Observing the Learning Process of a Large-Scale Agile Development Program - A Case Study from the Technology Sector

Niels Holz, 11.11.2019, Master's Thesis Kick-Off Presentation

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Outline

Motivation

Research Approach

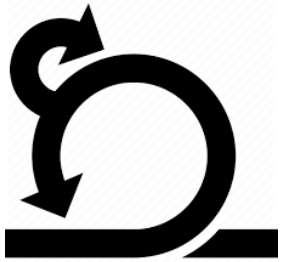
Case Study Partner

Status Quo

Roadmap Master’s Thesis

Next Steps

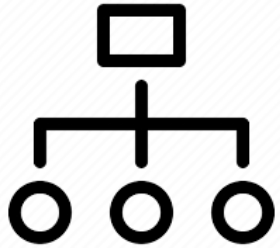
Motivation



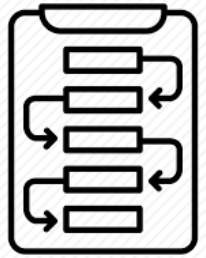
Agile methods are a dynamic approach to software development, by focusing on continous delivery and involvement of customer it increases both the output and quality of the product while being adaptable to changing requirements [3,5]

Large-Scale Companies try to receive the advantages of applying agile methods [4,6]

Challenges can be found on different levels depending on the stakeholders, limiting the chance of success in large-scale agile development [2,3,4,6]



Patterns offer a structured plan of a solution



Applying identified patterns from **pattern catalogue** created by sebis [1,4]

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Research Questions

RQ1 How has LeSS been adopted and applied at Robert Bosch?

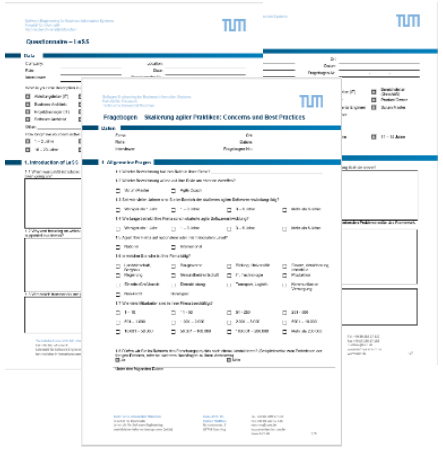
RQ2 What are recurring concerns of stakeholders at the product organization of Robert Bosch?

RQ3 What are good practices for addressing recurring concerns of stakeholders of the product organization of Robert Bosch?

RQ4 Which bad practices should be avoided in the product organization of Robert Bosch?

RQ5 What are the lessons learned of implementing already observed best practices in the product organization of Robert Bosch?

Research Process

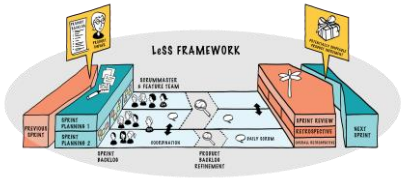


Interviews:

- 3 Scrum Master
- 6 Product Owner
- 5 Developers
- 2 Customer

RQ1

Identify adaption of framework by Robert Bosch GmbH

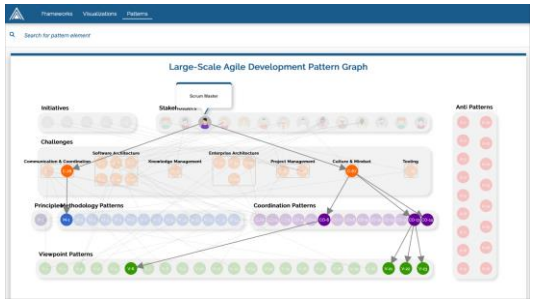


[5]

RQ2 Concerns

RQ3 Patterns

RQ4 Anti-Patterns



Identify fitting good practices from pattern catalog

Apply selected patterns at Robert Bosch GmbH

RQ5

Observe pattern adoption at Robert Bosch GmbH and derive lessons learned

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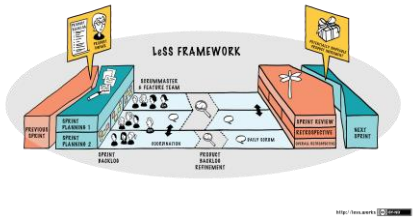
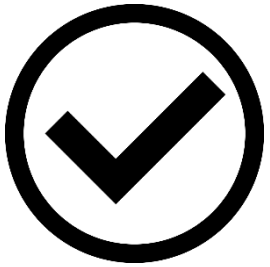
Robert Bosch GmbH



- Introduced LeSS in 2017
- Increase speed of development process
- Deal with changing requirements

- Significant challenges after introduction of LeSS
- Framework limited output and work of teams
- Dissatisfied customers



- Several adaptions led to current process
- Customers are satisfied with product
- Team enjoys the advantages of agile development

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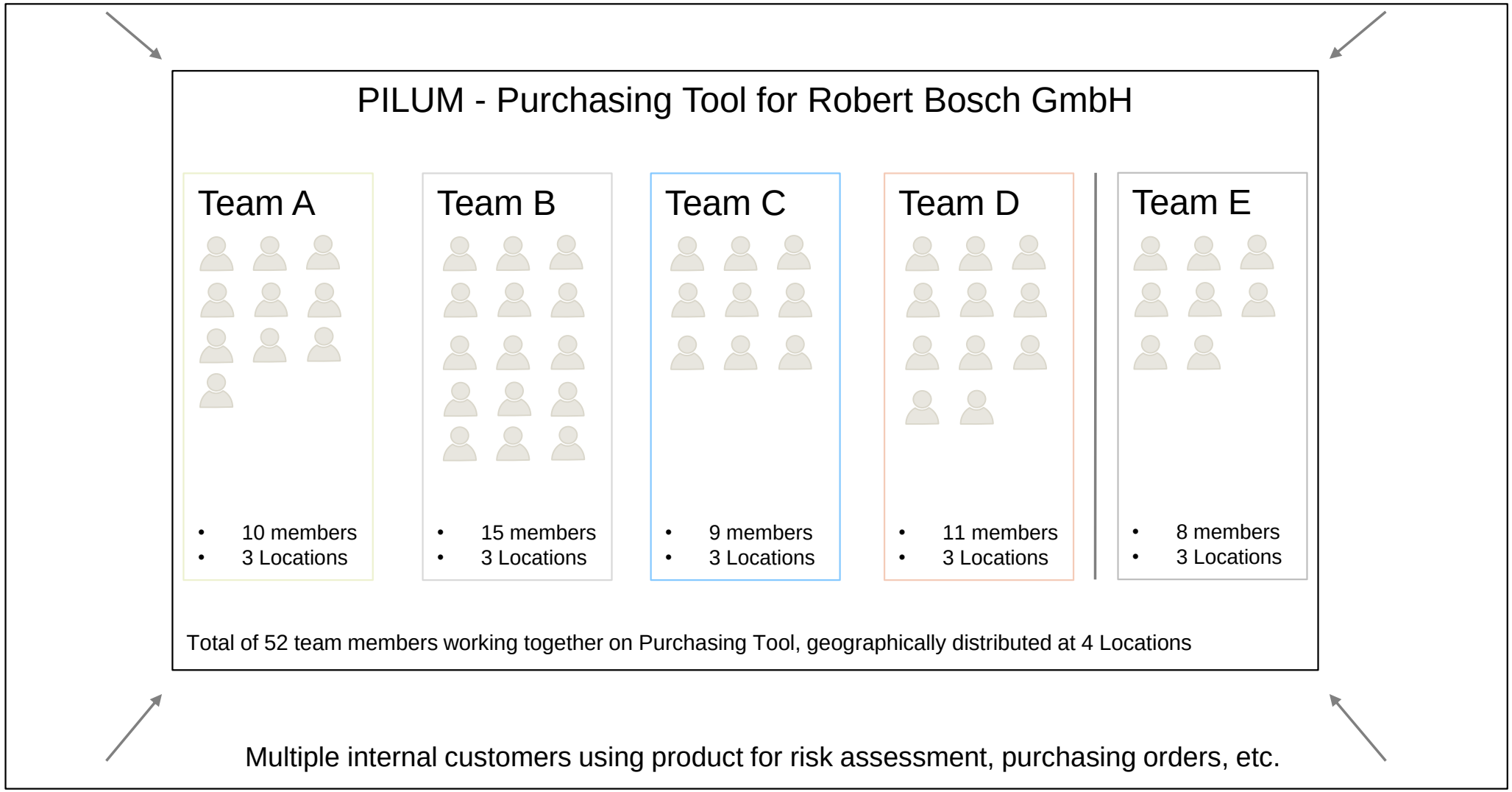
Team conception



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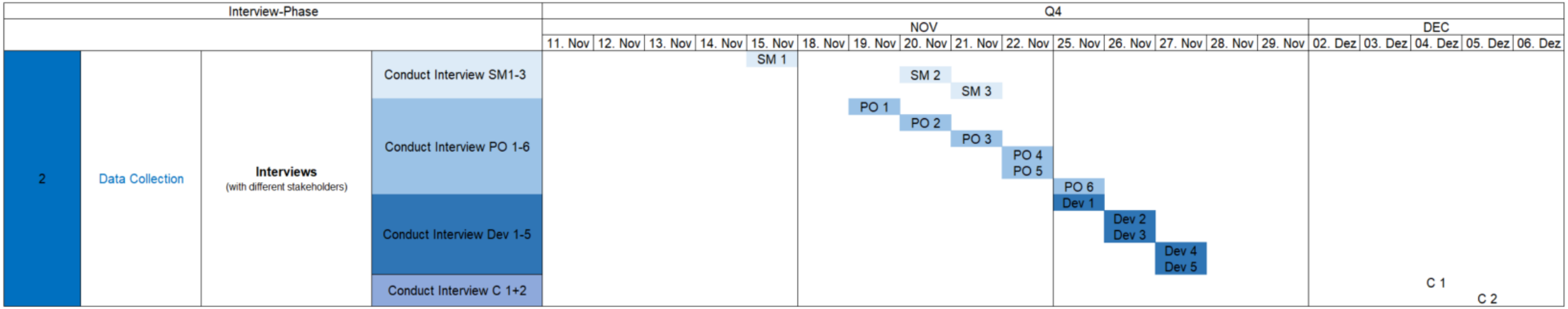
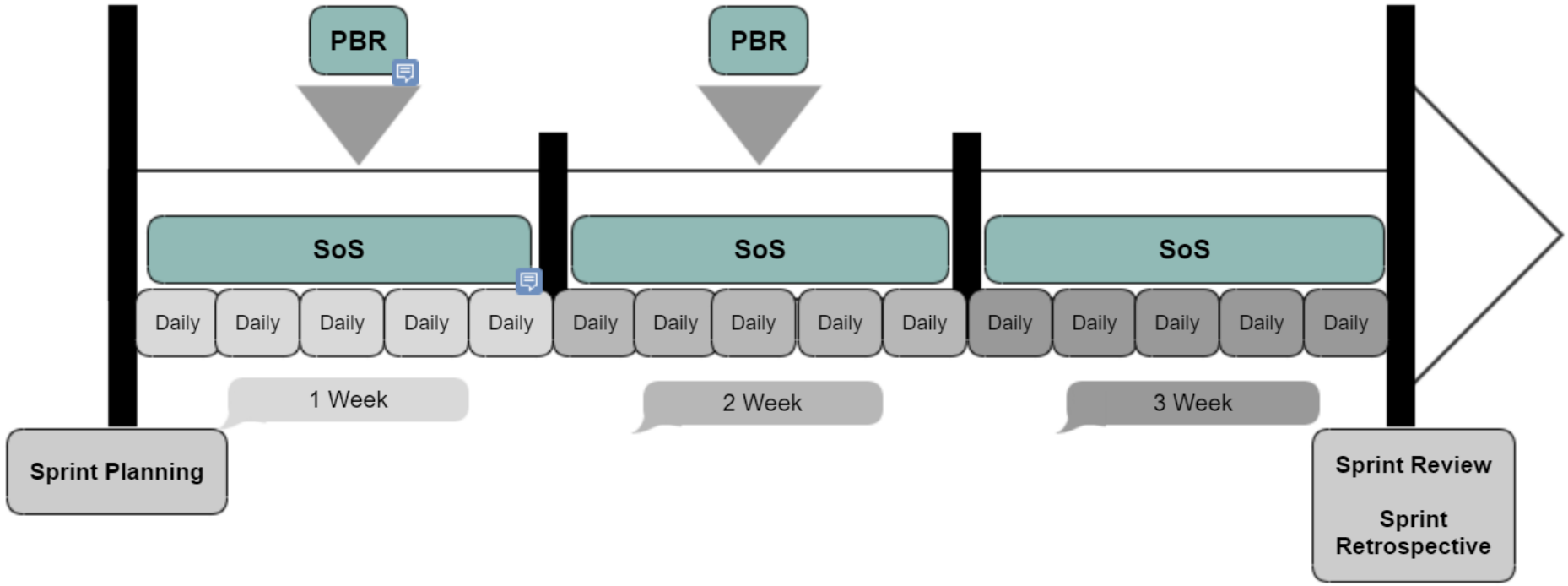
Interview Dates



Dates filled with color are confirmed

Status Quo
LSAD Conception

Scrum Process (Single Sprint)



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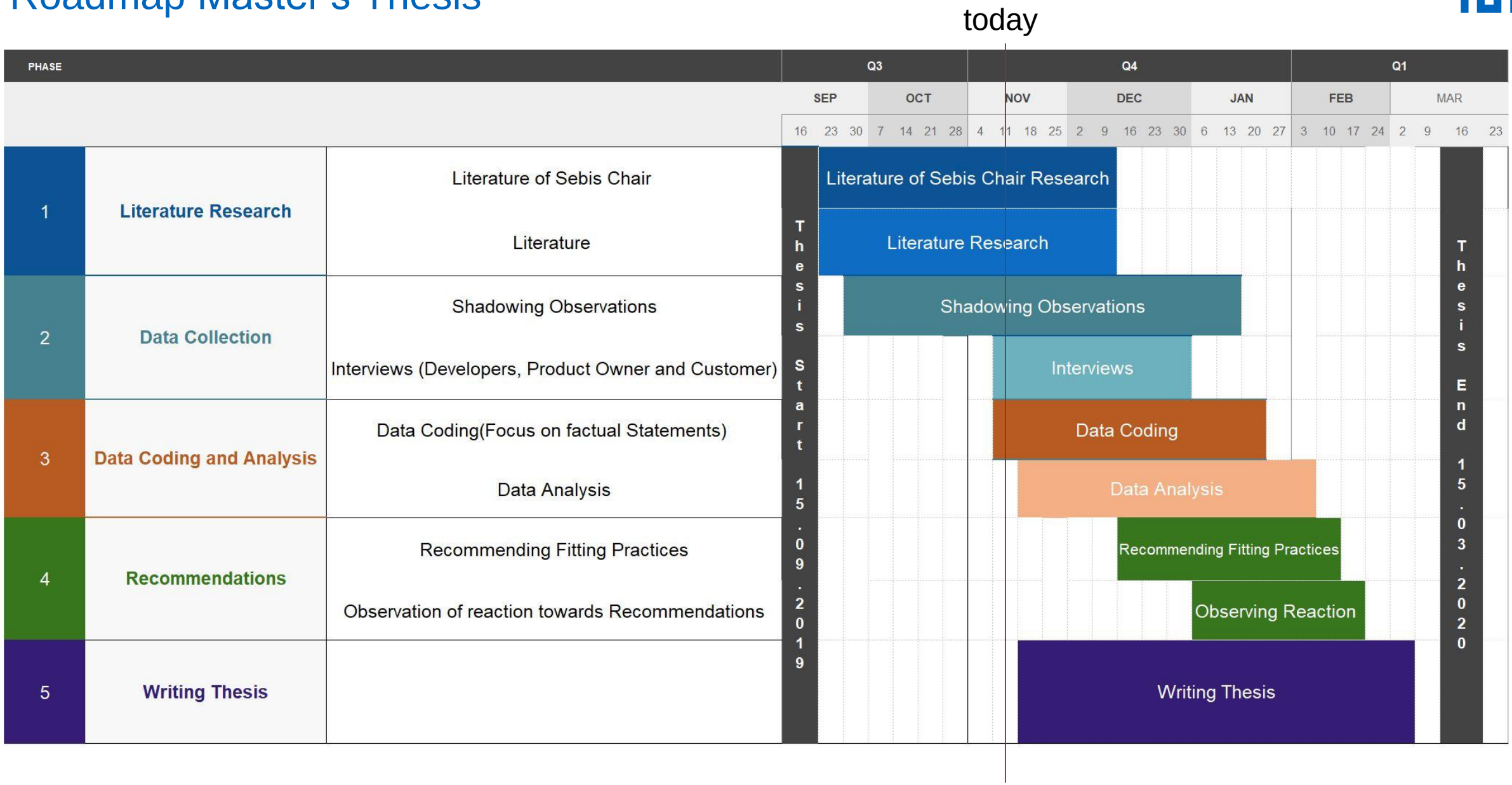

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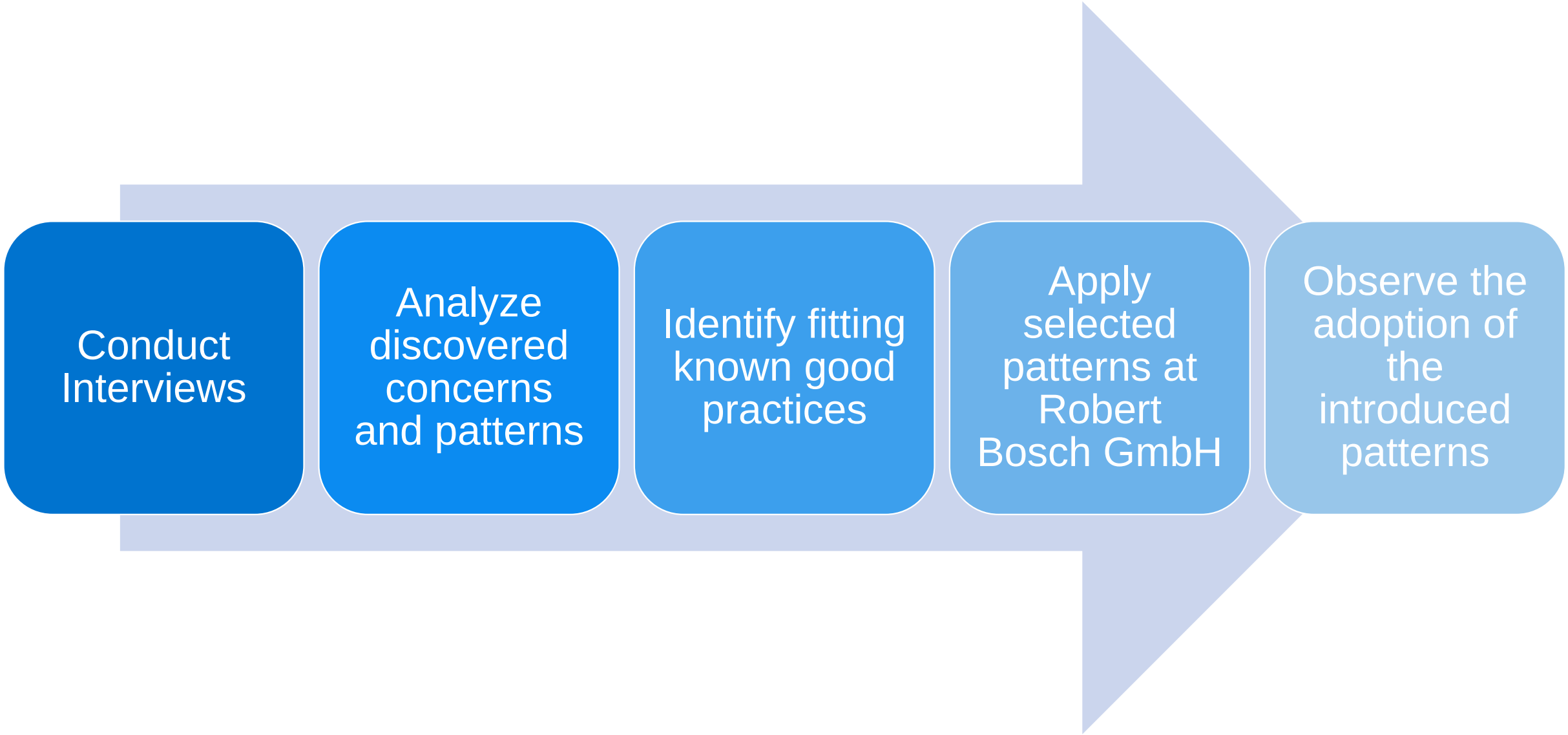
Conduct Interviews
Analyze discovered concerns and patterns
Identify fitting known good practices
Apply selected patterns at Robert Bosch GmbH
Observe the adoption of the introduced patterns

References

[1] Buckl, S., Matthes, F., Schneider, A. W., & Schweda, C. M. (2013). Pattern-based design research–an iterative research method balancing rigor and relevance. In *International Conference on Design Science Research in Information Systems* (pp. 73-87). Springer, Berlin, Heidelberg.

[2] Dingsøyr, T., & Moe, N. B. (2014). Towards principles of large-scale agile development. In *International Conference on Agile Software Development* (pp. 1-8). Springer, Cham.

[3] Larman, C., & Vodde, B. (2009). Scaling lean & agile development. *Organization*, *230*(11).

[4] Uludag, Ö., Kleehaus, M., Caprano, C., & Matthes, F. (2018). Identifying and structuring challenges in large-scale agile development based on a structured literature review. In *2018 IEEE 22nd International Enterprise Distributed Object Computing Conference (EDOC)* (pp. 191-197). IEEE.

[5] The LeSS Company B.V. (2014). Overview – Large Scale Scrum(LeSS). https://less.works/.

[6] VersionOne, C. 13th Annual State of Agile Report. (2019).

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