

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

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Agenda



Motivation

Research Questions

Research Approach

Results

Limitation & Future Work



Collaboration becomes increasingly important for companies – inter-organizational collaboration instead of competition [8]

EAM

Organization needs to align their IT and business [17]



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 Maps in **horizontal** inter-organizational collaboration?

Thesis Goal:

Use Cases

Challenges (Usage + Collaboration)

Success Factors

Introduction to the Business Capability Modeling (BCM) Concept

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

- describes what an enterprise does and not how

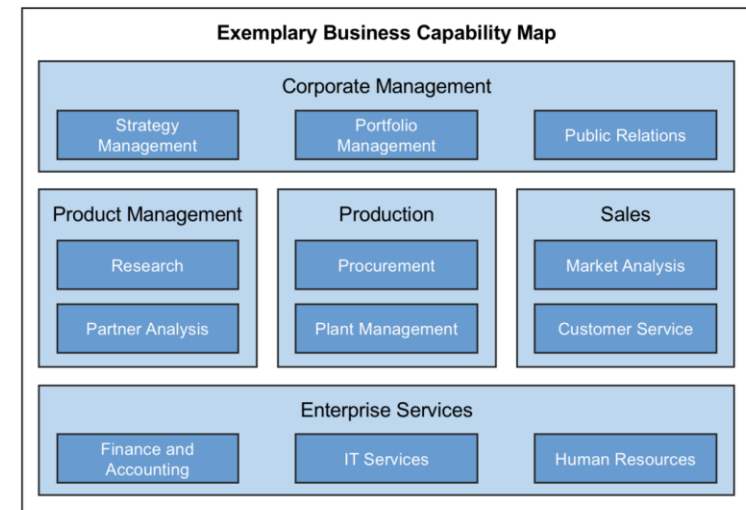
- abstracts and encapsulates the **people, process/procedures, technology, and information**

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.



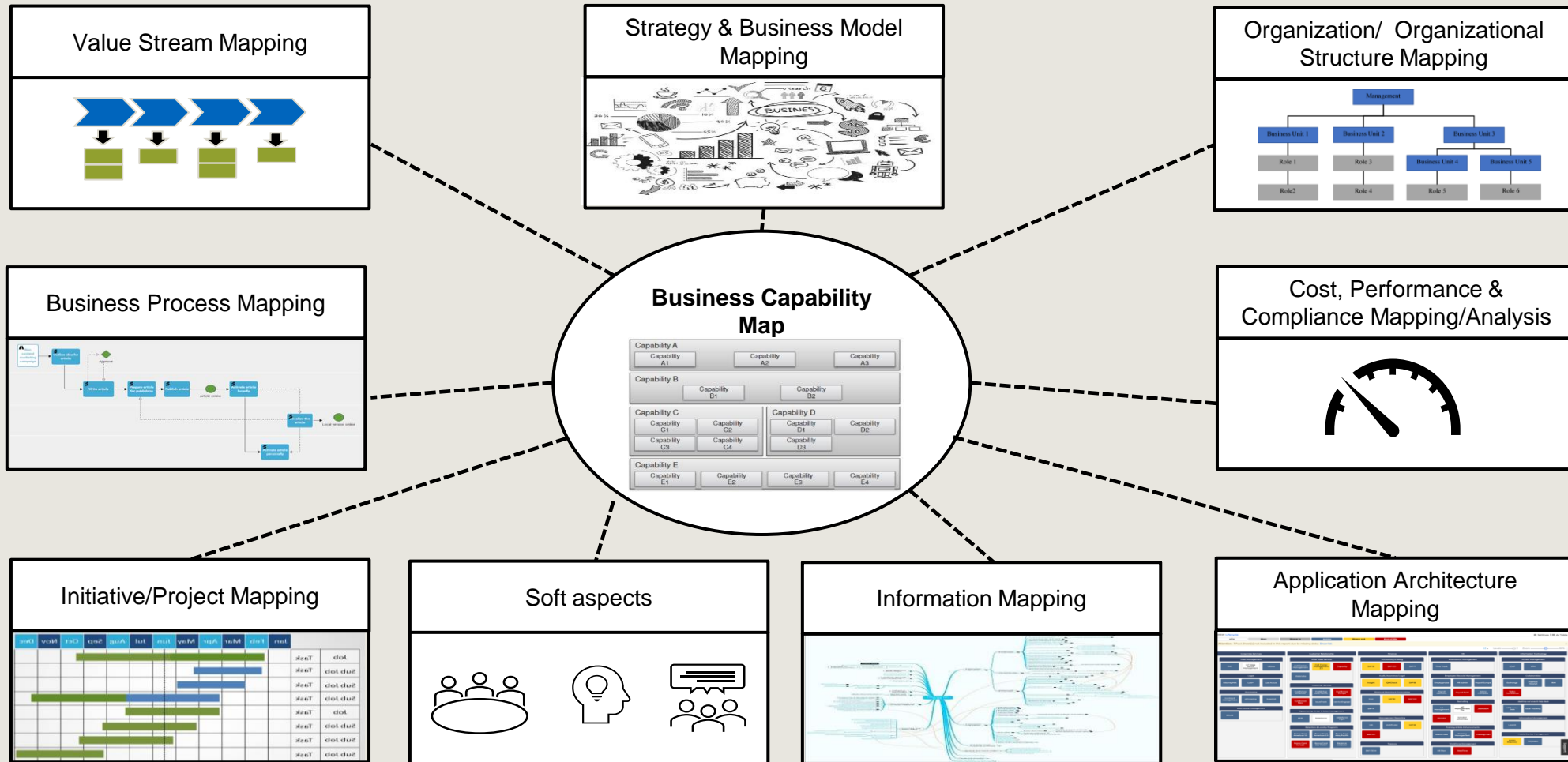
Usage context described within **one** organization and not in the context of EAM collaboration



Example of a BCM [7]

Source: [6]

The BCM must be Incorporated into the Enterprise Architecture for an effective Usage



based on [20]

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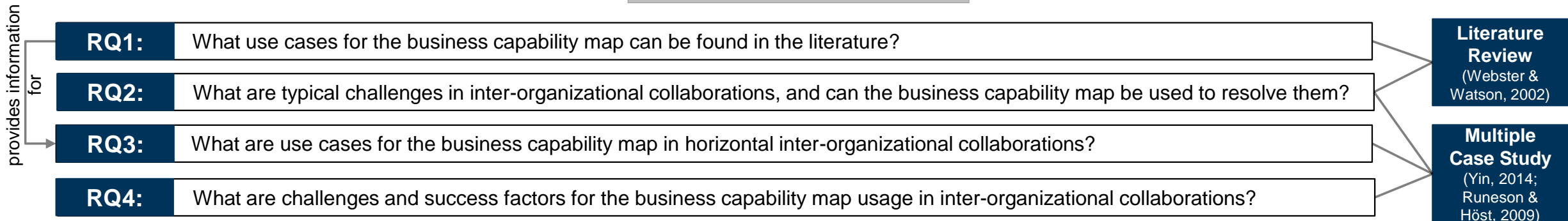
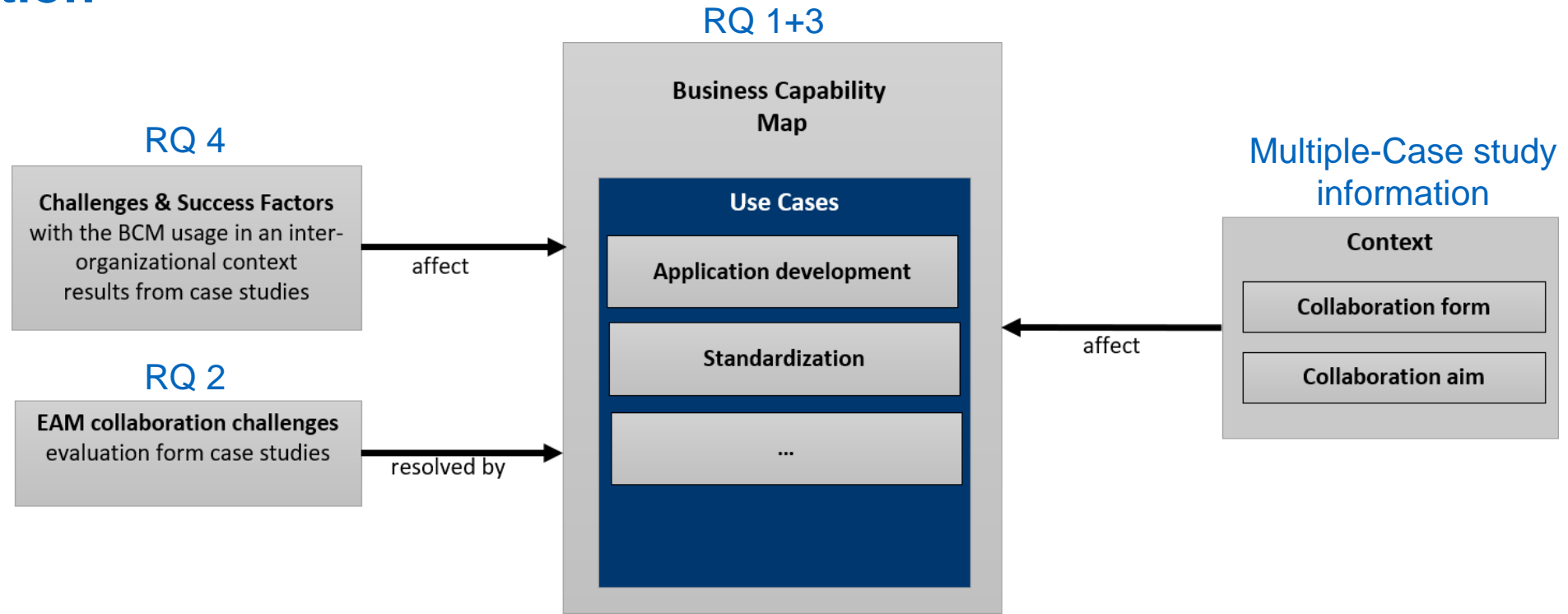
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Impact of factors influencing the usage of BCM in inter-organizational collaboration



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- **Design Science Approach** (Hevner et al., 2013; Peffers et al., 2007)
- **Multiple Case Study Design** according to Yin (2014)
 - semi-structured interviews

Context	Case 1	Case 2	Case 3	Case 4	Case 5
Cross-organizational relationship structure	horizontal				
Main Reason	Harmonization	Harmonization	Reference architecture		Merger
Participants are Competitors	No	No	No	Yes	Yes
Collaboration Form	Working Group	Working Group	Community of Practice	Community of Practice	Working Group
Industry	Broadcasting	Broadcasting	Broadcasting	Banking	Lottery/ Gambling
Number interviewed Experts	8	1	2	0	2
Data Collection	Interviews	Interviews	Interviews	Protocols	Interviews

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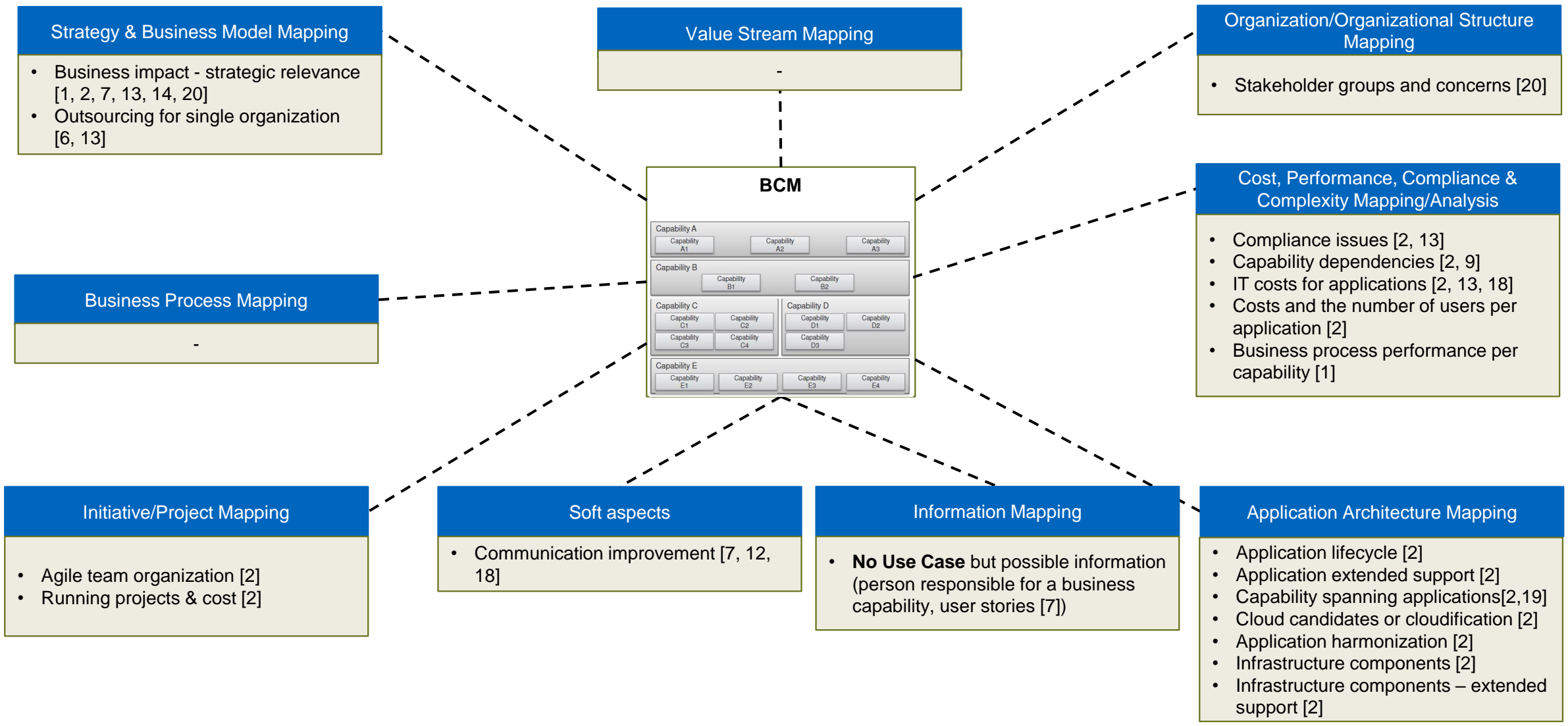
Research Questions

Research Approach

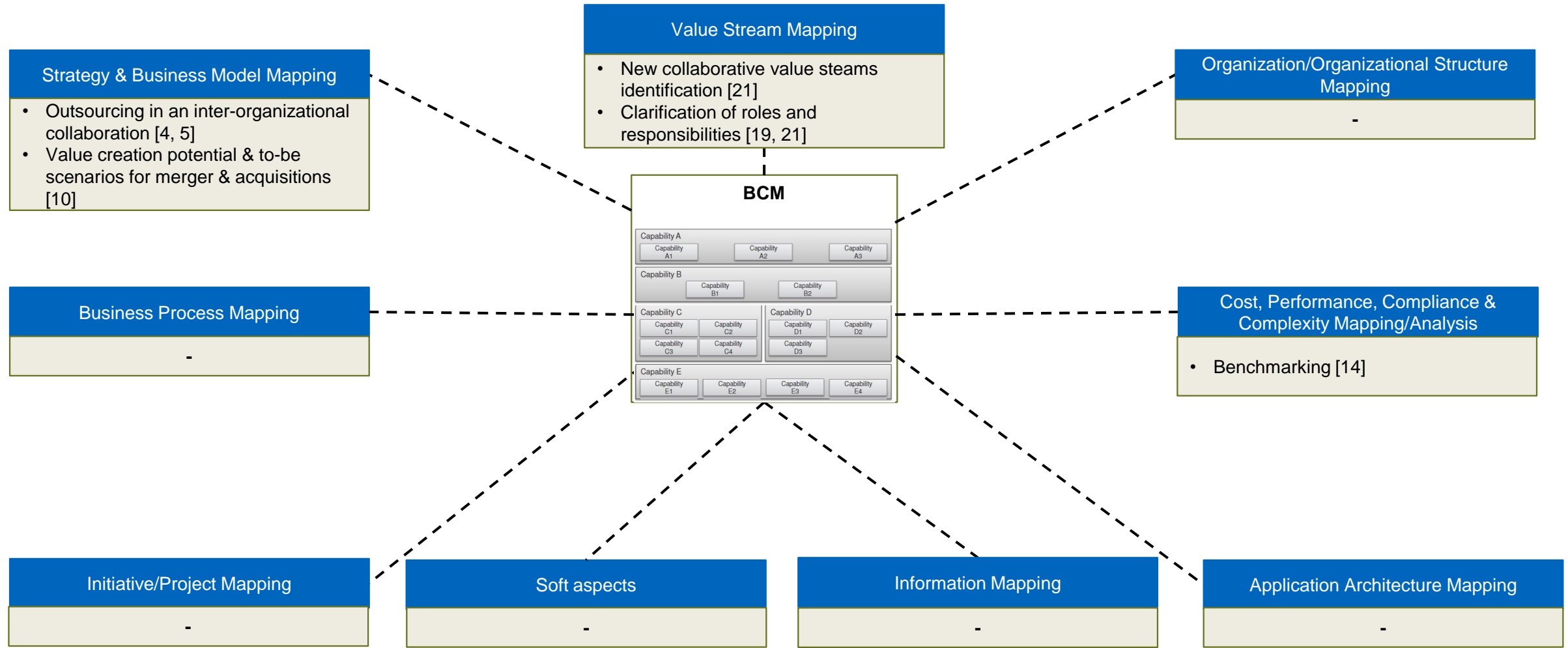
Results

Limitations & Future Work

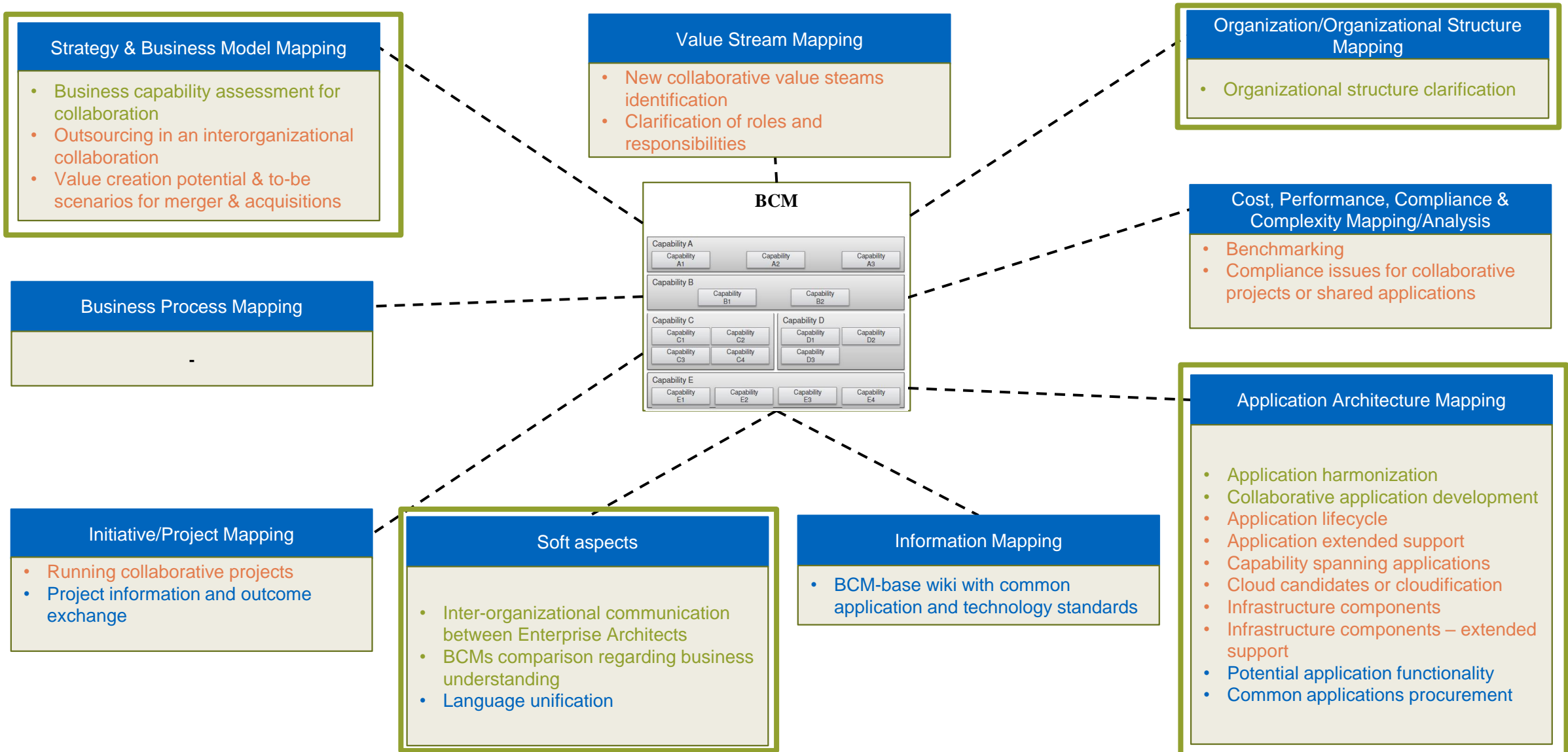
Identified Use Cases for BCMs in the Context of Single Organizations



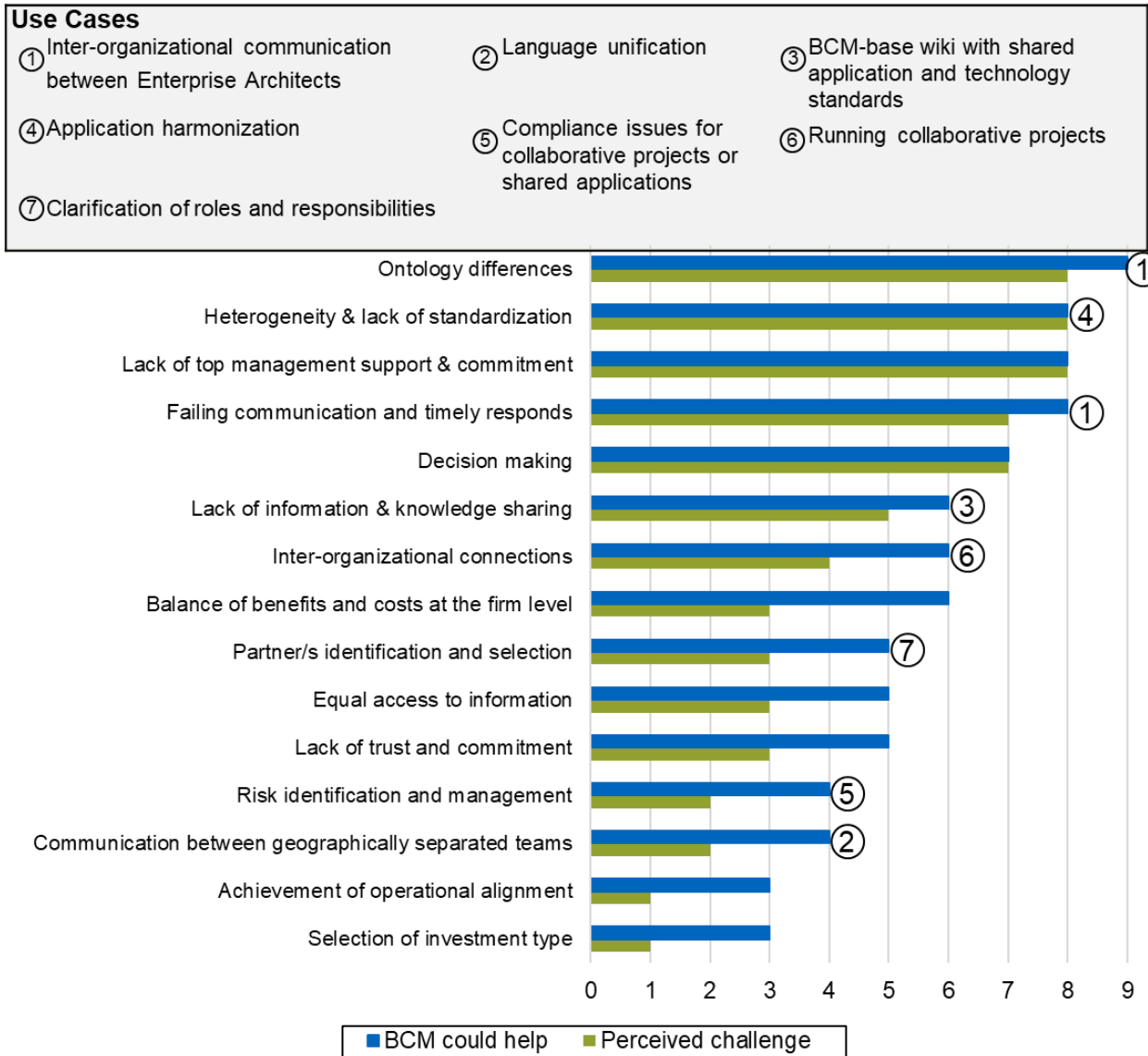
Identified Use Cases for BCMs in the Context of Inter-organizational Collaboration



Multiple Case Study Results – 24 overall: 6 Use Cases in application; 13 potential; 5 potential & new Overview of Use Cases for BCMs in Horizontal Inter-organizational Collaborations



Typical challenges in Inter-organizational Collaborations and how the BCM can help



Literature Review

- Resulting in 32 challenges, which were ranked by number of sources and cut of after the 15. challenge

Multiple case study

- Only Case Collaboration 1,2,5 (actively using BCM)
- Expert evaluation (perceived & BCM can help)

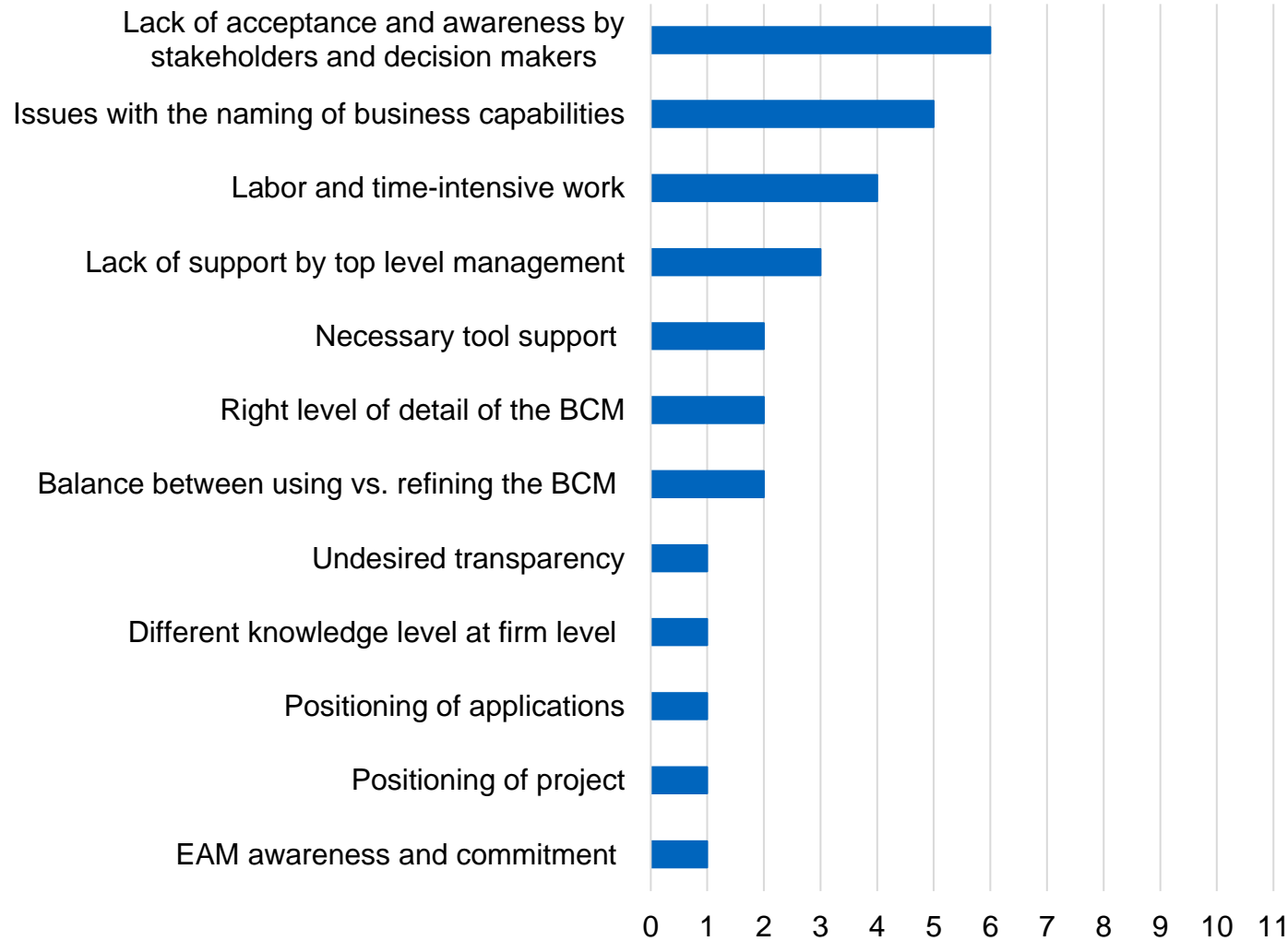
Research evaluation

- Mapping of use cases to challenges

Key findings

- Social challenge are difficult to support (BCM allows shared vocabulary and taxonomy)
- Use case can partly help in 8 of 15 challenges

Challenges when Using the BCM in Inter-organizational Collaborations



Multiple case study:

- Only Case 1,2,5 (actively using BCM)
- 11 Experts

Key findings:

- 12 Challenges identified
- Challenges mainly concerned with introduction phase of the BCM

Three of the most important Success Factors for the BCM Usage in Inter-organizational Collaborations



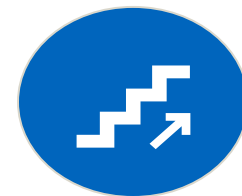
Sufficient communication of the BCM to necessary stakeholders and decision makers in each organization

- Show tangible BCM value proposition (big challenge)
- **Consideration:** educating the necessary stakeholders and decision makers (workshops, case studies and examples)



Sufficient communication that the BCM mappings are a work and time-intensive task

- Creation of BCM mapping is a time-intensive task, especially in the initial phase
- Ensure that the necessary resources, whether financial, time, or human, are available



A step-by-step and iterative procedure for introduction and expansion

- Iterative and multi-stage procedure (reduce the complexity)
- Require change management
- **Best practices** can help (still missing in the literature)

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Limitations



Subjective interview results



Early state of BCM at collaborations



No data saturation due to limited number of experts



General limitations of case studies (validity, external validity and reliability) [16]

Future Work



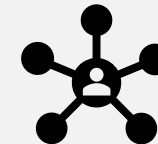
Case study at later stage with Case collaboration 1 and 2 (more in-depth)
More experts (also business side) and further case studies



Approach for integration of BCM concept into organizations



Measuring of business capabilities
→ Benchmarks



How can **soft aspects** be supported [18]
→ Organizational culture

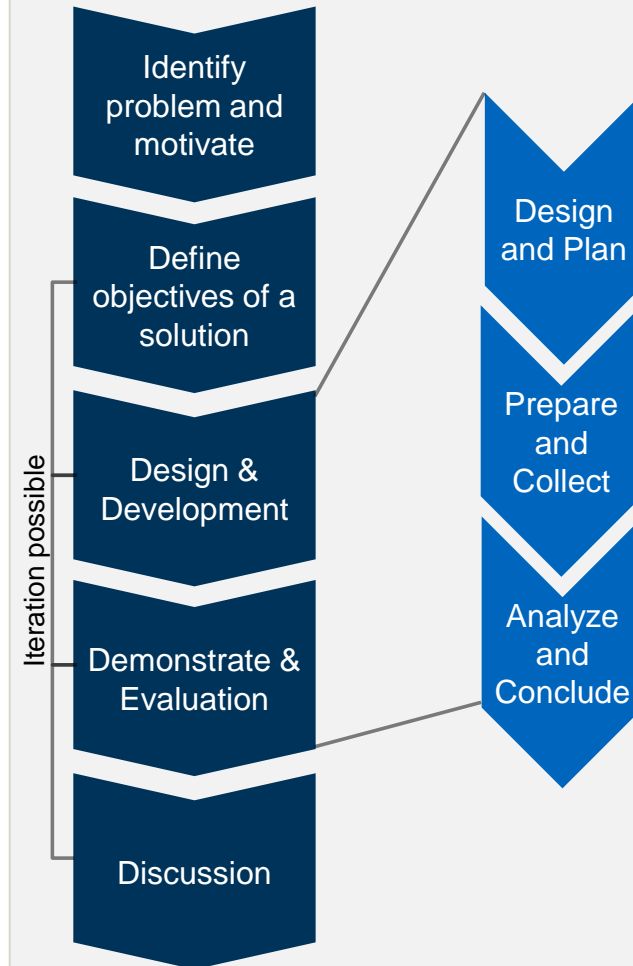
QUESTIONS?
THANK YOU!

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Backup

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

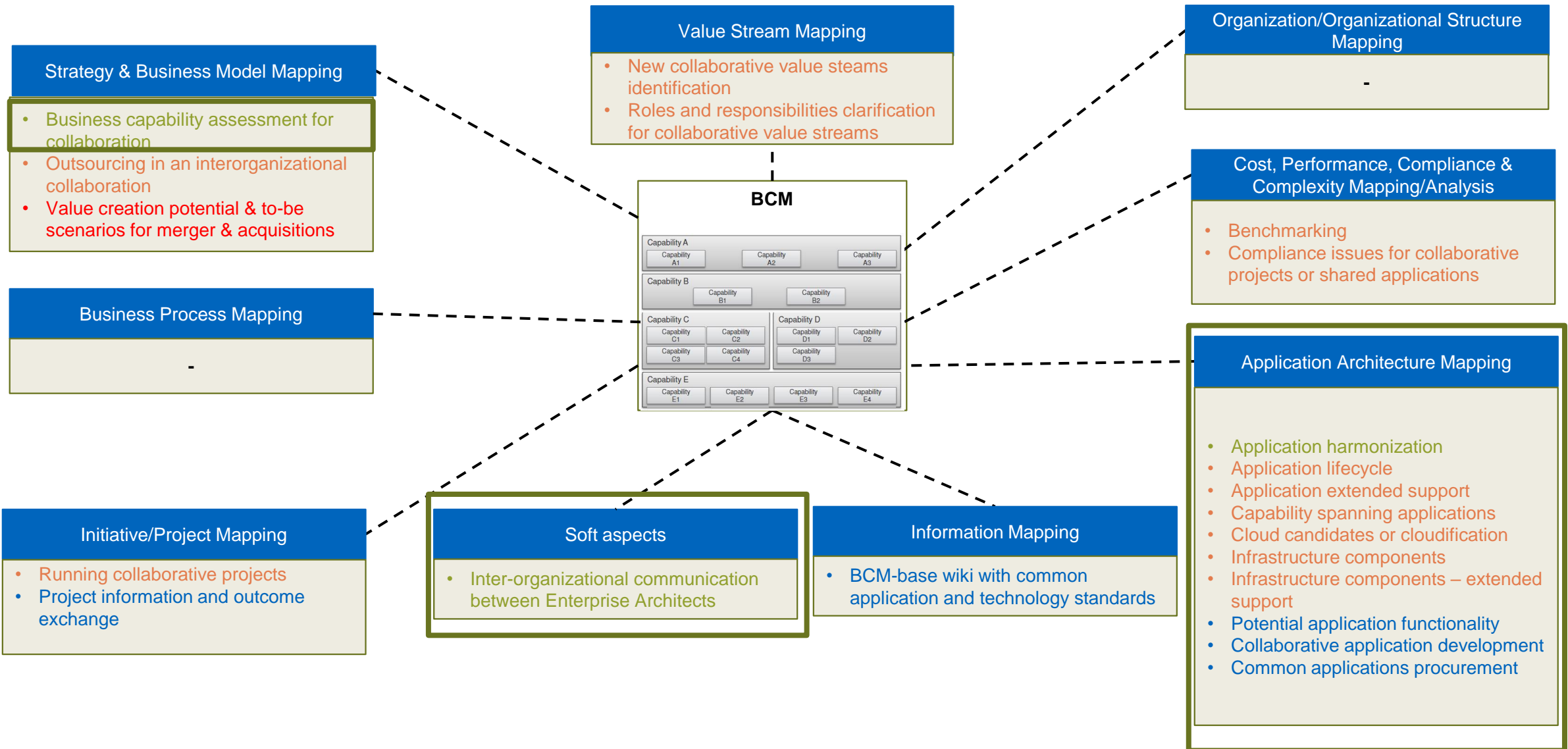


Multiple-case study design according to Yin (2014)

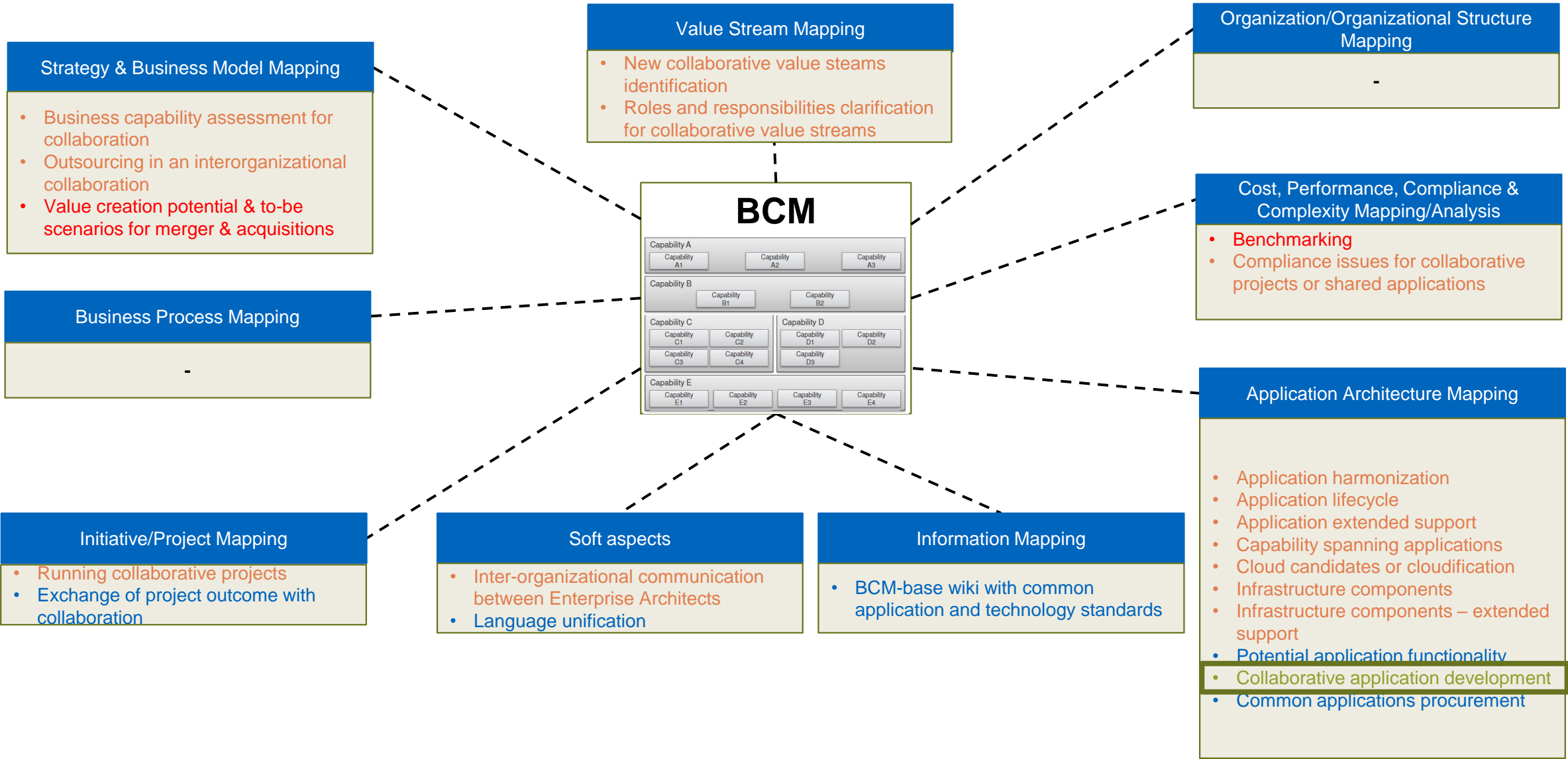
- semi-structured interviews

Multiple case study results – Case Collaboration 1

Identification of Potential Use Cases for BCMs in Horizontal Inter-organizational Collaborations

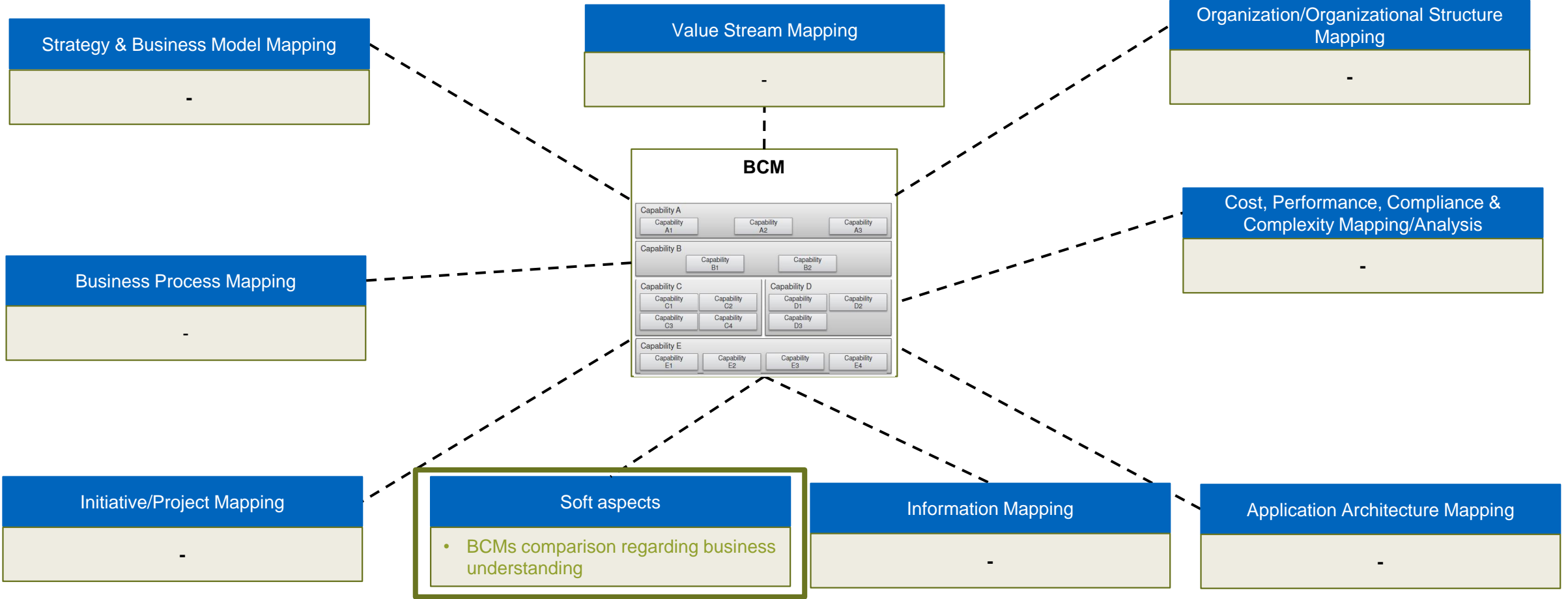


Identification of Potential Use Cases for BCMs in Horizontal Inter-organizational Collaborations

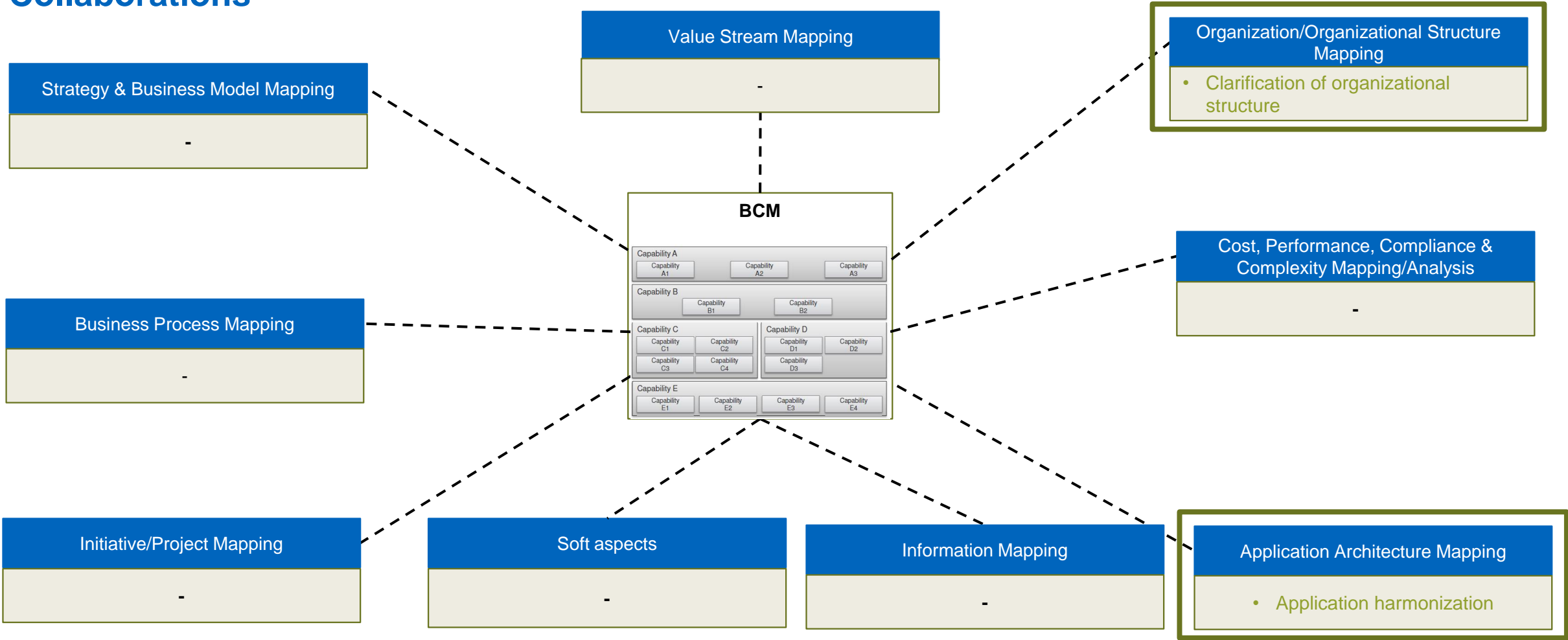


■ used
 ■ potential
 ■ potential & new
 ■ n/a
 ■ currently not wanted

Identification of Potential Use Cases for BCMs in Horizontal Inter-organizational Collaborations



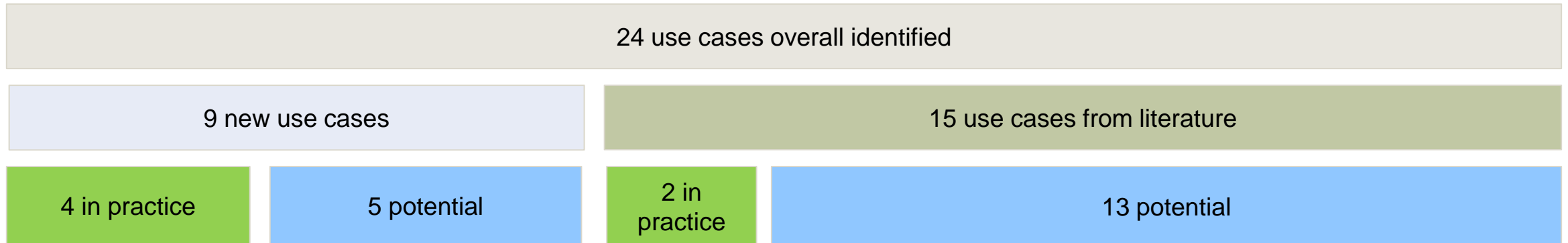
Identification of Potential Use Cases for BCMs in Horizontal Inter-organizational Collaborations



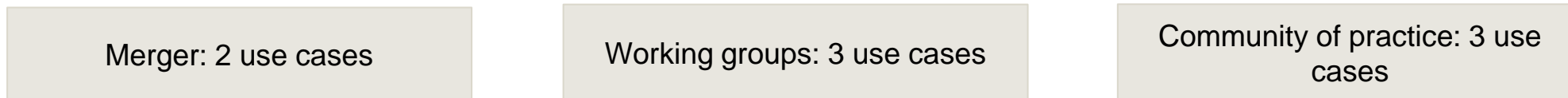
Case Collaboration & Context	Collaboration Aims	Use Cases in Practice
Case Collaboration 1 <ul style="list-style-type: none"> Working group No competitors 	<ul style="list-style-type: none"> Identification and support of collaborative projects Establishing comparability Identification of harmonization potential (applications and business processes) Creation and rollout of possible common application and technology standards Knowledge exchange through a common wording and same framework 	<ul style="list-style-type: none"> Inter-organizational communication between Enterprise Architects Application harmonization Business capability assessment for collaboration
Case Collaboration 2 <ul style="list-style-type: none"> Working group No competitors 	<ul style="list-style-type: none"> Identification of harmonization potential for the application architecture and business objects 	<ul style="list-style-type: none"> Provide overview of collaborative application development
Case Collaboration 3 <ul style="list-style-type: none"> Community of practice No competitors 	<ul style="list-style-type: none"> Creation of a reference BCM Knowledge exchange (e.g. use cases for BCMs) 	-
Case Collaboration 4 <ul style="list-style-type: none"> Community of practice No competitors 	<ul style="list-style-type: none"> Creation of a reference BCM Knowledge exchange (e.g. use cases for BCMs) 	<ul style="list-style-type: none"> Comparing BCMs to refine the understanding of what the business does
Case Collaboration 5 <ul style="list-style-type: none"> Working group Competitors Merger 	<ul style="list-style-type: none"> Identification of potential synergies Management and rationalization of the application architecture 	<ul style="list-style-type: none"> Clarification of organizational structure after merger Application harmonization

BCM usage is focused on collaborations aims and the EAM functionality perception by organizations

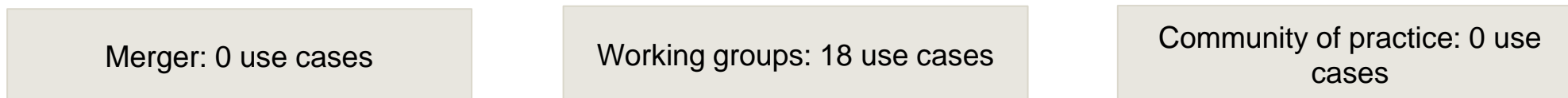
Summary Key Findings – Use Cases for Inter-organizational Collaborations



- **6 use cases** are currently in practice:



- **18 potential use cases** were identified:



Use Case	Description	Context	Source
Organization/Organizational Structure Mapping			
Stakeholder group and concerns	Business unit to business capability mapping to identify groups of stakeholder and concerns for a business capability	Intra	[20]
Initiative/Project mapping			
Agile team organization	Mapping of use stories to business capabilities to evaluate the staffing of agile project teams	Intra	[2]
Running projects & cost	Long term-planning of projects due to the mapping of running projects to BCs	Intra	[2]
Application Architecture Mapping			
Application lifecycle	Assessment of retirement dates of applications	Intra	[2]
Application extended support	Assessment of applications that have run out of vendor support	Intra	[2]
Capability spanning applications	Assessment of application landscape complexity, which are represented by capabilities supported by multiple applications	Intra	[2,19]
Cloud candidates or cloudification	Evaluation and identification of cloud potential by presenting which applications already operates in the cloud	Intra	[2]
Application harmonization	Assessment of functional redundancy of applications within BCs	Intra	[2]
Infrastructure components	Evaluation of BCs and their infrastructure components and cost	Intra	[2]
Infrastructure components – extended support	Evaluation of BCs with infrastructure components run out of vendor support	Intra	[2]

Use Case	Description	Context	Source
Value Stream Mapping			
Roles and responsibilities clarification for collaborative value streams	Identification and evaluation of BCs, whether a participation in a value stream is possible and which role and responsibility is intended	Inter	[21]
New collaborative value streams identification	Identify and creation of value streams from BCs within the collaboration	Inter	[19, 21]
Cost, Performance, Compliance & Complexity Mapping/Analysis			
Compliance issues	Evaluation of compliance issues for business capabilities	Intra	[2, 13]
Capability dependencies	Evaluation of BCs complexity represented by dependencies between them	Intra	[2, 9]
IT costs for applications	Assessment of average operating costs for each application with a BC	Intra	[2, 13, 18]
Costs and the number of users per application	Assessment of applications with few users and high IT costs	Intra	[2]
Business process performance per capability	Assessment of business process performance for BCs	Intra	[1]
Benchmarking	Creation and sharing of benchmarks for BCs	Inter	[14]

Use Case	Description	Context	Source
Soft Aspects			
Communication improvement	BCM as tool for the communication between business and IT (shared taxonomy and vocabulary)	Intra	[7, 12, 18]
Strategy & Business Model Mapping			
Business impact - strategic relevance	Evaluation of BCs according to their strategic value	Intra	[1, 2, 7, 13, 14, 20]
Outsourcing for single organization	Evaluation of potential BCs for outsourcing	Intra	[6, 13]
Outsourcing in an inter-organizational collaboration	Evaluation of BCs for in and outsourcing within the collaboration	Inter	[4, 5]
Value creation potential & to-be scenarios for merger & acquisition	Identify and capture the critical value creation potential of the acquisition target and communicate the to-be scenario of the acquisition	Inter	[10]
Information Mapping			
-			
Business Process Mapping			
-			

Use Case	Description	Status	Source
Organization/Organizational Structure Mapping			
Organizational structure clarification	Creation of the organizational chart from the business capability map	new	-
Initiative/Project mapping			
Project information and outcome exchange	Mapping of project information and outcome from individual organizations to the BCM to share success and failure for possible project adaption by other collaboration participants	new	-
Running collaborative projects	Mapping of running collaborative projects to the BCM to create an overview about the collaboration areas and potential areas for collaboration	similar	[2]
Cost, Performance, Compliance & Complexity Mapping/Analysis			
Compliance issues for collaborative projects or shared applications	Identify and highlight compliance issues for collaborative projects or shared applications	known	[2, 13]
Benchmarking	Creation and sharing of benchmarks for BCs	known	[14]

Use Case	Description	Status	Source
Value Stream Mapping			
Roles and responsibilities clarification for collaborative value streams	Identification and evaluation of BCs, whether a participation in a value stream is possible and which role and responsibility is intended	known	[21]
New collaborative value streams identification	Identification of new value streams from BCs within the collaboration	known	[19, 21]
Application Architecture Mapping			
Application lifecycle	Assessment of retirement dates of applications	known	[2]
Application extended support	Assessment of applications that have run out of vendor support	known	[2]
Capability spanning applications	Assessment of application landscape complexity, which are represented by capabilities supported by multiple applications	known	[2,19]
Cloud candidates or cloudification	Evaluation and identification of cloud potential by presenting which applications already operates in the cloud	known	[2]
Application harmonization	Assessment of functional redundancy of applications within BCs	known	[2]
Infrastructure components	Evaluation of BCs and their infrastructure components and cost	known	[2]
Infrastructure components – extended support	Evaluation of BCs with infrastructure components run out of vendor support	known	[2]
Potential application functionality	Comparing application functionality between organizations for BCs to uncover unused functionality	new	-
Collaborative application development	Overview in the collaborative application development process by identifying BCs from each organization needed	new	-
Common applications procurement	Identifying applications, which can be purchased together by one organization as well as provide an overview by highlighting such applications (e.g. mapping application owner)	new	-

Use Case	Description	Status	Source
Soft Aspects			
Inter-organizational communication between Enterprise Architects	The BCM is used as basis for the communication between Enterprise Architects from different organizations within the collaboration, by providing a shared taxonomy and vocabulary	similar	[7, 12, 18]
Language unification	A common BCM in English and a mapping between BCMs in the respective national language of the organizations can reduce language barriers and possible misunderstandings	new	-
BCMs comparison regarding business understanding	New collaboration members can compare their BCM to the collaboration owned BCM to refine their understanding of the business	new	-
Strategy & Business Model Mapping			
Business capability assessment for collaboration	Identification of BCs needed for collaboration and the evaluation whether these are sufficiently developed	new	-
Outsourcing in an inter-organizational collaboration	Evaluation of BCs for in and outsourcing within the collaboration	known	[4, 5]
Value creation potential & to-be scenarios for merger & acquisition	Identify and capture the critical value creation potential of the acquisition target and communicate the to-be scenario of the acquisition	known	[10]
Information Mapping			
BCM-based wiki with common application and technology standards	Sharing of common application and technology standards with a BCM-based wiki with the whole collaboration and respective stakeholders interested in these or responsible to check their adherence	new	-
Business Process Mapping			
-			