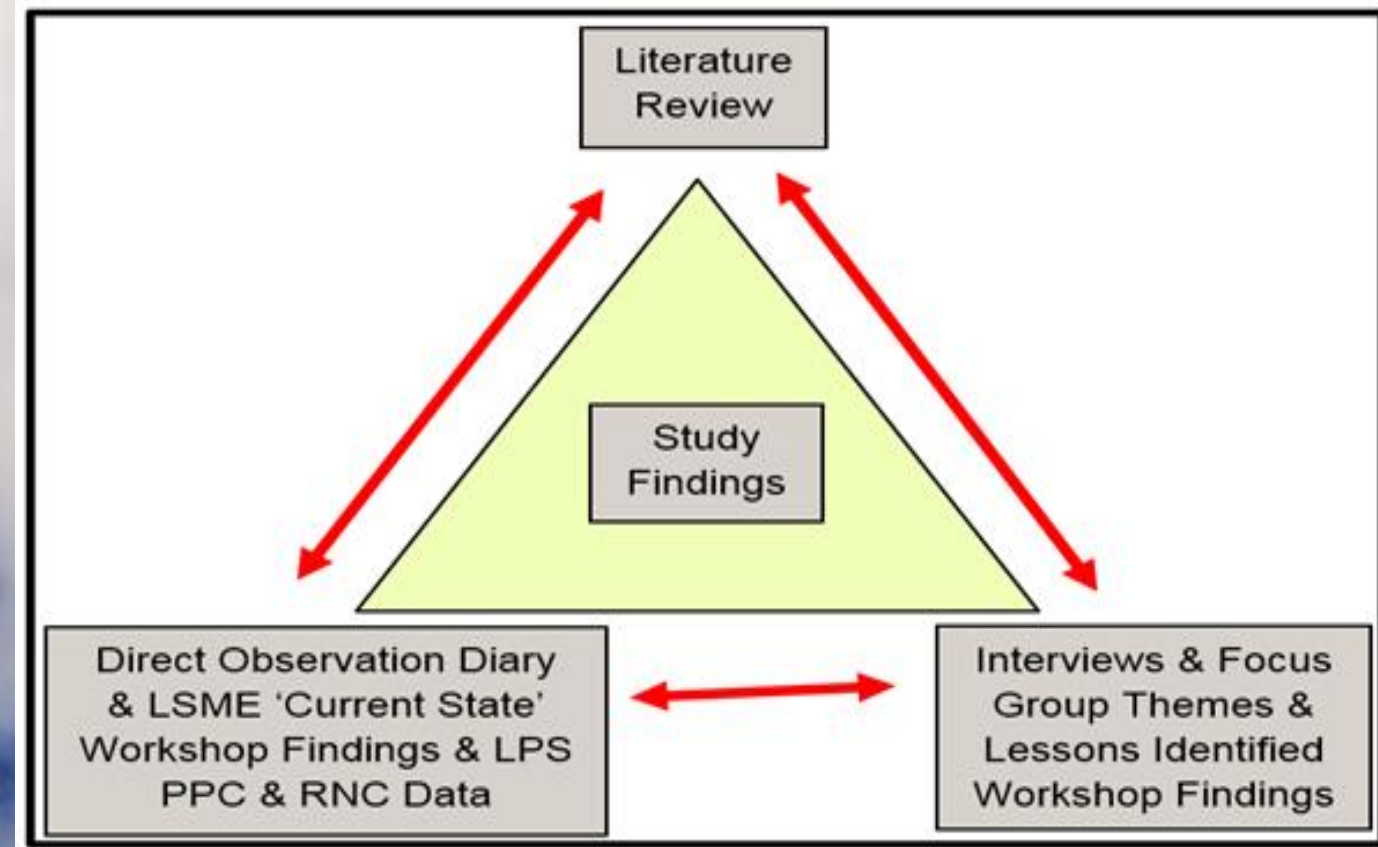
Principles of Action Research & Learning

Triangulation

Sequential Explanatory Approach

Limitations:

- single case example
- the small sample size
- the limited sample profile



Triangulation of Research Sources



# Findings: Issues & Challenges

## Summary of review of construction handoff to C&Q

Too much late, ad hoc, reactionary planning

A need for C&Q to join the dots with construction (and other units).

A need to have and honour the “next customer mindset”.

A requirement to have “value” discussions, engagement, and transactions.

Teams should work from a shared “meta” board and plan.

## Challenges to LPS implementation in C&Q

LPS Knowledge & Awareness

LPS Facilitation & Behaviours

Absence of Standard Work

Unwillingness to Participate

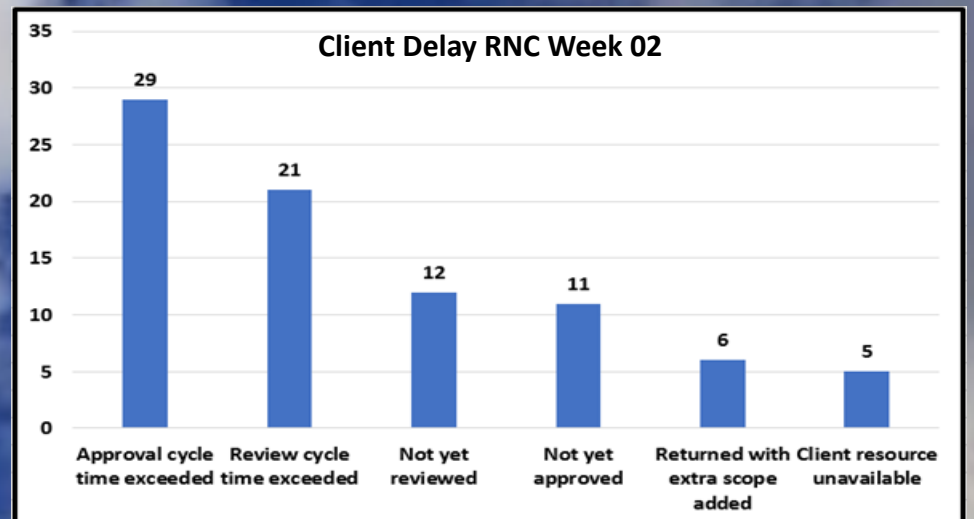
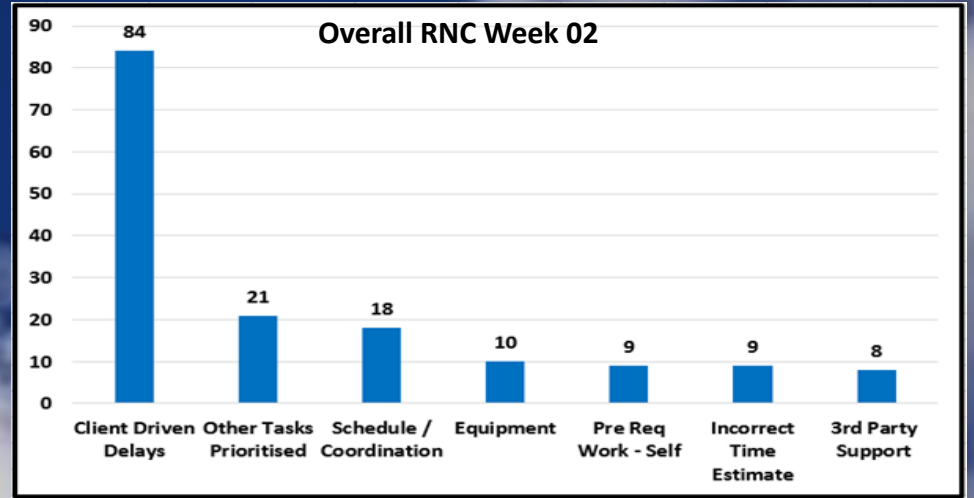
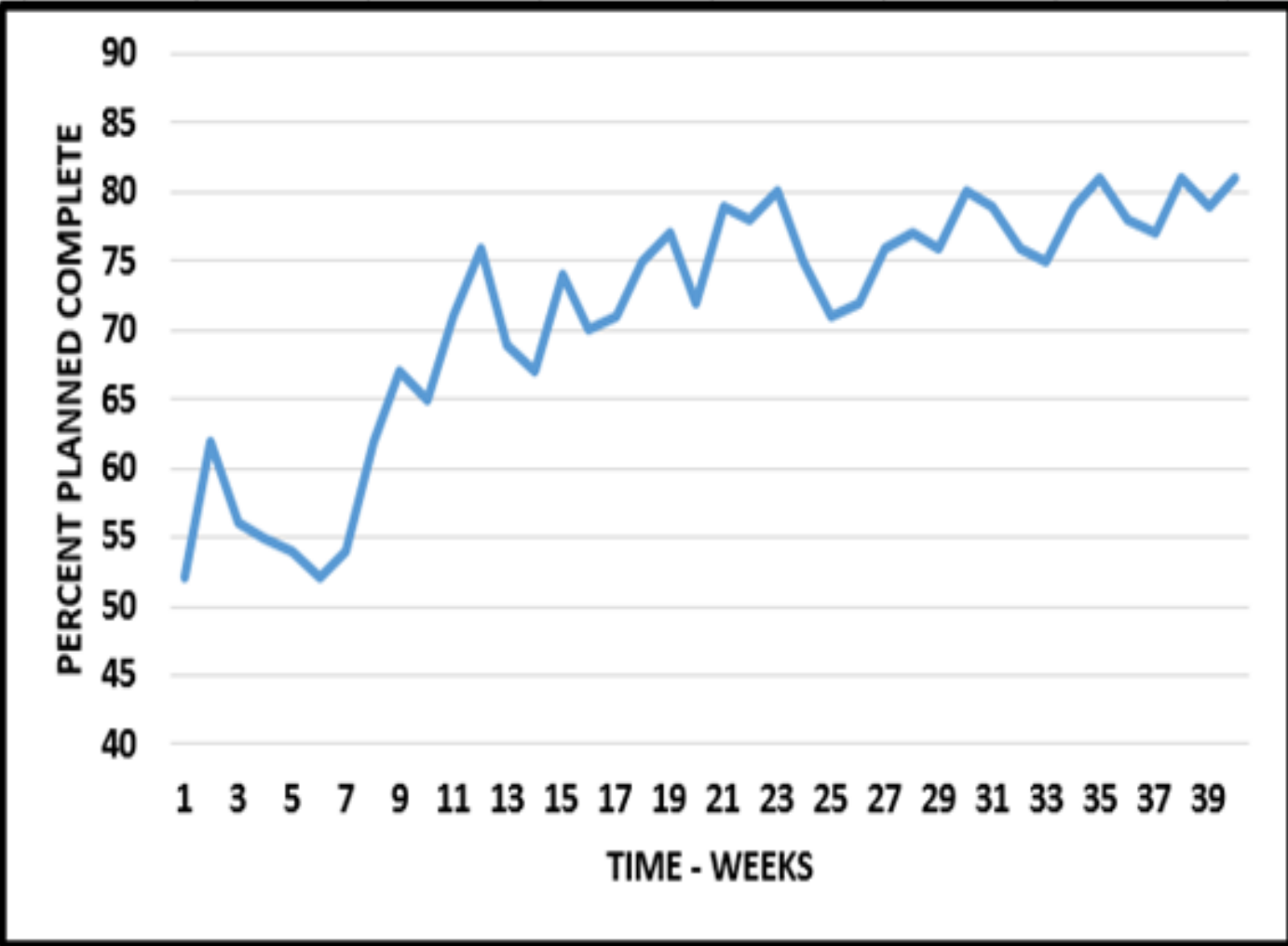
Firefighting to Complete Handoffs

Management Support





# Findings: Benefits



# Discussion

Overall Schedule

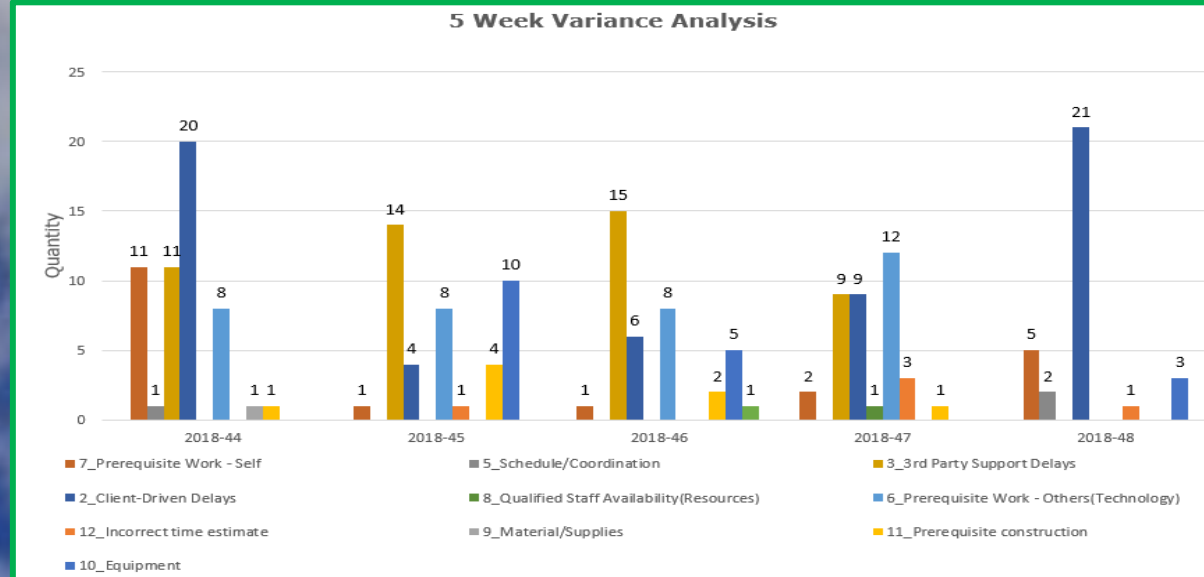
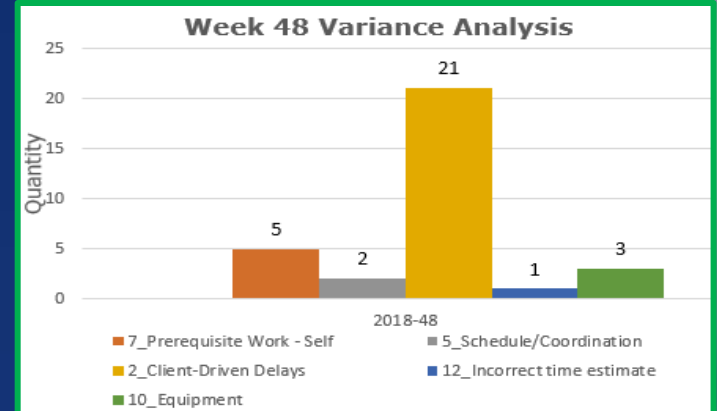
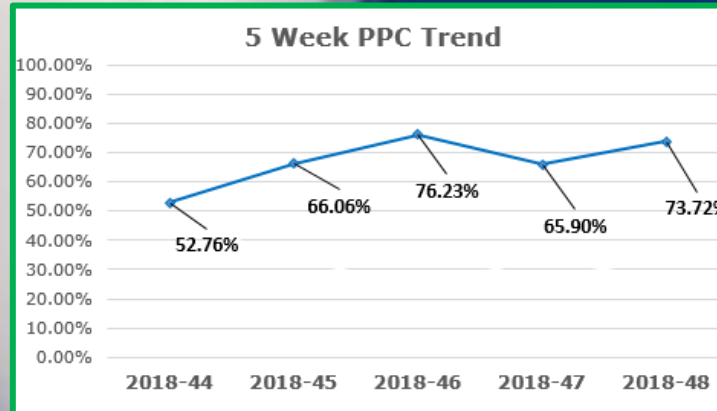
LPS Implementation

Team Alignment

Client & Management Support

Stakeholder Alignment

Iterative Learning & Action Cycle



# Conclusion & Recommendations

**Advantage:** Greater collaboration; increased visibility of workflow; and productivity, schedule alignment, safety, cost, and client value-add benefits.

**Client:** Utilise best-practice, building on existing LC research. Sponsor team-wide and supply chain alignment to foster a 'project-first' mindset.

**Management:** On-going education in philosophy & concepts of Lean & LC.

**Sector:** Government & Private sector should adopt sector-wide Lean thinking on capital project delivery.

**LPS:** Extend across the entire project as a single end-to-end implementation.

## Future research:

- Examine a single LPS project implementation as opposed to phase by phase implementations.
- Evaluate the benefit of creation of Standard Work in the C&Q process.
- Consider incorporation of Takt and Scrum principles and concepts to support LPS implementation in C&Q.







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**THANK YOU**



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