

LEAN TEAMS AND BEHAVIORAL DYNAMICS: UNDERSTANDING THE LINK

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HUMAN SIDE OF LEAN

- Low emphasis on project participants.
- Simply implementing the best lean methods does not guarantee success.



Identify behavioral dynamics that constitute a thriving lean culture

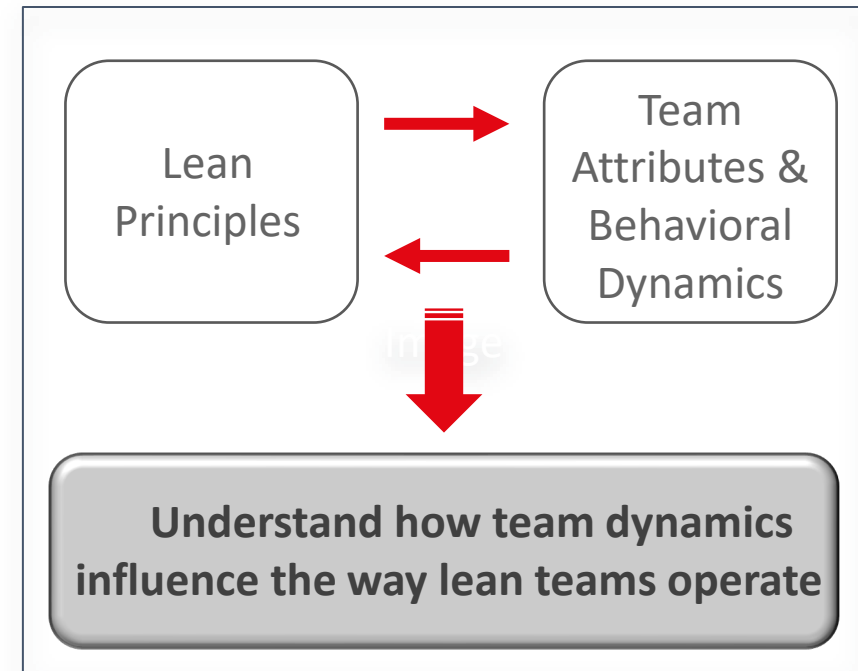


Figure 1. Research Approach

LEAN PRINCIPLES AND IDEAS

Lean Principles and Ideas	Koskela (1992)	Koskela & Leikas (1997)	Womack & Jones (1997)	Melles (1997)	Pinch (2005)
Build continuous improvement into the process	√				
Consideration of customer requirements (Value)	√		√	√	
Increase process transparency	√				√
Focus on the whole processes and optimize the whole	√	√			
Pull			√		
Perfection			√		
Information, communication and process structure				√	
Establishing integrated teams and collaboration		√		√	√
Decentralizing decision-making and empowering project participants		√			√

Table 1. Lean Principles and Ideas

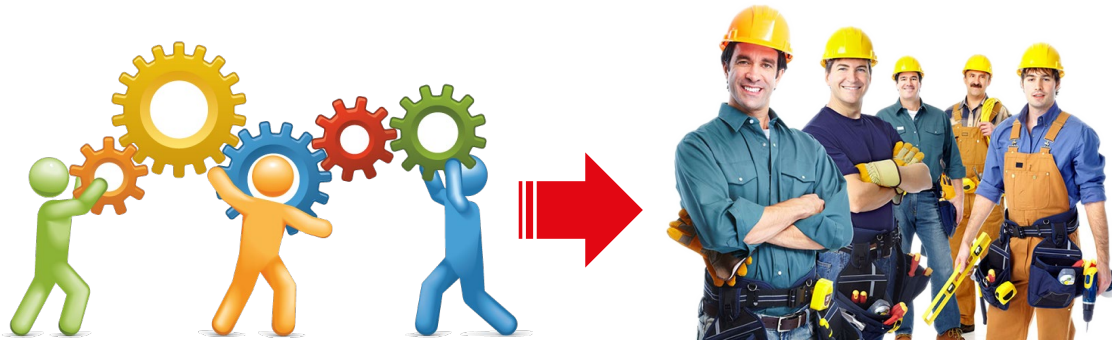
TEAM & LEAN TEAM

A small group of people with complementary skills committed to a common purpose. They also commit to an approach for which they hold themselves mutually accountable.
(Katzenbach and Smith, 2015)

Work team applications categories:

- Advice and involvement
- **Production** and service
- Projects and development
- Action and negotiation

(Sundstrom et al. 1990)



If any industry should appreciate the importance of teamwork, that is the construction industry.
(Spatz, 2000)



Lean production: an integrated **socio**-technical system that eliminates waste by minimizing supplier, customer, and internal variability.
(Shah and Ward, 2007)

A-B-C FRAMEWORK: TEAM DYNAMICS¹

Attitudes, shared Behaviors, and Cognition of the individuals that make up the team.

Attitudes

What team members believe or feel:

- **openness**
- **trust**
- **cohesion**
- **team viability**



Behaviors

What team members do:

- **Collaboration**
- **Communication**
- **Conflict**
- **leadership**



Cognitions

what team members think or know:

- **Information and knowledge sharing**
- **Shared mental model**



1. Salas, E., Cooke, N. J., & Rosen, M. A. (2008). On teams, teamwork, and team performance: Discoveries and developments. *Human factors*, 50(3), 540-547.

MAP TEAM DYNAMICS AND LEAN PRINCIPLES

Team Dynamics/ Lean Principles and Ideas	Openness	Trust and Psychological Safety	Cohesion	Team Viability	Collaboration & Communication	Conflict	Information Sharing & Knowledge Exchange
Respect for people	√	√					
Build continuous improvement into the process	√			√		√	
Focus on the whole processes and optimize the whole	√	√				√	
Consideration of customer requirements (Value)			√				
Perfection				√			
Having a long-term vision			√	√			
Information, communication and process structure					√		√
Establishing integrated teams and collaboration					√		
Decentralizing decision-making and empowering project participants					√		
Pull		Attitudes			√		
Increase process transparency					Behaviors		√

Cognitions

Table 2. Association between team constructs and lean principles and ideas

LEAN TEAM DYNAMICS – BEHAVIORS & COGNITIONS

Collaboration & Communication:

The joint effort of two or more agents trying to achieve a common goal where members construct judgments and act based on them.



Behaviors

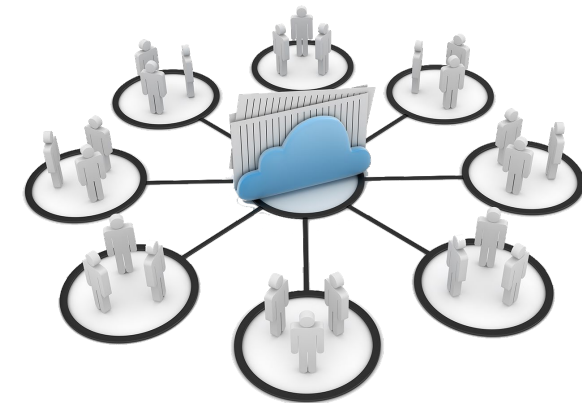
Conflict:

Conflict is recognized as a multidimensional construct involving tasks or relationships.



Information Sharing & Knowledge Exchange:

Information sharing is exchanging ideas amongst members, and knowledge exchange can be defined as sharing task-relevant ideas and information among members.



Cognitions

LEAN TEAM DYNAMICS - ATTITUDES

Openness:

Openness is defined as the degree to which teammates openly share and receive information.



Trust & Psychological Safety:

Positive expectations towards the behavior of others and the willingness to become vulnerable to others.



Cohesion:

Cohesion refers to a field of forces making team members stay together.



Team Viability:

It is a team's capacity for growth, which is required for success in future performance. It is viewed as a team members' willingness to remain in the team.



Attitudes

CONCLUSION

- Developing and sustaining effective lean teams is more challenging than merely adopting lean tools.
- Team constructs are closely aligned with the implementation of lean principles.
- Although some of these team constructs have been emphasized, some of them, namely team viability, have been neglected in previous studies.
- The findings of this study can help construction organizations to understand team dynamics to provide related training and coaching efforts.

THANK YOU!

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