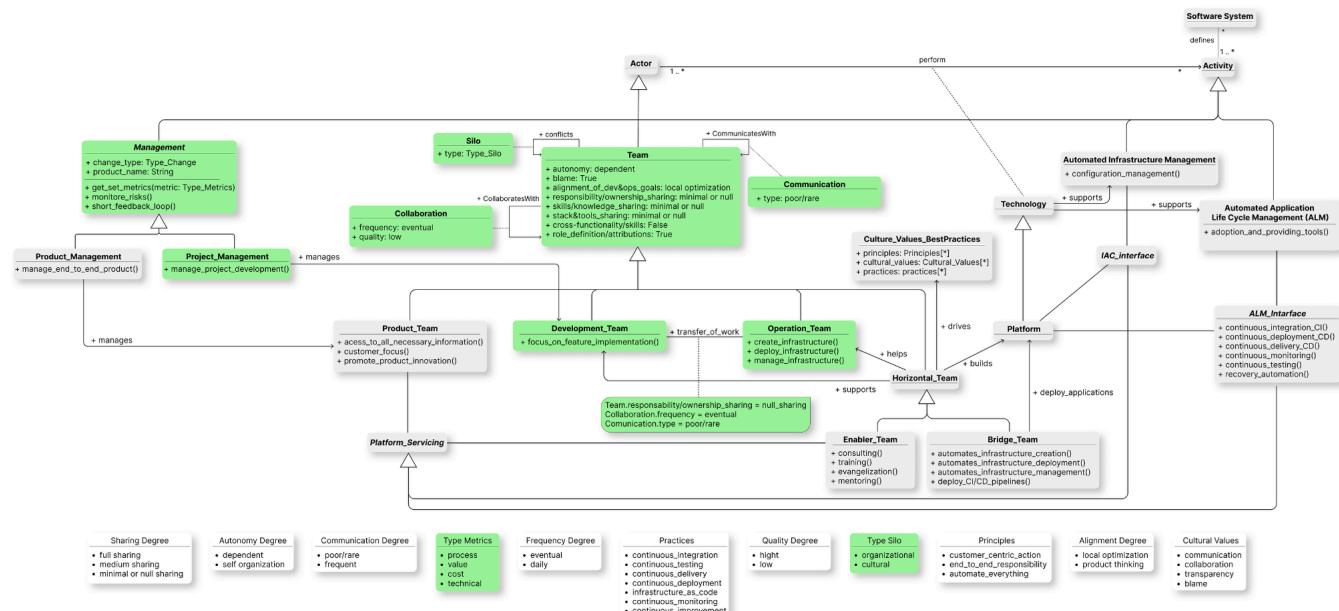


Operationalizing Software Engineering Theories for Practical Validation

Appendix - H. Hypotheses for the Development and Operation Team Structure

This appendix presents the 14 hypotheses related to the Development and Operation team structure.



P2. PROMOTING COLLABORATION REDUCES ORGANIZATIONAL SILOS/CONFLICTS

Categoric relationship			Silo	
			type	
			organizational	cultural
Collaboration	frequency	daily	H2.1	
		eventual	H2.2	
	quality	high	H2.3	
		low	H2.4	

- H2.2 Teams with eventual collaboration are associated with fewer organizational silos.
- H2.4 Teams with low-quality collaboration are associated with fewer organizational silos.

P4. A TEAM CULTURE BASED ON KNOWLEDGE SHARING ENABLES COLLABORATION

Categoric relationship			Team		
			knowledge sharing		
			full sharing	medium sharing	minimal or null sharing
Collaboration	frequency	daily	H4.1	H4.2	H4.3
		eventual	H4.4	H4.5	H4.6
	quality	high	H4.7	H4.8	H4.9
		low	H4.10	H4.11	H4.12

- H4.6: A team culture based on minimal knowledge sharing are associated with eventual collaboration between team members
- H4.12: A team culture based on minimal knowledge sharing are associated with low quality collaboration between team members

P6. COLLABORATION IS A PROPERTY OF TEAMS IN WHICH SKILLS TAKE PRECEDENCE OVER ROLES, I.E., THE ROLE DEFINITION/ATTRIBUTIONS CODE; HENCE, IF THERE ARE ALREADY SEPARATE ROLES, RESPONSIBILITIES ARE VERY CLEAR AND COLLABORATION IS NOT FOSTERED OR PROMOTED

Categoric relationship			Team	
			role definitions/attributions	
			true	false
Collaboration	frequency	daily	H6.1	H6.2
		eventual	H6.3	H6.4
	quality	high	H6.5	H6.6
		low	H6.7	H6.8

- H6.3: Teams with well-defined and differentiated roles are associated with a eventual collaboration
- H6.7: Teams with well-defined and differentiated roles are associated with a low-quality collaboration

P7. A COLLABORATION-BASED CULTURE REQUIRES ALIGNMENT OF DEV & OPS GOALS

Categoric relationship			Team	
			alignment of dev & ops	
			Local optimization	product thinking
Collaboration	frequency	daily	H7.1	H7.2
		eventual	H7.3	H7.4
	quality	high	H7.5	H7.6
		low	H7.7	H7.8

- H7.3: Teams aligned with local optimization are associated with eventual collaboration
- H7.7: Teams aligned with local optimization are associated with low-quality collaboration

P9. RESPONSIBILITY/OWNERSHIP SHARING IS A PROPERTY OF CROSS-FUNCTIONALITY/SKILLS TEAMS

Categoric relationship		Team	
		cross functionality/skills	
		true	false
Team	responsibility/ ownership sharing	full sharing	H9.1
		medium sharing	H9.3
		Minimal or null sharing	H9.5
			H9.6

- H9.6: Teams not characterized by cross-functionality/skills are associated with minimal or null responsibility/ownership sharing.

P10. RESPONSIBILITY/OWNERSHIP SHARING REDUCES ORGANIZATIONAL SILOS/CONFLICTS

Categoric relationship		Silo	
		type	
		organizational	cultural
Team	responsibility/ ownership sharing	full sharing	H10.1
		medium sharing	H10.2
		Minimal or null sharing	H10.3

- H10.3: Teams characterized by minimal or null responsibility/ownership sharing are associated with organizational silos.

P13. A TEAM CULTURE BASED ON RESPONSIBILITY/OWNERSHIP SHARING ENABLES COMMUNICATION

Categoric relationship		Communication	
		type	
		poor/ rare	frequent
team	responsibility/ ownership sharing	full sharing	H13.1
		medium sharing	H13.3
		Minimal or null sharing	H13.5
			H13.6

- H13.5: Teams characterized by minimal or null responsibility/ownership sharing are associated with poor/rare communication.

P14. RESPONSIBILITY/OWNERSHIP SHARING IS ASSOCIATED WITH THE TRANSFER OF WORK BETWEEN TEAMS. IF THERE IS NO SHARED RESPONSIBILITY, THERE IS NECESSARILY A TRANSFER OF WORK BETWEEN DEVELOPMENT TO PRODUCTION AND OPERATION TEAMS (AND VICE VERSA)

Categoric relationship		Team	
		transfer of work	
		true	false
Team	responsibility/ ownership sharing	full sharing	H14.1 - H14.1'
		medium sharing	H14.2 - H14.2'
		Minimal or null sharing	H14.3 - H14.3'

- H14.3: Teams characterized by minimal or null responsibility/ownership sharing are associated with the presence of work transfer between teams.
- H14.3': The presence of work transfer between teams is associated with teams characterized by minimal or null responsibility/ownership sharing.

P19. CROSS-FUNCTIONALITY/SKILLS REDUCES ORGANIZATIONAL SILOS/CONFLICTS

Categoric relationship			Team	
			Cross-functionality/skills	
			true	false
Silo	type	organizational	H19.1	H19.2
		cultural		

- H19.2: Teams not characterized by cross-functionality/skills are associated with the presence of organizational silos.