# Observing best practices to address recurring concerns of product managers and product owners in large-scale agile development

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# Agenda

1 Motivation

2 Research Questions

3 Research Approach

4 Identification of Recurring Concerns

5 Identification of Patterns and Anti-Patterns

6 Exemplary Pattern

7 Conclusion

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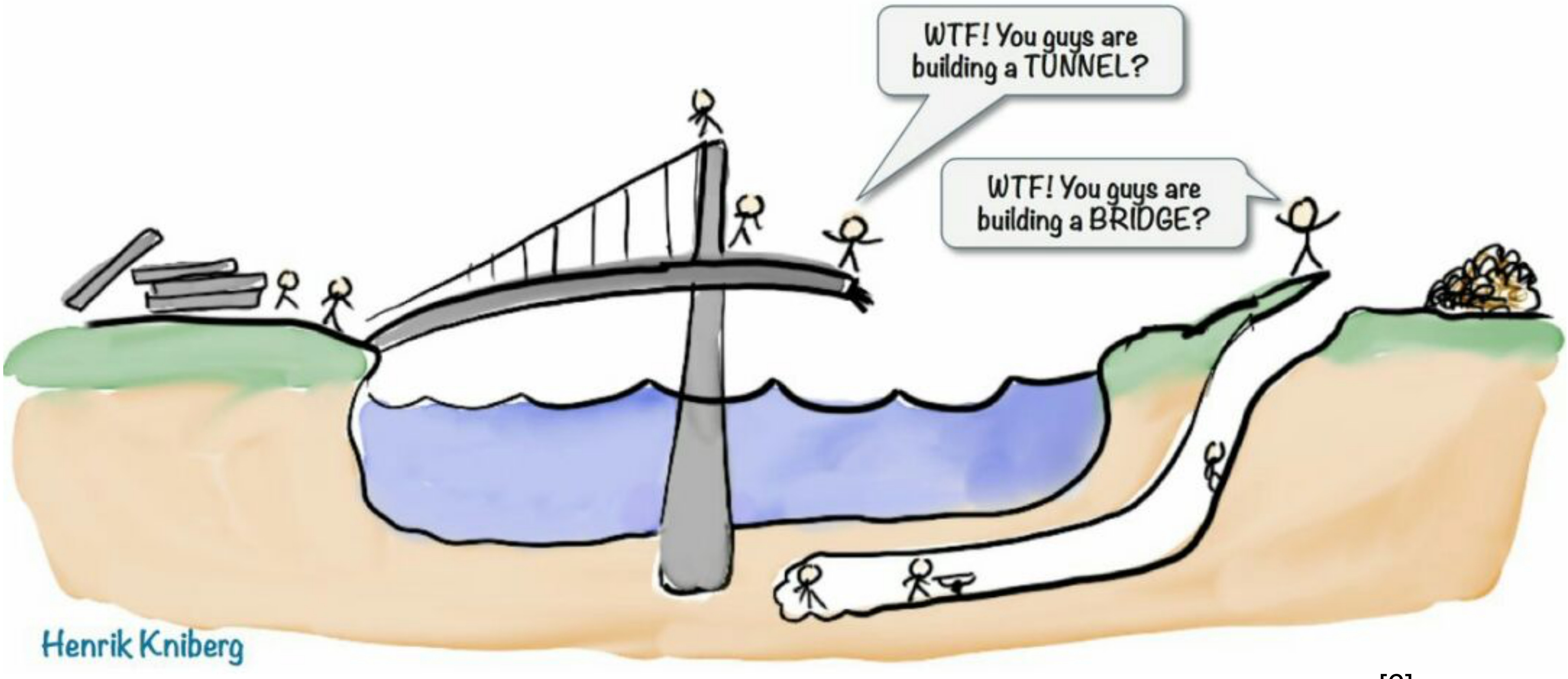
# Motivation


WTF! You guys are building a TUNNEL?
WTF! You guys are building a BRIDGE?
Henrik Kniberg

[6]

# Motivation

### Agile

Agile development has been a proven concept in small companies for many years, bringing them various benefits. [3]

### Large-Scale

Many agile teams working on a project or product in a large scale sets a new form of complexity. [1,2]

### Patterns

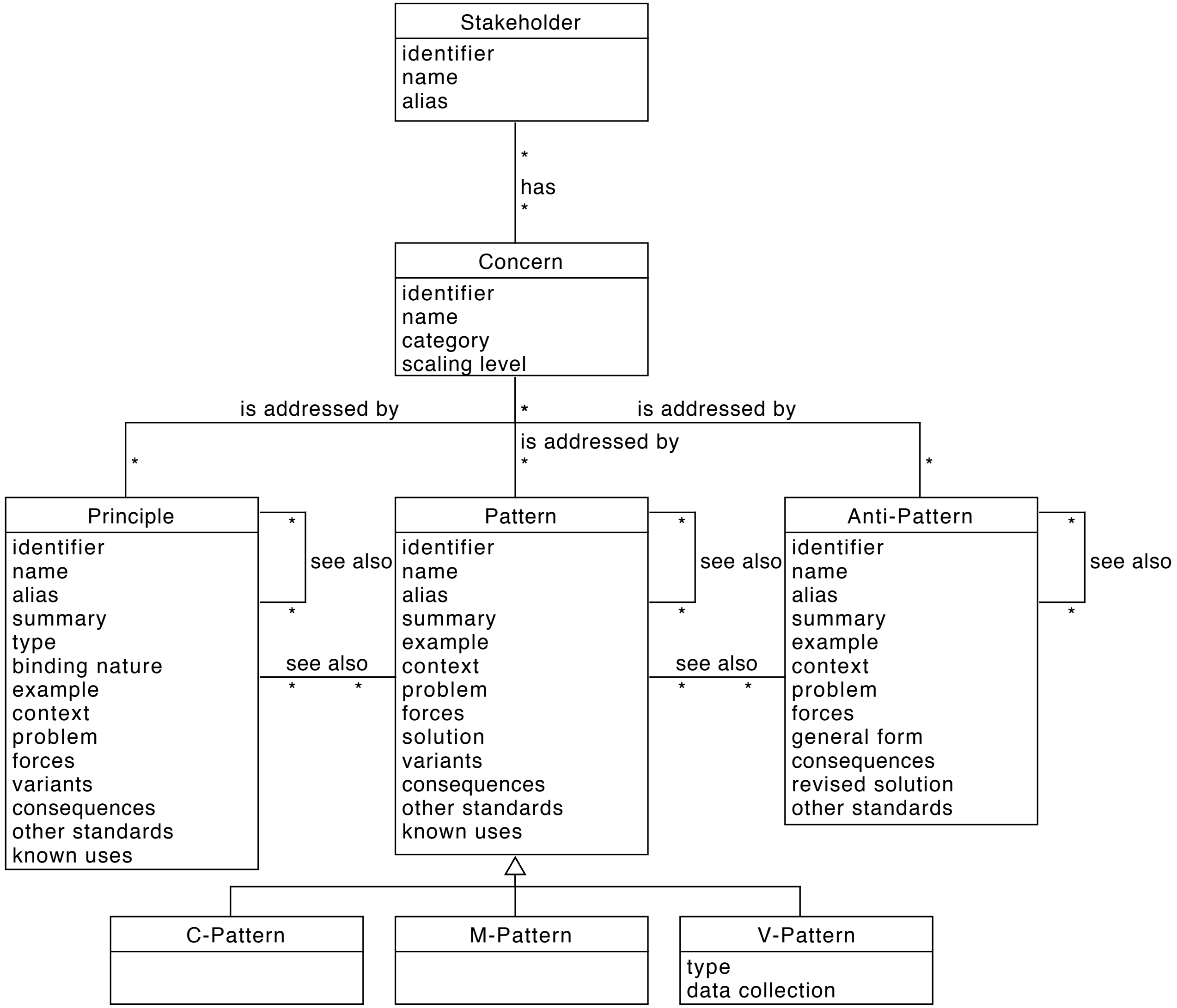
Patterns are one way to ensure relevance of the research outcome, relating the findings to real concerns in the industry. [5]

### Pattern Language

Using the LSADPL as a structured set for providing patterns and filling this set with missing patterns. [7]

# Introduction

A proven pattern template. [4]



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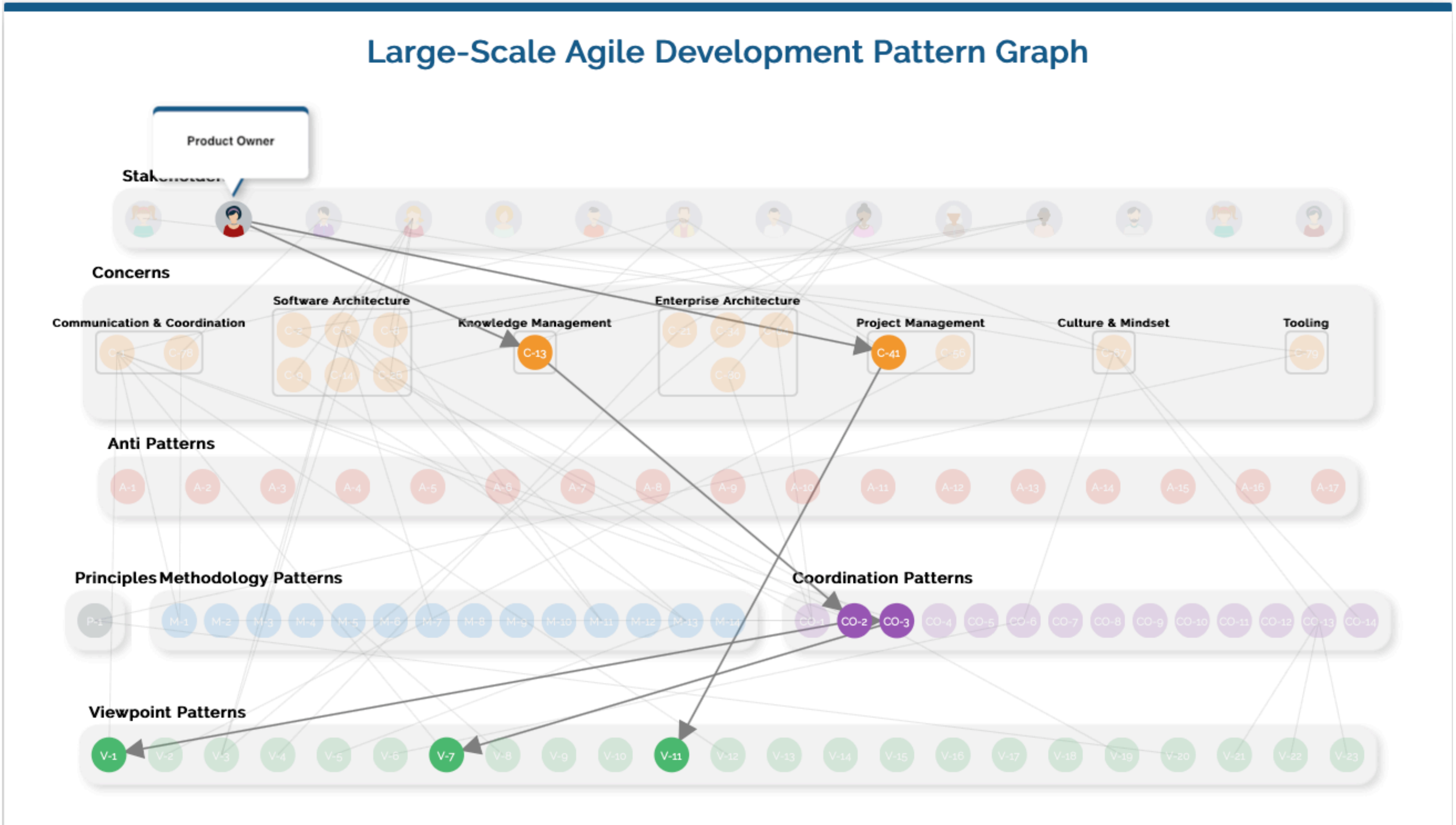

Large-Scale Agile Development Pattern Graph

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# Research Questions

## Research Question 1

What are **recurring concerns** of Product Managers and Product Owners in Large-Scale Agile Development?

## Research Question 2

What are **best practices** for addressing recurring challenges of Product Managers and Product Owners in Large-Scale Agile Development?

## Research Question 3

Which **anti-patterns** should Product Managers and Product Owners avoid in Large-Scale Agile Development?

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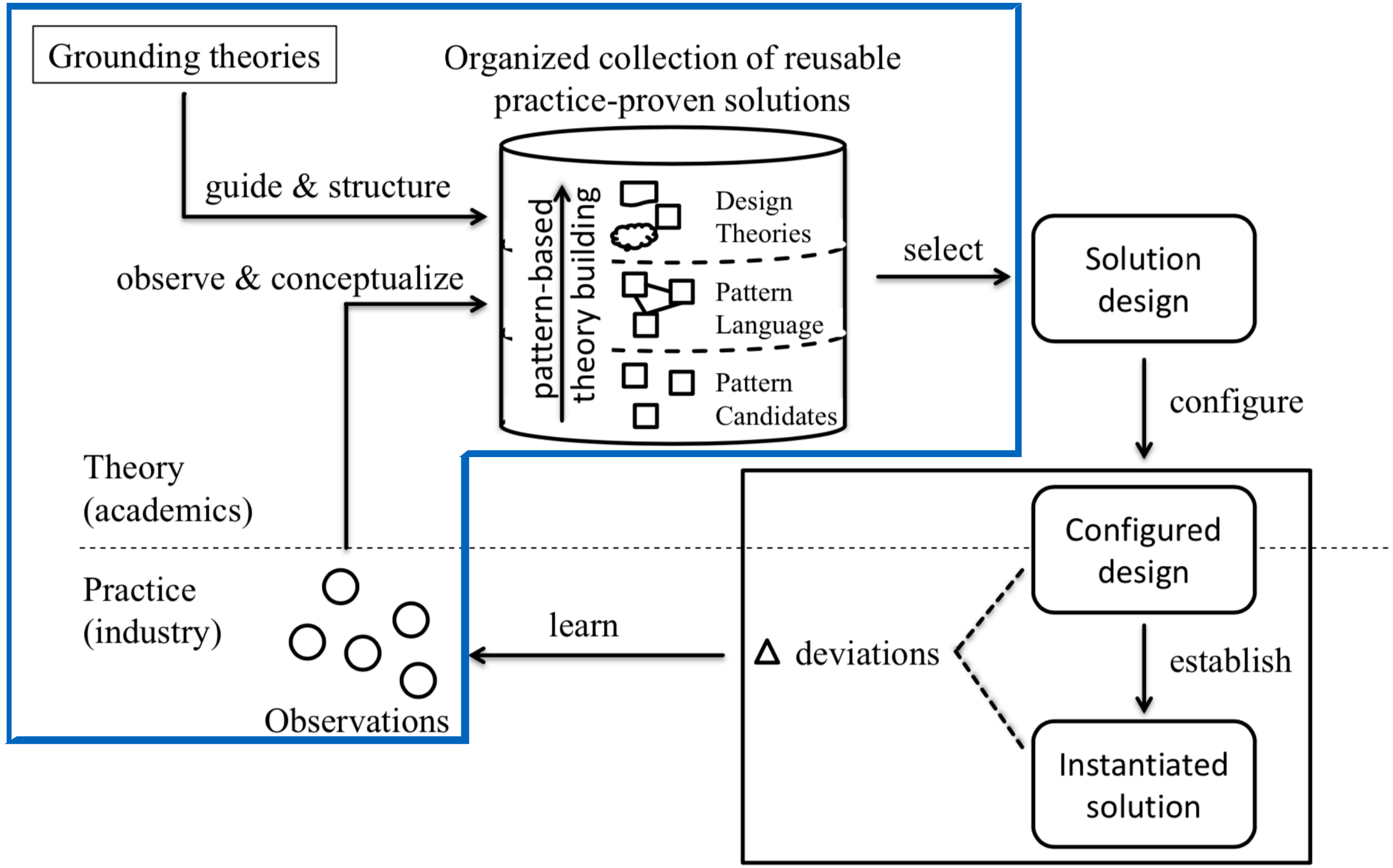
# Research Approach

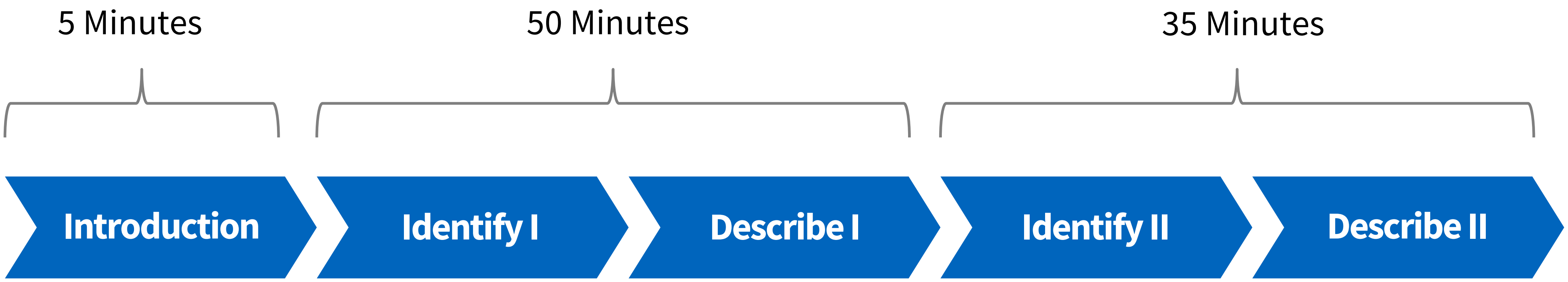
## Pattern-Based Research Design [5]



# Research Approach – Structured Interviews

| ID | Role | Interviewees Experience in large-scale agile development | Organization's Experience in large-scale agile development | Industry | Company Size |
|---|---|---|---|---|---|
| 1 | Product Owner | 3 - 6 years | More than 6 years | Service Sector | More than 200.000 |
| 2 | Product Owner | 1 - 3 years | 1 - 3 years | Telecommunications | 5001 - 10.000 |
| 3 | Product Manager | 1 - 3 years | 1 - 3 years | Service Sector | 11 - 50 |
| 4 | Product Owner | 3 - 6 years | More than 6 years | Service Sector | More than 200.000 |
| 5 | Product Manager | 1 - 3 years | More than 6 years | Financial Services, Insurance, Retail | 100.001 - 200.000 |
| 6 | Product Owner | 3 - 6 years | More than 6 years | Service Sector | 251 - 500 |
| 7 | Product Owner | 1 - 3 years | 1 - 3 years | Transport, Logistics | More than 200.000 |
| 8 | Product Owner | 1 - 3 years | 1 - 3 years | IT, Technologie | 1 - 10 |
| 9 | Product Manager | 1 - 3 years | 3 - 6 years | Automotive | More than 200.000 |

# Research Approach – Structured Interviews



5 Minutes

50 Minutes

35 Minutes

Introduction

Identify I

Describe I

Identify II

Describe II

| Introduction | Identify I | Describe I | Identify II | Describe II |
|---|---|---|---|---|
| Short intro about the participants and short questions about you, your experience, and your organization | Identification of concerns you face in your work as Product Owner/Product Manager | Descriptions of the solutions you implement to address the identified concerns | Identification of additional concerns from a list provided by us | Description of the solutions you implement to deal with the concerns identified before |

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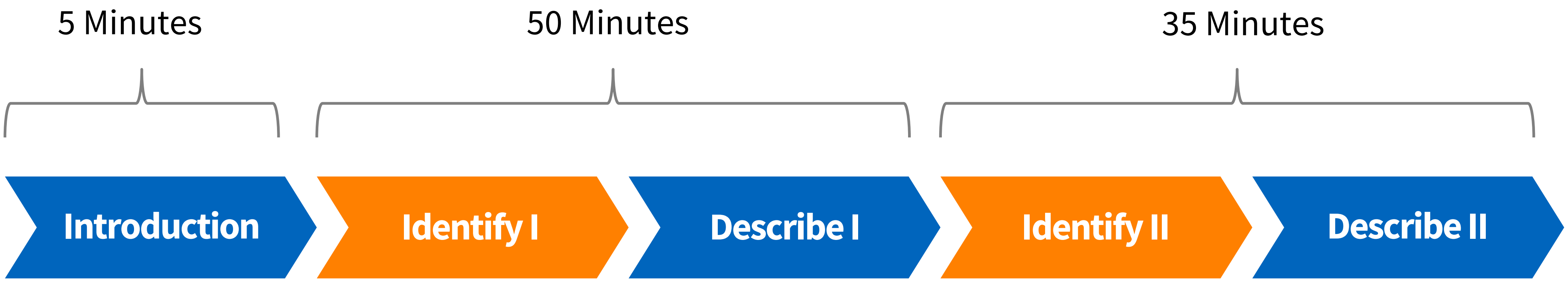
# Identification of recurring Concerns



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Describe I: Descriptions of the solutions you implement to address the identified concerns

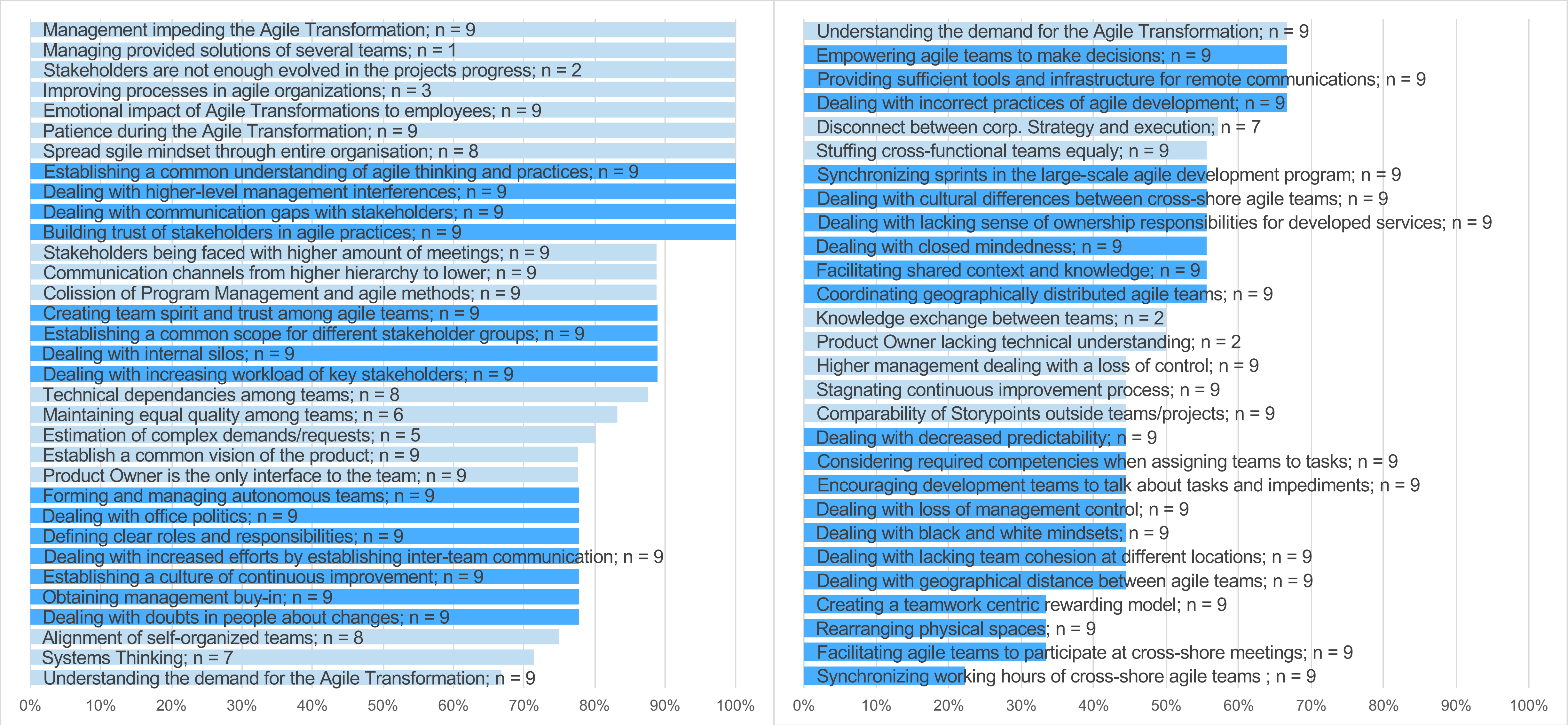
Identify II: Identification of additional concerns from a list provided by us

Describe II: Description of the solutions you implement to deal with the concerns identified before

# Identification of recurring Concerns

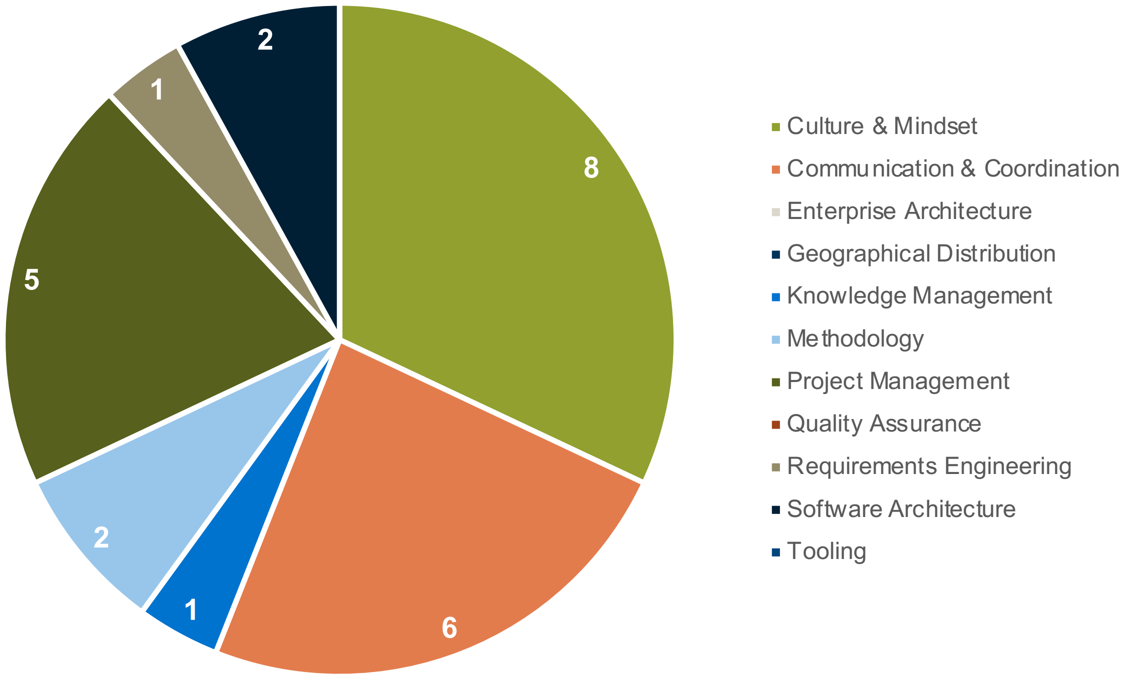
Identified in Interviews

Identified in Literature

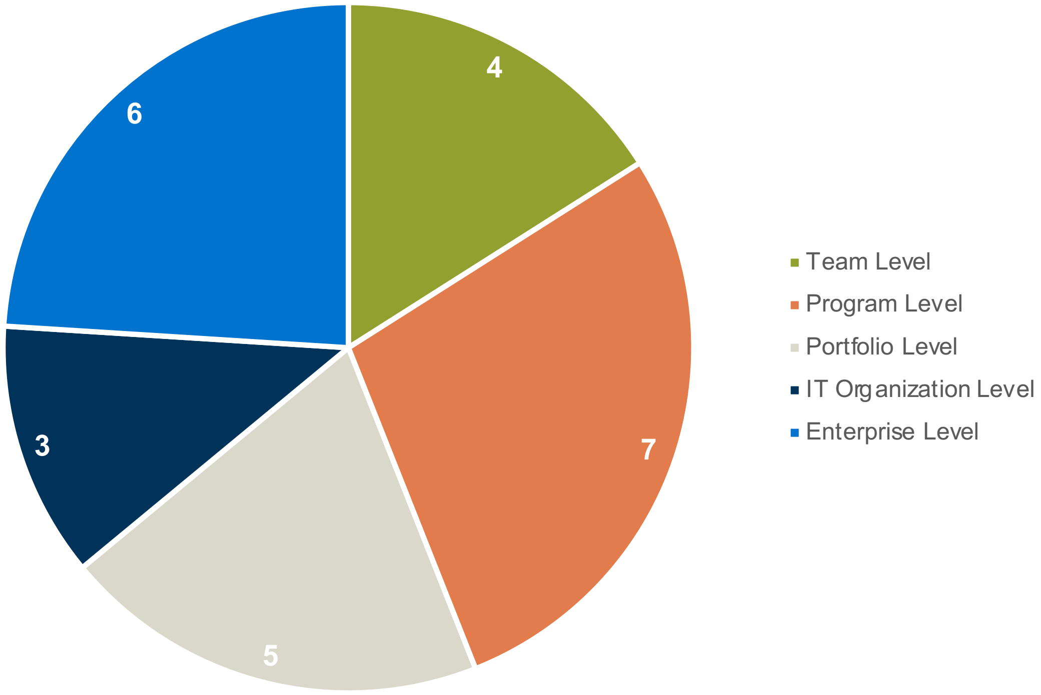


# Identification of Recurring Concerns

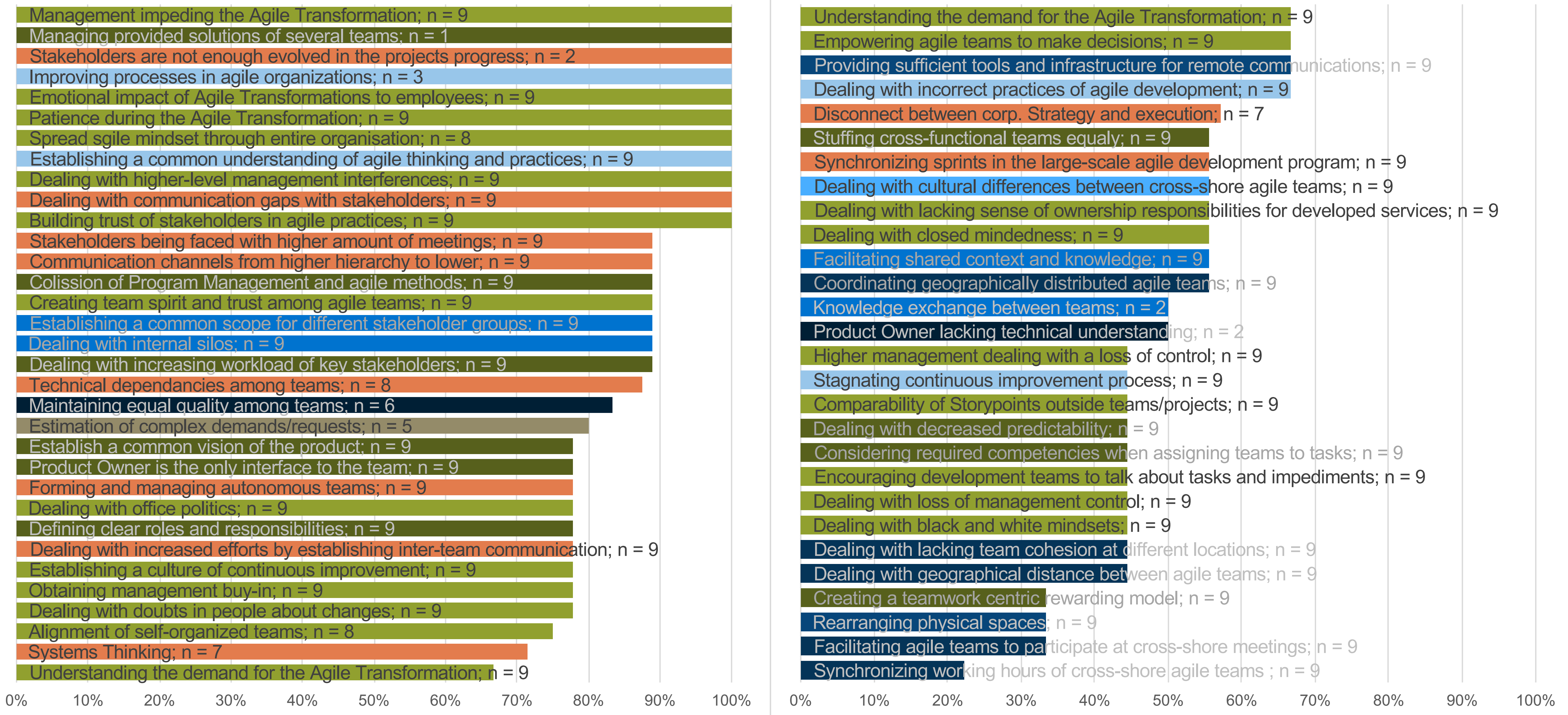
## Concerns in categories



## Concerns in hierarchal level



# Identification of recurring Concerns



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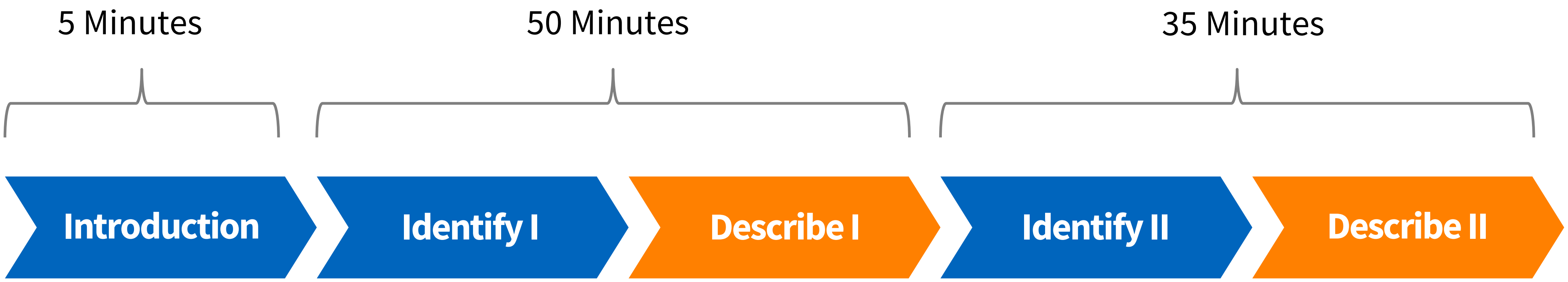
# Identification of Patterns and Anti-Patterns



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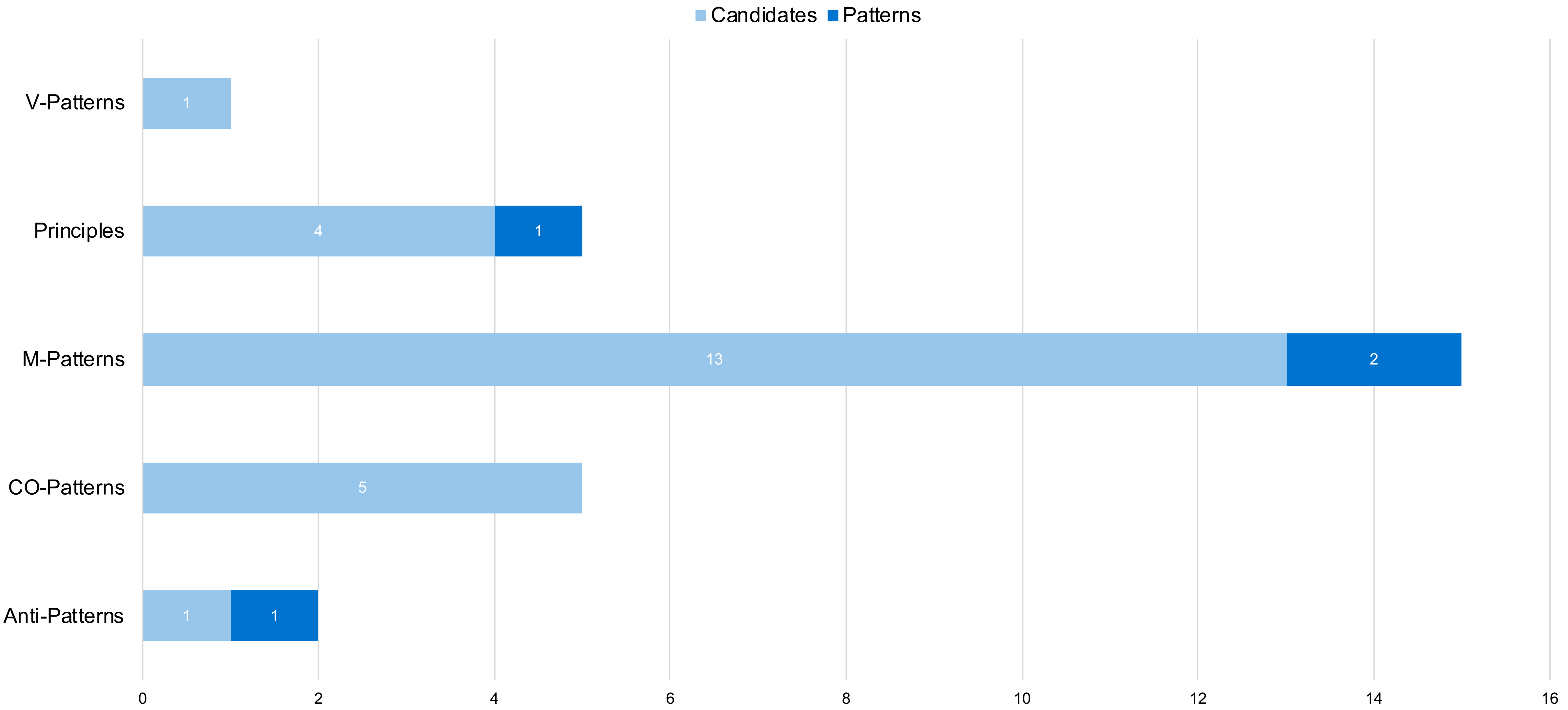
Description of the solutions you implement to deal with the concerns identified before

# Identification of Patterns and Anti-Patterns

| | | | | | | |
|---|---|---|---|---|---|---|
| A-01<br>Don’t let the Product Owner be the only interface to the stakeholder<br>* | A-02<br>Don't think a change in too big steps<br>*** | A-03<br>Don't instate a field specialist as Product Owner with no technical background<br>* | A-04<br>Don't let teams work in the same constellation for too long<br>** | CO-01<br>Structured coaching key stakeholders in entire organization<br>** | CO-02<br>Cross-section architecture<br>* | CO-03<br>Structured request for demand<br>* |
| CO-04<br>Communication channel to maintain agile role within organization<br>* | CO-05<br>Agile Governance<br>* | CO-06<br>High-Level sprint planning<br>* | CO-07<br>Dual-Track Agile<br>* | M-01<br>Velocity Measurement<br>* | M-02<br>Continuously changing the improvement method in retros<br>* | M-03<br>Mapping storypoints to other KPI's<br>* |
| M-04<br>Domain Driven Design<br>** | M-05<br>Feature Teams<br>*** | M-06<br>Change Backlog<br>* | M-07<br>Flow analysis<br>* | M-08<br>Nexus Sprint<br>* | M-09<br>Strategical Backlog<br>* | M-10<br>Weighted shortest job first<br>* |
| M-11<br>Improvement Backlog<br>* | M-12<br>Mob-Testing<br>* | M-13<br>Magic estimate<br>*** | M-14<br>T-shirt size estimation<br>** | M-15<br>Agile Ninja<br>* | P-01<br>Fully transparent agile project<br>*** | P-02<br>The Agile Connector<br>* |
| | P-03<br>OKR based incentives<br>* | P-04<br>Culture of empowering decision making<br>* | P-05<br>Intercultural team building<br>* | P-06<br>Proactively involve key stakeholder in the progress with every increment<br>* | V-03<br>Storymap<br>** | |

Anti-Pattern | Coordination-Pattern | Methodology-Pattern | Principle | Viewpoint-Pattern | Pattern

# Identification of Patterns and Anti-Patterns



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# Exemplary Pattern – Magic Estimation

| Pattern Overview | |
|---|---|
| Id | M-13 |
| Name | Magic Estimation |
| Alias | – |
| Summary | Magic estimate is an exercise for Scrum teams to do a rough estimation on a whole product backlog. It is very fast and therefor delivers very good results. |

## Example

- The department for demand management at InsuranceAG noticed, that they spend a lot of time estimating new demands. A request for demand is raised whenever another department wants to start an IT supported project. But based on the estimated time and costs, many requests were withdrawn, which makes the work on a very detailed estimation useless.

## Context

- Whenever there is a request for demand, it will not necessarily evolve into the start of a project.

## Problem

- The following challenge is addressed by this M-Pattern:
  - **C-116:** Estimation of complex demands/requests

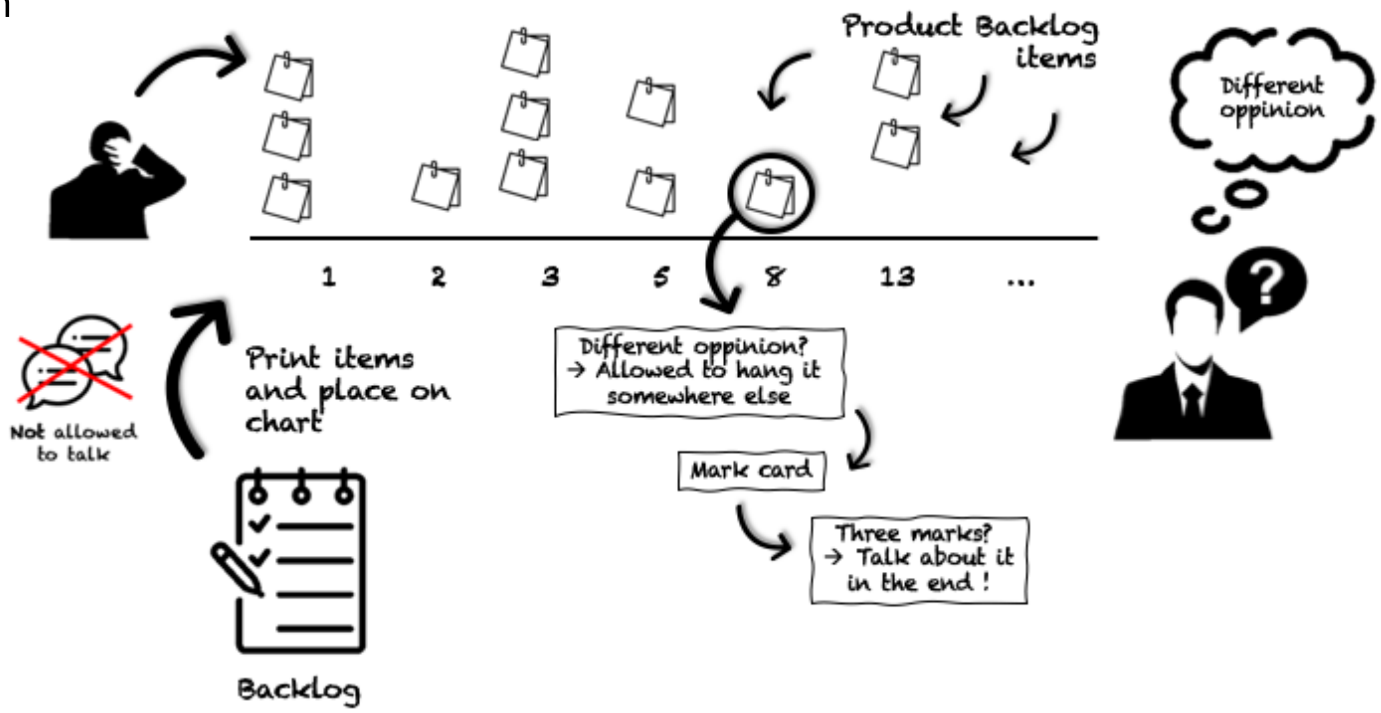
# Exemplary Pattern – Magic Estimation

## Forces

- Sometimes a request for demand is placed to gain more information about the complexity about the project without the intention of starting it.
- Performing full requirements engineering is the perfect basis for a very concrete estimation, but too much effort when it’s not clear whether the projects comes to fruition.

## Solution

- To perform the Magic Estimation a team of Requirements Engineers and experienced developers is needed.
- The Requirement Engineers must roughly break down the demand into epics or user stories, showing what most likely needs to be done to fulfil the demand. Based on this set, the experienced developers will now do a relative estimation, defining which epic requires more effort than another one, or less.
- They will start by defining a reference epic with a known effort and give it a fictive number (for instance story points). The estimation will be based on the Cohn scale [1,2,3,5,8,13,21,34,55,89,144], meaning every estimated item will be on this very scale and cannot be placed in between numbers.
- The developers will take turns placing a new item on the scale or move an existing one if they’re not satisfied with its position. Items that are being moved too often will be taking out and be discussed at the end.



# Exemplary Pattern – Magic Estimation

## Variants

- Instead of the Fibonacci sequence, other fictive scale like the Cohn scale [0,1,2,3,5,8,13,20,40,100] can also be used. The procedure stays the same.

## Consequences

- Benefits:
  - Easy to give a meaningful estimation in a short period of time
  - Deduce when all tasks in the backlog will be done
  - If some team members disagree, they can talk about the problems and solve them
  - Less effort in analysis
- Liabilities:
  - Less precise prediction

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# Conclusion

## Key Findings

- 25 Concerns
- 29 Pattern-Candidates
- 4 Patterns

## Future Work

- Findings on other stakeholders
- Validation of identified patterns
- Consolidation of all concerns, patterns, anti-patterns and pattern candidates

# References

[1] Uludag, Ömer & Kleehaus, Martin & Caprano, Christoph & Matthes, Florian. (2018). Identifying and Structuring Challenges in Large-Scale Agile Development Based on a Structured Literature Review. 10.1109/EDOC.2018.00032.

[2] Dikert, K., Paasivaara, M., & Lassenius, C. (2016). Challenges and success factors for large-scale agile transformations: A systematic literature review. *Journal of Systems and Software*, *119*, 87-108.

[3] Laanti, M., Salo, O., & Abrahamsson, P. (2011). Agile methods rapidly replacing traditional methods at Nokia: A survey of opinions on agile transformation. *Information and Software Technology*, *53*(3), 276-290.

[4] Stepney, S. (2012, September). A pattern language for scientific simulations. In *Proceedings of the 2012 workshop on complex systems modelling and simulation, Orleans, France.*

[5] Schneider, Alexander & Buckl, Sabine & Schweda, Christian & Matthes, Florian. (2013). Pattern-Based Design Research – An Iterative Research Method Balancing Rigor and Relevance. 10.1007/978-3-642-38827-9_6.

[6] Henrik Kniberg (2016). Spotify Rhythm. Presentation at Agila Sverige.

[7] Omer Uluda ̆g, Nina-Mareike Harders, and Florian Matthes. Documenting recurring concerns and patterns in large-scale agile development. 2019.

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