Evaluation of a Taxonomy for Communities of Practice in Large-Scaled Agile Software Development by Practitioners

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Outline

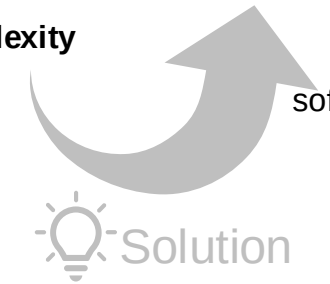
1. Background and Motivation
2. Research Questions
3. Research Methodology
4. First Results
5. Next Steps and Roadmap
6. Appendix

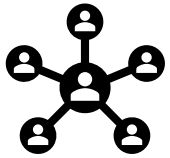
Background and Motivation

Motivation

Rapidly evolving technology and customer needs demand adaptability

Agile methods address these challenges but scaling them introduces complexity

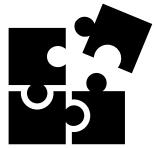




Communities of Practice (CoPs)

Enable knowledge sharing and collaboration across teams

Help solve cross-functional challenges in complex large-scaled agile software development (LSAD) environments



Research Need

Lack of an overview of key aspects to consider in establishing and cultivating CoPs in LSAD.

A taxonomy was developed to provide a structured overview of CoPs in LSAD

Current Focus

Taxonomy evaluation is essential. The existing taxonomy has not been evaluated yet.

Next step: Evaluate the taxonomy by gathering insights from practitioners

Vgl. Leffingwell, D. (2007) | Vgl. Oberländer, A. M., Lösser, B., & Rau, D. (2019) | Vgl. Paasivaara, M., & Lassenius, C. (2014) | Vgl. Tobisch, F., Schmidt, J., & Matthes, F. (in press)

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Research Questions

RQ 1	How can the taxonomy of CoPs in large-scaled agile software development be evaluated in practice?
RQ 2	How well does the existing taxonomy fulfill quality criteria in representing CoPs in large-scaled agile software development?
RQ 3	How can the existing taxonomy of CoPs in large-scaled agile software development be improved?

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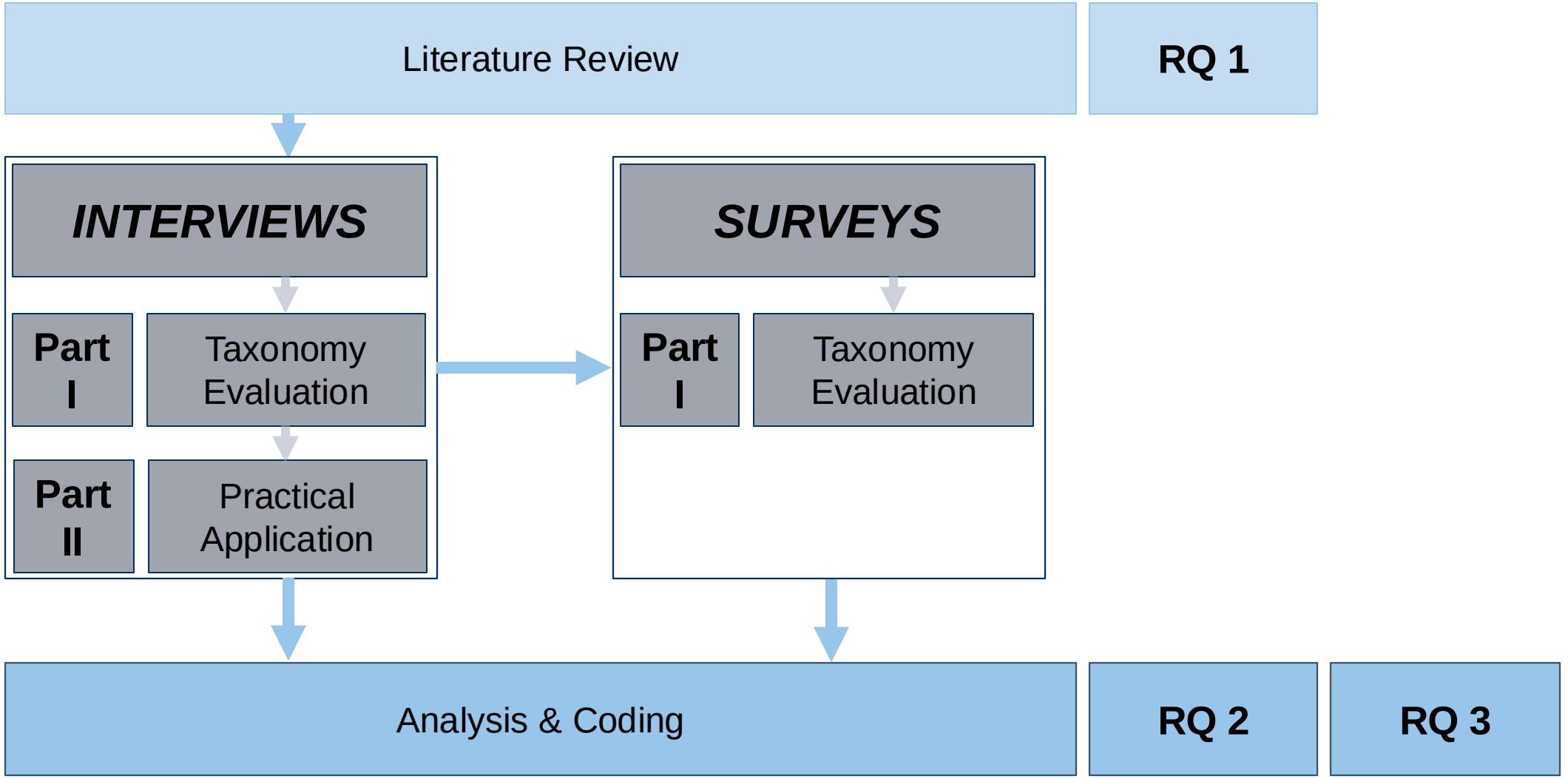
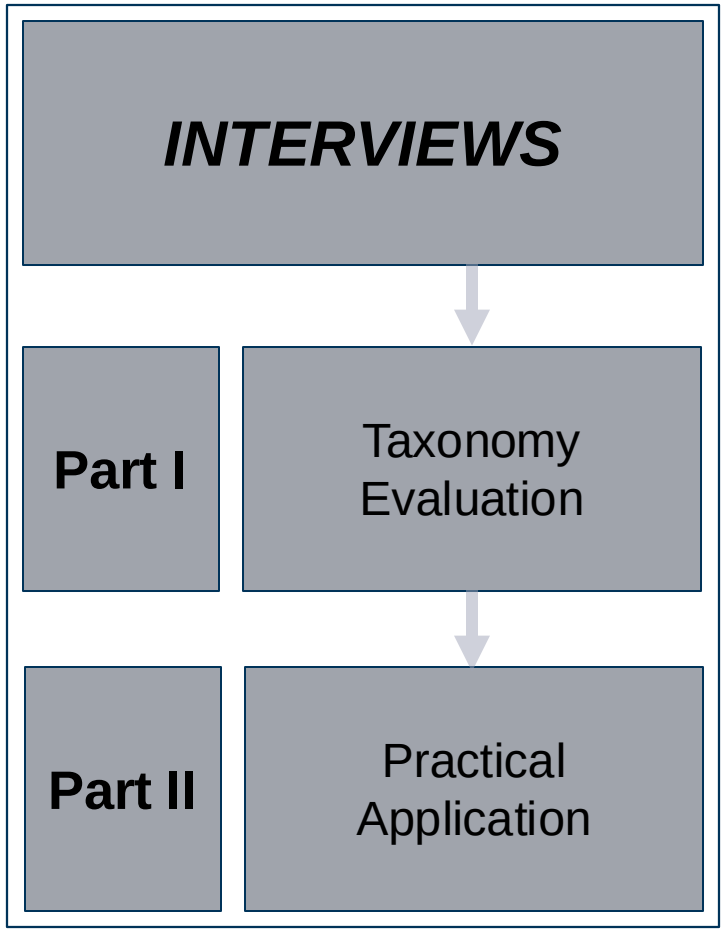
Research Methodology



Research Methodology– Interview Structure



Structure: Semi-structured expert interviews about the taxonomy of CoPs in LSAD

Duration: 30-60 minutes

Format: online via video call

Recording: Audio transcribed for analysis

Data Privacy: Results will be anonymized

Target Participants: Agile coaches, Scrum masters, developers, IT architects, IT portfolio managers, technical leads, and others with expertise with CoPs in LSAD

Part I: questions about the existing taxonomy regarding quality criteria

Part II: practical application of the existing taxonomy while sharing thoughts aloud

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First Results: Literature Review

Evaluation Method		Evaluation Criteria	
58%	Taxonomy Application with real world objects	**Completeness / Comprehensiveness**	A useful taxonomy can classify all known objects within the domain under considerations. A useful taxonomy includes all dimensions and characteristics of objects of interest.
15%	Taxonomy Application with existing research	**Conciseness**	A taxonomy should have a limited number of dimensions and characteristics to avoid excessive complexity.
9%	Expert Interview	**Usefulness (+ Explanatory)**	Exploring different use cases the taxonomy (Inspiration, evaluation of existing CoPs, support for CoP establishment, etc.) A useful taxonomy highlights key dimensions and characteristics to explain and understand the nature of the objects under study.
7%	Survey	**Extendibility**	A useful taxonomy should allow for inclusion of additional dimensions and new characteristics within a dimension.
		Applicability (+ Understandability)	The extend to which the artefact is easily understood and can be applied in practice.

Vgl. Kundisch, D., Muntermann, J., Oberländer, A. M., Rau, D., Röglinger, M., Schoormann, T., & Szopinski, D. (2022) | Vgl. Nickerson, R. C., Varshney, U., & Muntermann, J. (2013) | Vgl. PRAT, N., COMYN-WATTIAU, I. S. A. B. E. L. L. E., & AKOKA, J. (2015). | Vgl. Szopinski, D., Schoormann, T., and Kundisch, D. (2019)

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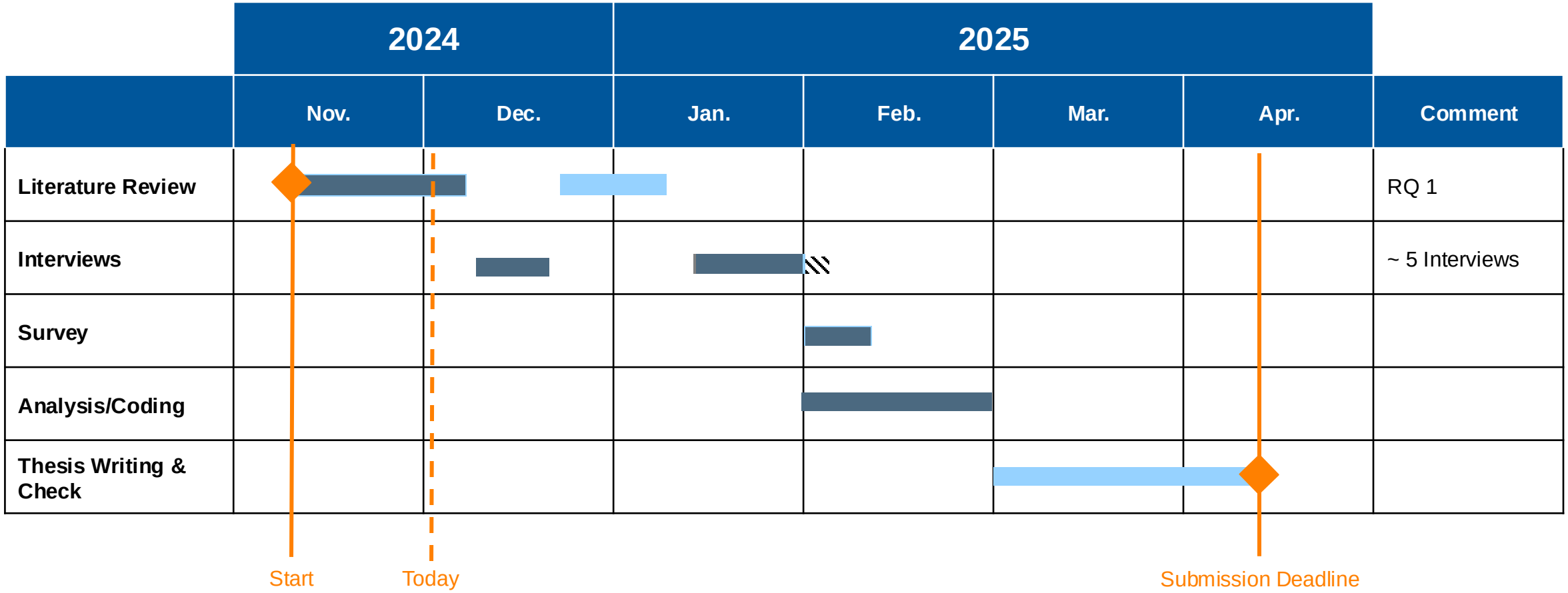
Next Steps and Timeline



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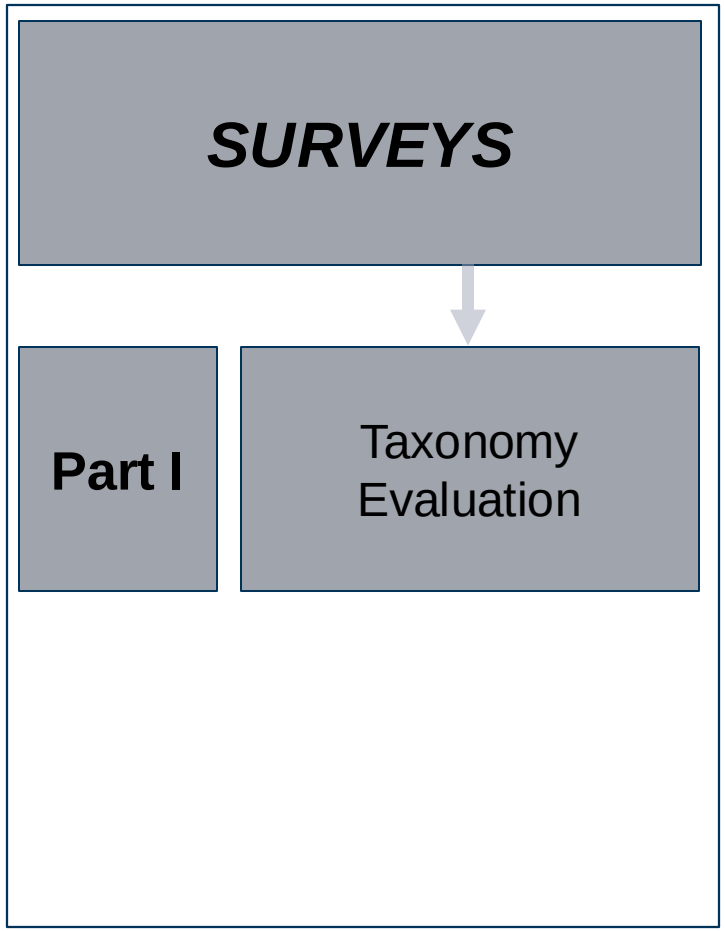
Existing Taxonomy for CoPs in Scaled Agile Software Development

Dimensions		Characteristics							
Purpose		Distribution of information	Knowledge creation	Knowledge sharing	Support	Definition of best practices or standards	Improvement	Creation of solutions	Innovation
Organizational context	Overall organizational culture and mindset	Hindering			Neutral			Supporting	
	Organizational support	No awareness but implicit approval		Awareness and approval		Active support		Sponsorship	Dedicated budget
Formation		Bottom-up initiation & set-up			Top-down initiation & set-up by employees			Top-down initiation & set-up by management	
Life span		Long term					Short term		
Scope	Target group	Role-based					Topic-based		
	Location	Local			Single time zone			Multiple time zones	
	Organization	Single team of teams		Multiple teams of teams	Teams of teams' representatives	Whole development organization		Whole organization	Cross-organizational
	Size	< 10		> 10 < 50		> 50 < 100		> 100 < 1000	> 1000
Participation	Enrollment	Voluntary			Expected			Mandatory	
	Selection	Open					Closed		
Steering		Self-organizing			Reporting			Active steering	Management led
Decision-making power		No decision-making power			Influence			Informal decision-making power	Formal decision-making power
Maturity		Initiating			Growing			Established	Transforming

Vgl. Tobisch, F., Schmidt, J., & Matthes, F. (in press).

Research Methodology– Survey Structure



- Survey
- Quantitative
- Likert-Scale (1-5 | strongly disagree – strongly agree)

- **General Questions** (job, company, background, etc.)
- **Structured questions regarding quality criteria**
- **Flexibility for more information** (unstructured)

First Results: Literature Search and Results

Database	Search Phrase	Results
ACM IEEE AIS Science Direct Web of Science	“taxonomy“ AND “evaluation” AND (“software engineering” OR “information systems”)	Total Results: 131 After Review: 15

References

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