

# Identification and Evaluation of Use Cases for inter-organizational Business Capability Modeling

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# Agenda



Motivation

Research Questions

Research Approach

Current State

Future Work - Roadmap



**Collaboration** becomes increasingly important for companies – inter-organizational collaboration instead of competition (Diirr et al., 2018)

**EAM**

Organization needs to align their IT and business (Tamm et al., 2011)

Importance of inter-organizational collaboration in Enterprise Architecture Management (EAM)

## Different directions of collaboration

In this thesis focus on **horizontal** collaboration:

Collaboration partners are competitors from the same industry sectors with the same/similar capabilities

Creation of a common Business Capability Map as collaborative visualization tool

The task of Business Capability Modelling in **horizontal** inter-organizational collaboration?

Thesis Goal:

Use Cases

Challenges

Success Factors

# Motivation – Introduction Business Capability Modeling (BCM)

A **business capability** defines the organization's capacity to successfully perform a unique business activity.

- describes what an enterprise does and not how

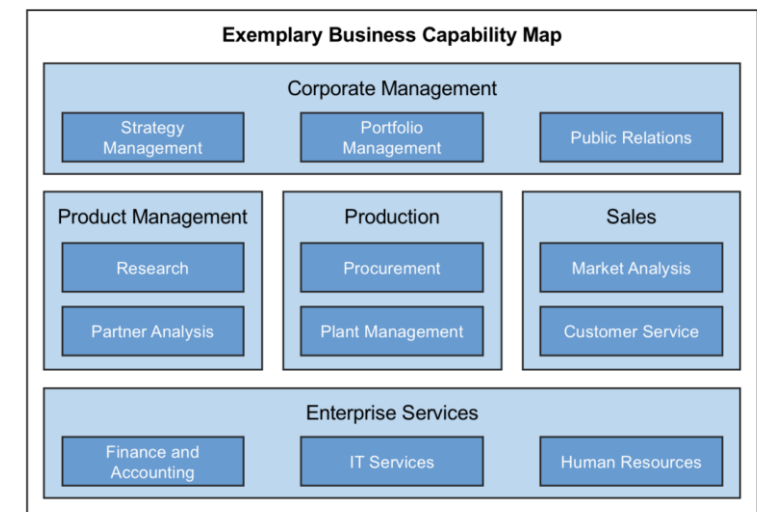
- abstracts and encapsulates the **people, process/procedures, technology, and information**

## Typical modeling result is a **Business Capability Map**:

A visual representation of a nested hierarchy of the main functions in the enterprise which are necessary to support the company's business model and which reflects the company's strategic direction.



Usage context described within **one** organization and not in the context of EAM collaboration



Example of a BCM (Bondel et al., 2018)

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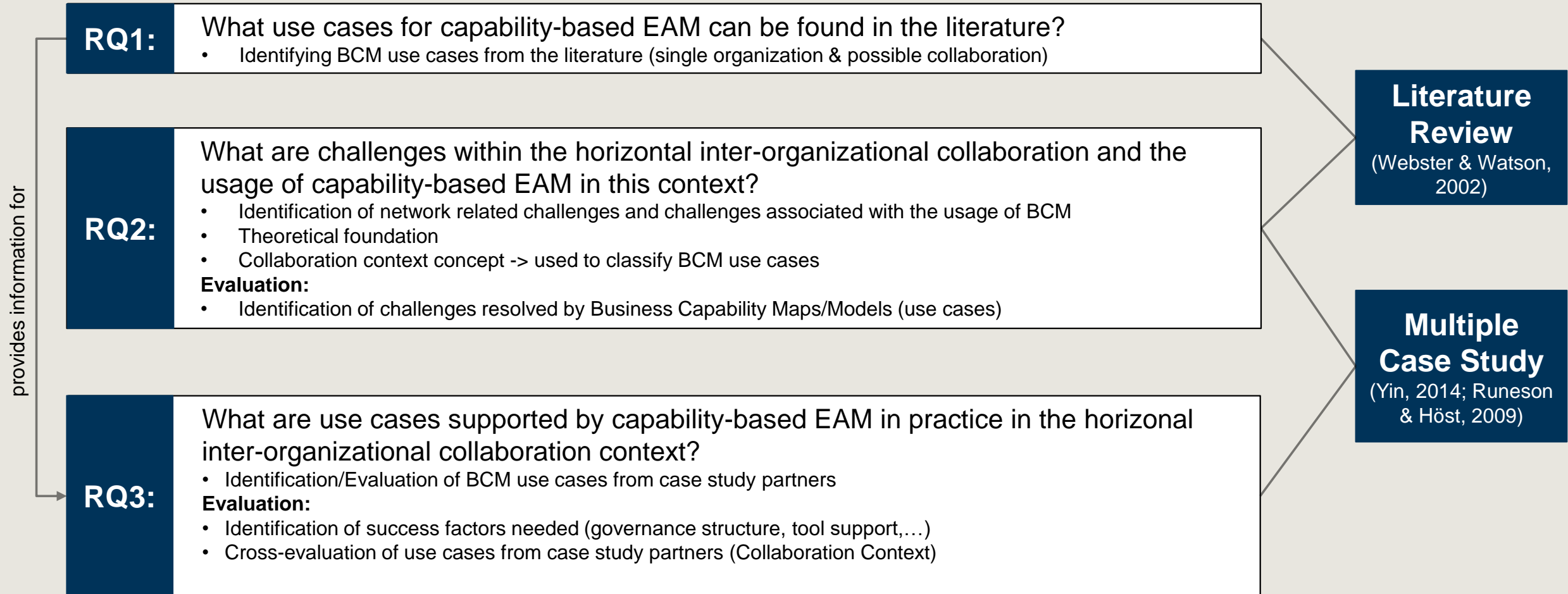
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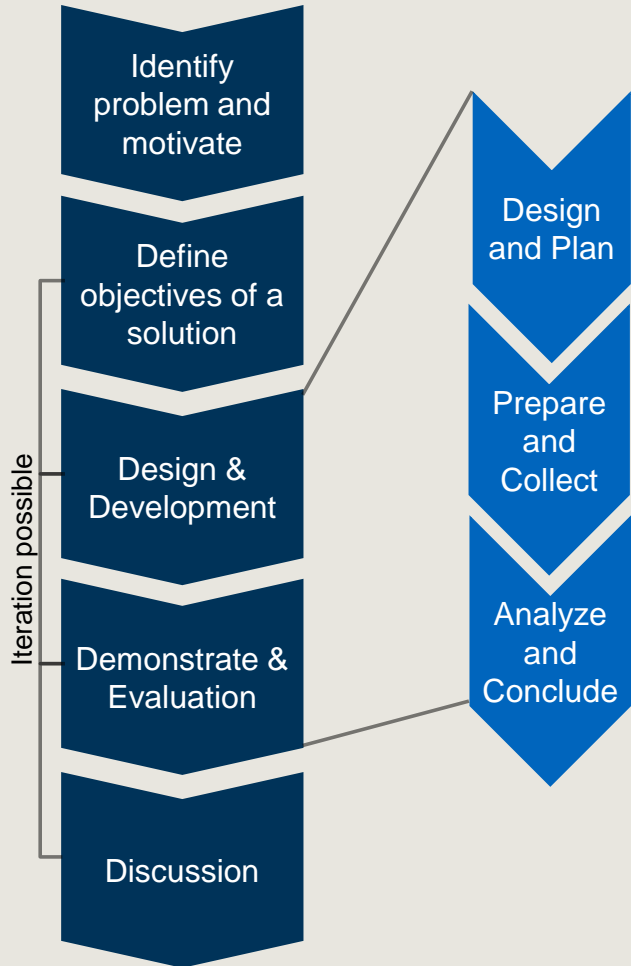
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## Study Design

Research follows a Design Science Approach (Hevner et al., 2013; Peffers et al., 2007) - **Use Cases as Artefacts**



Case study design according to Yin (2014)

- Multi-case study
- Survey followed by semi-structured interviews

## Partner Overview

		Case 1	Case 2	Case 3	Case 4
Context	Predefined	horizontal			
	Cross-organizational relationship structure	horizontal			
	Reasons	Harmonization	Mergers & Acquisition	Reference architecture	
	Collaboration Form	Work Group	Community of Practice	Work Group	Community of Practice
	Industry	Broadcasting	Lottery/ Gambling	Broadcasting	Banking



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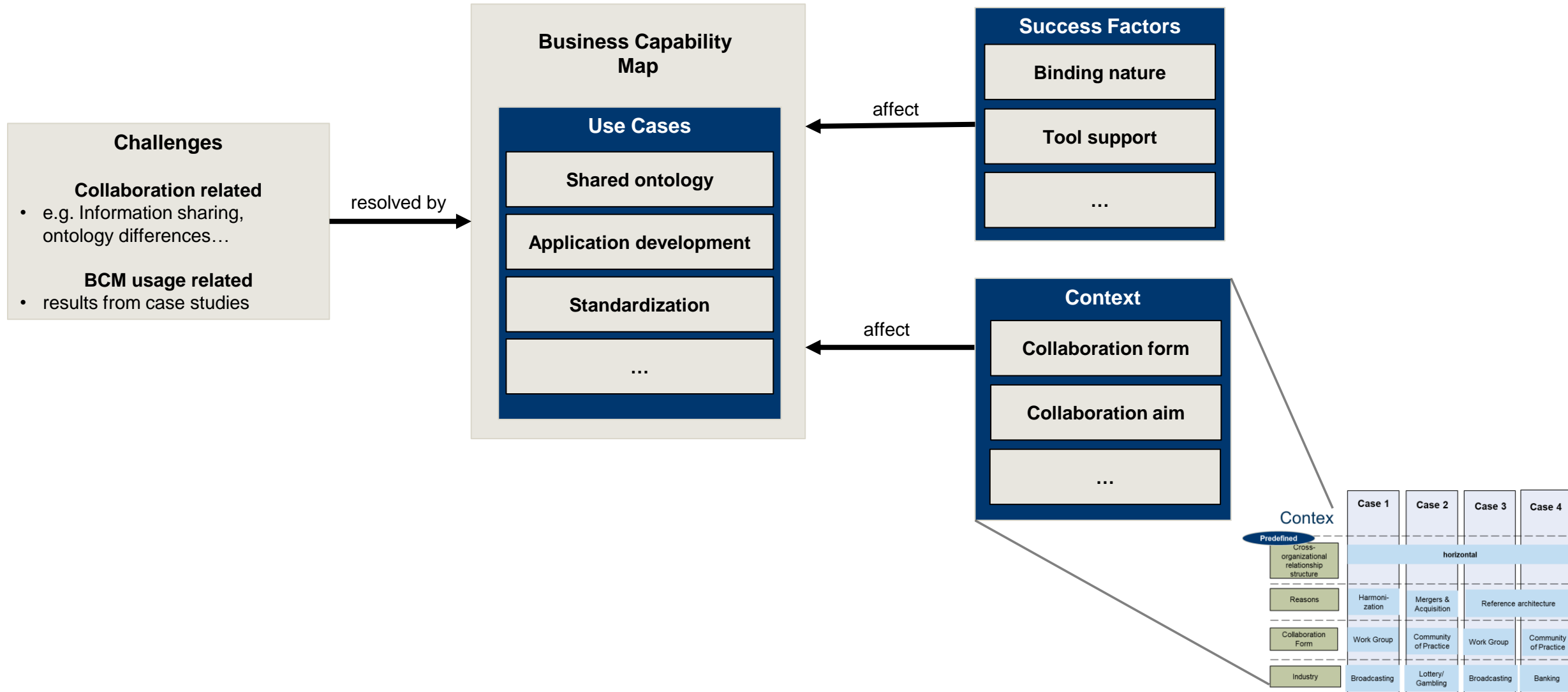
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# Current State - Explanatory construct

## Impact of factors influencing the usage of BCM in inter-organizational collaboration



# Current State – Identified Challenges within the Collaboration

#References	Collaboration Challenges
23	Information/Knowledge sharing issues including inadequate governance structure
15	Trust and commitment
11	Cooperation/Coordination/Control
9	Cultural diversity and conformity
8	Risk identification and management
7	Communication issues
6	Standardization
6	Ontology differences
5	Partner/s identification and selection
4	Inadequate/Fuzzy collaboration agreement
4	Intellectual property rights
4	Decision rights apportionment
4	Legal issues
4	Decision making process (slowness)
4	Personal relations
4	Communication between geographically separated teams
3	Specification of rules
3	Top management support/commitment
3	Process Modularization
3	Entering and exiting the network
3	Heterogeneity of partner
3	Achievement of operational alignment
2	Cost
2	Management of shared control
2	Selection of investment type

Sorted by number of references & cut of after "Selection of investment type" (Only most relevant challenges included – whole list includes 57 challenges )

- Prioritization & evaluation for BCM use cases
- Deduction of area of interest for the interviews -> identification of success factors and use cases

# Current State – First Results RQ1

## Sample of Use Cases for BCM

Context	Use Cases	References
Intra-organizational	Application Lifecycle + extended support, Cloud Candidate, Capability Dependency, Harmonization, Investment Decisions, Infrastructure Components + extended support, Agile Team Staffing, IT Cost, Strategic Business and IT alignment,...	(Khosroshahi et al., 2018; Bondel et al, 2018; Beimborn et al., 2015; , Kurnia, 2020; Aldea et al.,2015)
Inter-organizational	Business Capabilities Augmenting, Clarification of responsibilities	(Bakhtiyari et al., 2015; Tepandi et al., 2019)

Similar use cases found in inter/intra context with different characterizations

Context	Use Cases	Characteristics	References
Intra-organizational	Outsourcing/Sourcing Decisions	Assessment of possible for in/-out sourcing of capabilities	(Keller, 2009; Beimborn et al., 2015; Wißotzki et al, 2013)
Inter-organizational		Assessment for outsourcing & co-/in-sourcing of capabilities within the network/ sharing capabilities / creating new ones	(Bakhtiyari et al., 2015; Bakhtiyari et al., 2016)
Intra-organizational	Compliance Issues	Assessment of possible compliance issues for each capability	(Khosroshahi et al., 2018)
Inter-organizational		Integration of capabilities provided by government agencies for a network	(Bakhtiyari et al., 2016)

Focus at modeling part & collaboration form are business networks ↔ horizontal collaboration

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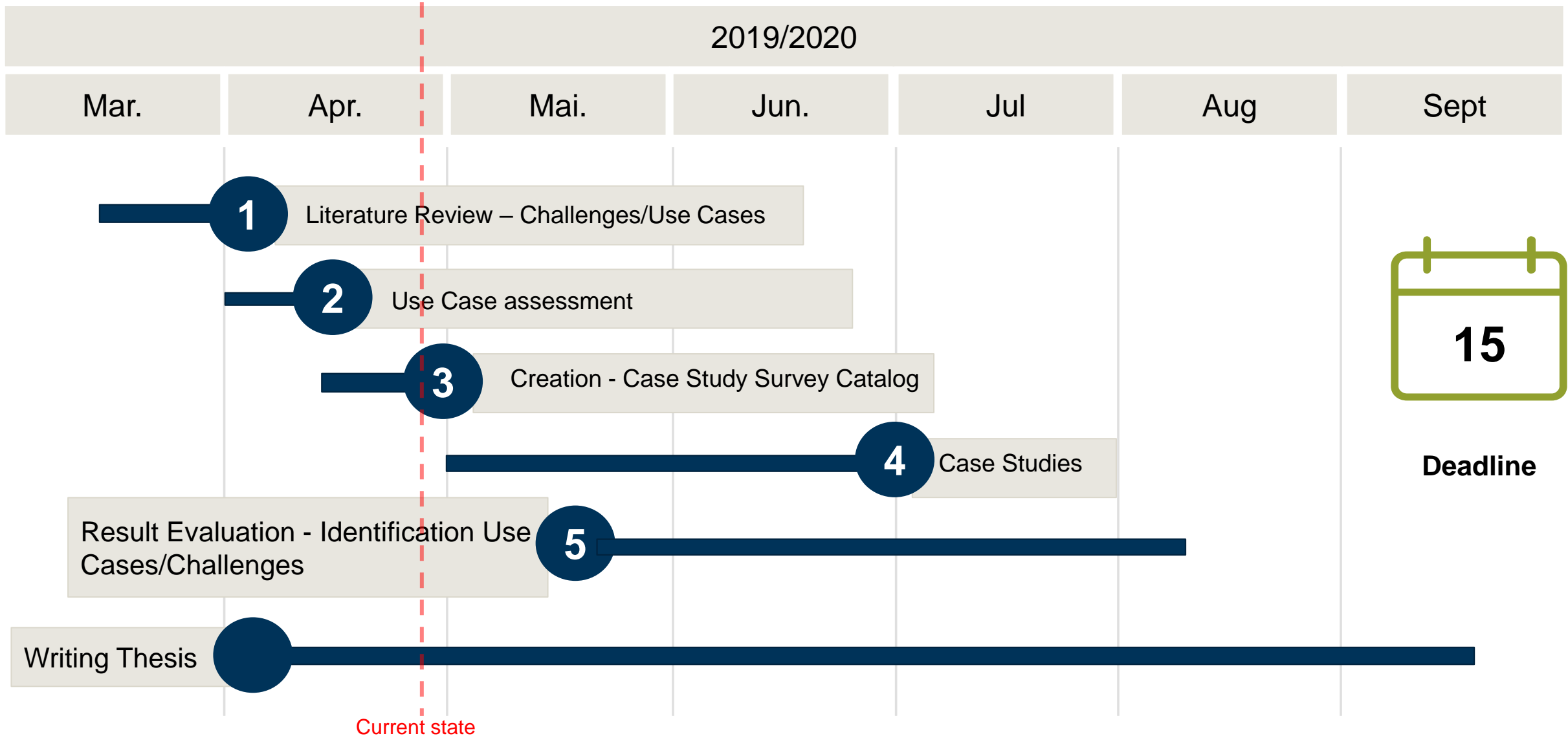
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# Future Work - Roadmap



QUESTIONS?  
**THANK YOU!**

- Aldea, Adina & Iacob, Maria-Eugenia & Hillegersberg, Jos & Quartel, Dick & Franken, Henry. (2015). Capability-based Planning with ArchiMate - Linking Motivation to Implementation. ICEIS 2015 - 17th International Conference on Enterprise Information Systems, Proceedings. 3. 352-359. 10.5220/0005468103520359.
- Aleatrati Khosroshahi, Pouya & Hauder, Matheus & Volkert, Stefan & Matthes, Florian & Gernegroß, Martin. (2018). Business Capability Maps: Current Practices and Use Cases for Enterprise Architecture Management. 10.24251/HICSS.2018.581.
- Bakhtiyari, A.R., Barros, A.P., & Russell, N. (2014). Enterprise Architecture for Business Networks: A Constructivist Synthesis.
- Bakhtiyari, Adel & Barros, Alistair & Russell, Nick. (2015). Enterprise Architecture for Business Network Planning: A Capability-Based Approach. Lecture Notes in Business Information Processing. 215. 257-269. 10.1007/978-3-319-19243-7\_25.
- Bakhtiyari, Adel R., Alistair P. Barros, and Nicholas Russell. "Business models design in business networks." *Research-in-Progress Papers*. 32. (2016).
- Beimborn, Daniel, Sebastian F. Martin, and Ulrich Homann. "Capability-oriented modeling of the firm." *IPSI Conference*. 2005.
- Bondel, Gloria & Faber, Anne & Matthes, Florian. (2018). Reporting from the Implementation of a Business Capability Map as Business-IT Alignment Tool. 125-134. 10.1109/EDOCW.2018.00027.
- Diirr, Bruna & Cappelli, Claudia. (2018). A Systematic Literature Review to Understand Cross-organizational Relationship Management and Collaboration. 10.24251/HICSS.2018.020.
- Hevner, Alan & March, Salvatore & Park, Jinsoo & Ram, Sudha. (2013). Design Science in Information Systems Research. MIS Quarterly. 28. 10.2307/25148625.
- Keller, Wolfgang. "Using Capabilities in Enterprise Architecture Management." (2009).
- Kurnia, Sherah & Kotusev, Svyatoslav & Taylor, Paul & Dilnutt, Rod. (2020). Artifacts, Activities, Benefits and Blockers: Exploring Enterprise Architecture Practice in Depth. 10.24251/HICSS.2020.687.
- Peffer, Ken & Tuunanen, Tuure & Rothenberger, Marcus and Chatterjee, Samir. 2007. A Design Science Research Methodology for Information Systems Research. J. Manage. Inf. Syst. 24, 3 (December 2007), 45–77. DOI:<https://doi.org/10.2753/MIS0742-1222240302>
- Runeson, Per & Höst, Martin. (2009). Guidelines for Conducting and Reporting Case Study Research in Software Engineering. Empirical Software Engineering 14, 131-164. Empirical Software Engineering. 14. 131-164. 10.1007/s10664-008-9102-8.
- Tamm, Toomas & Seddon, P.B. & Shanks, Graeme & Reynolds, Peter. (2011). How Does Enterprise Architecture Add Value to Organisations?. Communications of the Association for Information Systems. 28. 141-168. 10.17705/1CAIS.02810.
- Tepandi, Jaak & Grandry, Eric & Fieten, Sander & Rotuna, Carmen & Sellitto, Giovanni & Zeginis, Dimitris & Draheim, Dirk & Pihö, Gunnar & Tambouris, Efthimios & Tarabanis, Konstantinos. (2019). Towards a Cross-Border Reference Architecture for the Once-Only Principle in Europe: An Enterprise Modelling Approach. 10.1007/978-3-030-35151-9\_7.
- Webster, Jane & Watson, Richard. (2002). Analyzing the Past to Prepare for the Future: Writing a Literature Review. MIS Quarterly. 26. 10.2307/4132319.
- Wißotzki, Matthias & Koc, Hasan & Weichert, Tino & Sandkuhl, Kurt. (2013). Development of an Enterprise Architecture Management Capability Catalog. 158. 112-126. 10.1007/978-3-642-40823-6\_10.
- Yin, R. K. (2014). Case Study Research: Design and Methods (5th Ed.), Thousand Oaks: Sage Publications.