

# Collecting and Analyzing Cases of Inter-Organizational Business Capability Modeling

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# Outline

Motivation

Research Questions & Approach

Results

Conclusion & Future Work

## Current Challenges

- Globalization
- Digitalization
- Short time-to-market cycles
- Constant cost & time pressure
- Demand for collaboration

Management of scarce resources

Demand for

Alignment of Business & IT

Goal of

Enterprise Architecture Management (EAM)

Business Capability Map (BCM)



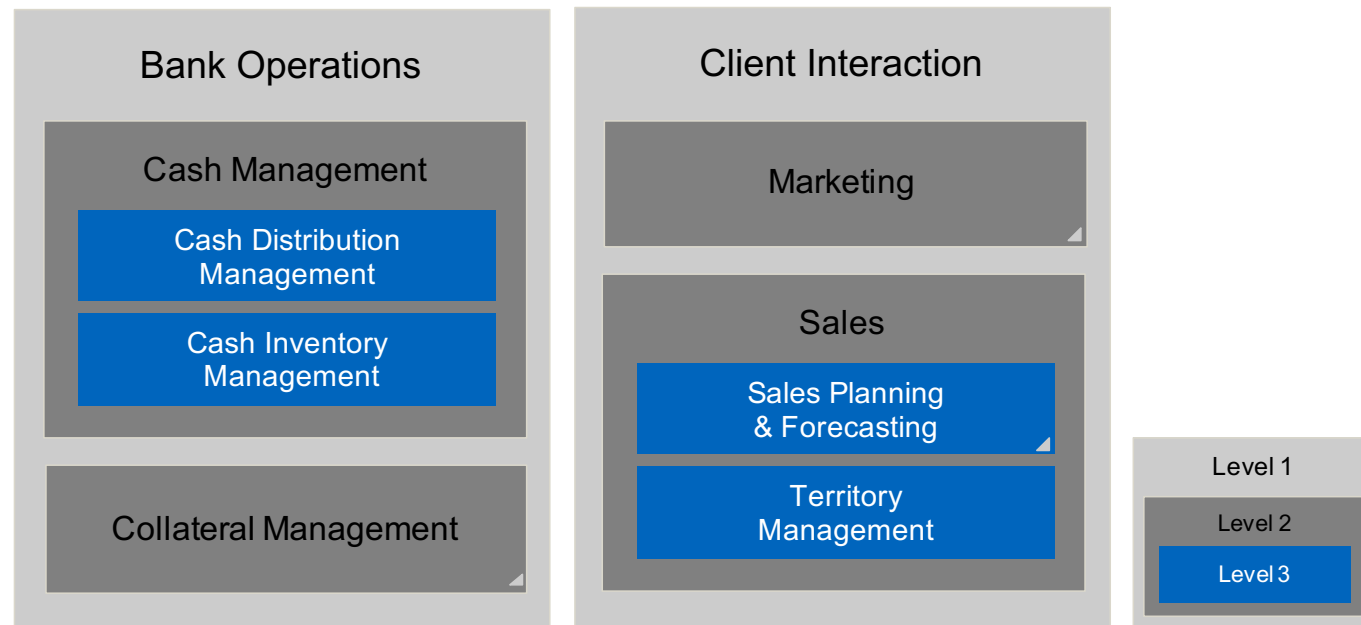
Inter-organizational context

# Business Capability Map

## Business Capability

“A business capability is a particular ability or capacity that a business may possess or exchange to achieve a specific purpose or outcome.” (TOGAF) → the WHAT

## Business Capability Map



Exemplary extract of a BCM in the financial sector

# Business Capability Map

## Business Capability

*“A business capability is a particular ability or capacity that a business may possess or exchange to achieve a specific purpose or outcome.”* (TOGAF) → the WHAT

## Business Capability Map

### Reasons for intra-organizational usage

- Identification of business opportunities and challenges
- Communication tool between management & IT
- Investment decisions
- Development of target architectures
- Strategy roadmap

### Challenges of inter-enterprise architecture

- Strategic decisions
- Standardization
- Social Issues



Almost no data or research on inter-org. BCMs

# Outline

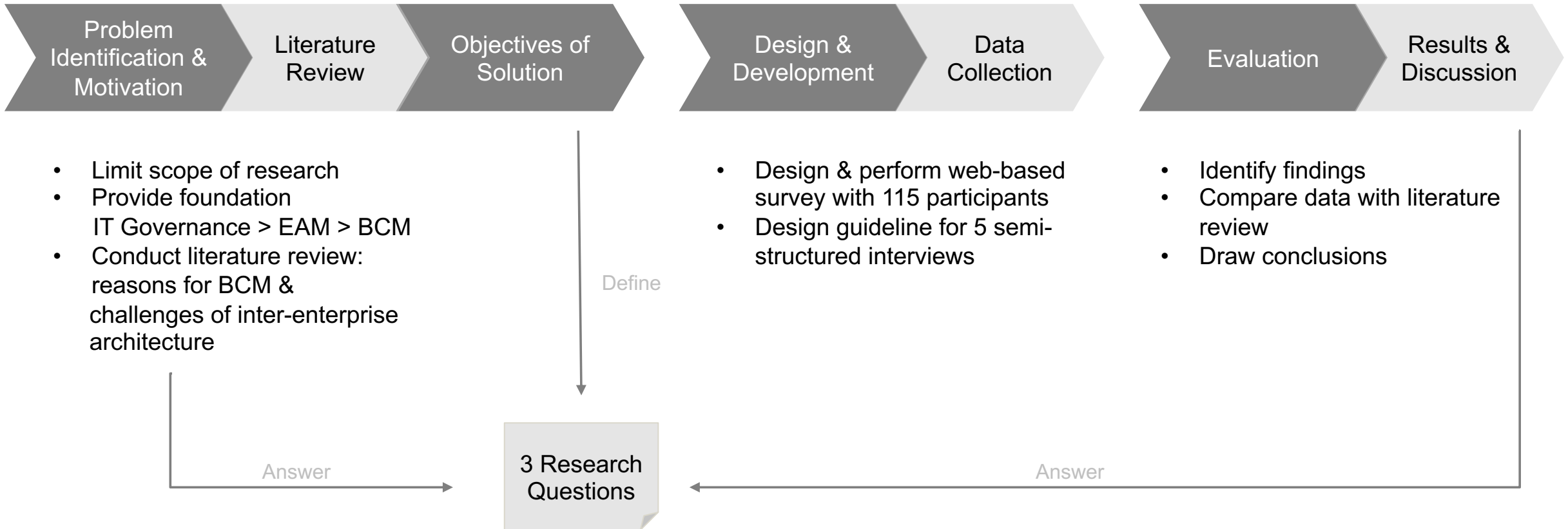
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# Research Questions & Approach



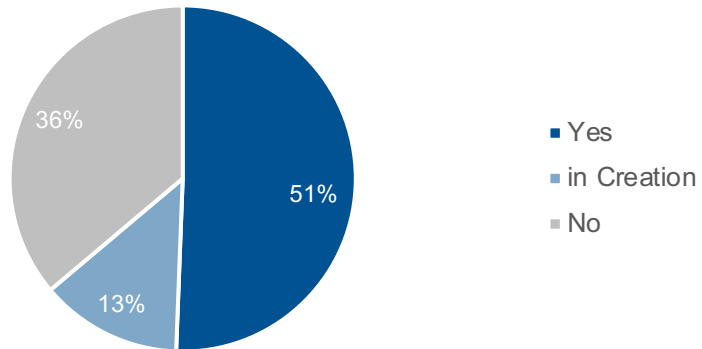
- RQ1** Which reasons for inter-organizational business capability modeling can be found?
- RQ2** What are the challenges associated with the inter-organizational use of BCMs?
- RQ3** Which factors can influence the usage of inter-organizational BCMs?

# Overview Data Collection

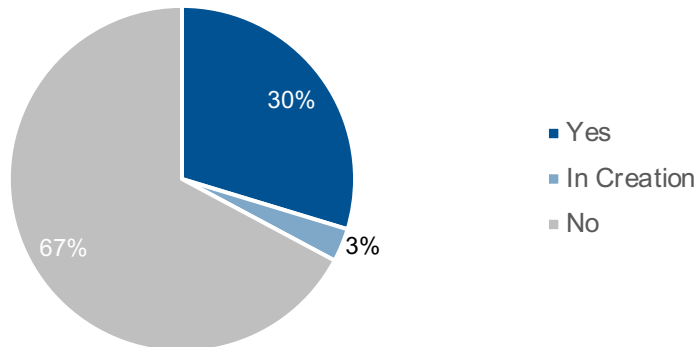
## Participants

115 started / 55 completed / 18 with personal details

### Intra-organizational use



### Inter-organizational use



Interviewee	Job Role	Industry (Headquarter)	Relation to inter-org. BCMs
I1	Department Manager (IT)	Construction (Germany)	Usage only intra-organizational
I2	Enterprise Architect	Government (Netherlands)	Usage in European agency
I3	Managing Partner for EA	Consulting (Germany)	Consulting service for intra-organizational use
I4	Enterprise Architect	Consulting (Belgium)	Usage only intra-organizational & consulting service
I5 (2x)	Enterprise Architects	Finance (Germany)	Usage only intra-organizational



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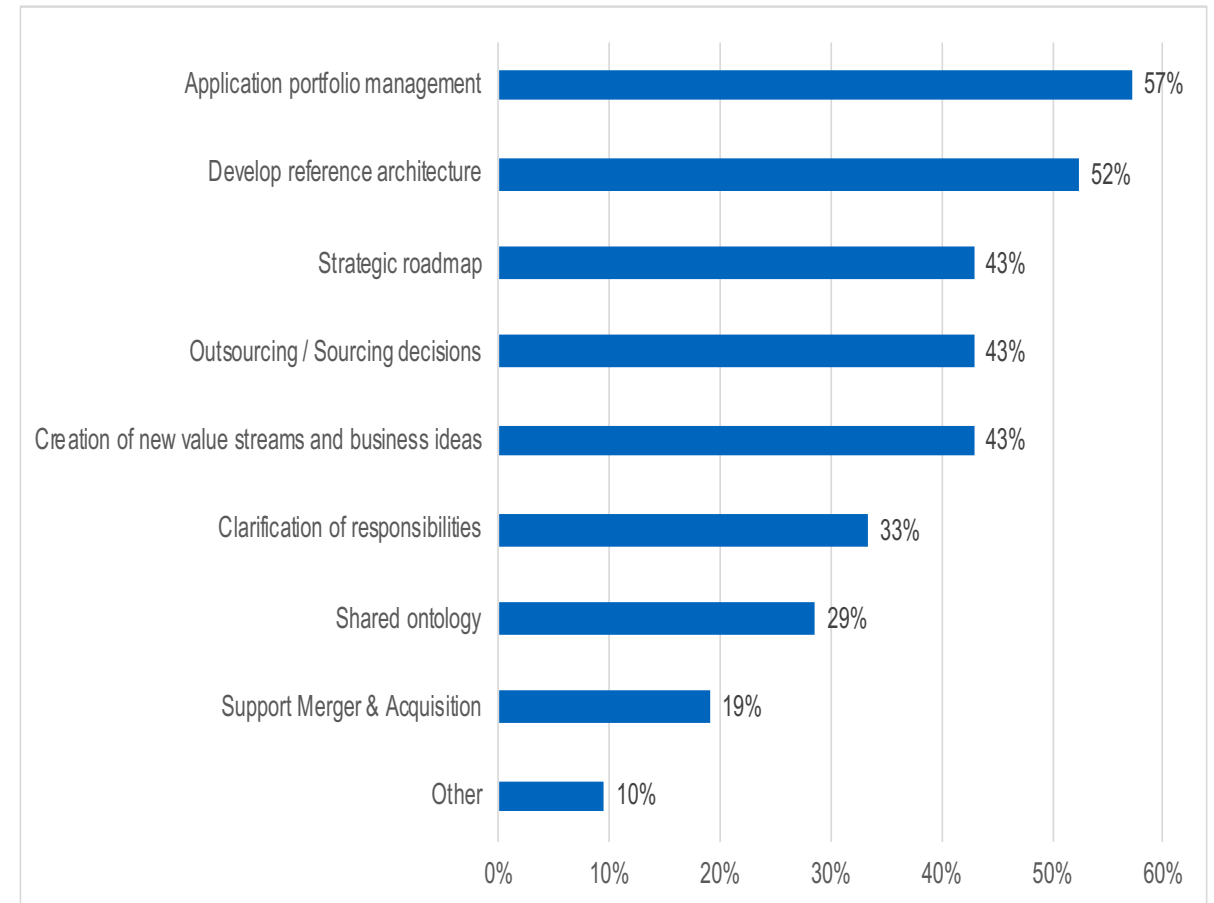
The primary use cases are related to application architecture.

### Key findings:

- Two additional reasons for inter-organizational capability modeling identified.
- Reasons for use of intra- and inter-organizational BCMs are similar.

### Approach:

- 69 answers given by 21 survey participants
- Insights by 5 interviews added
- Multiply choice based on literature review with option to add



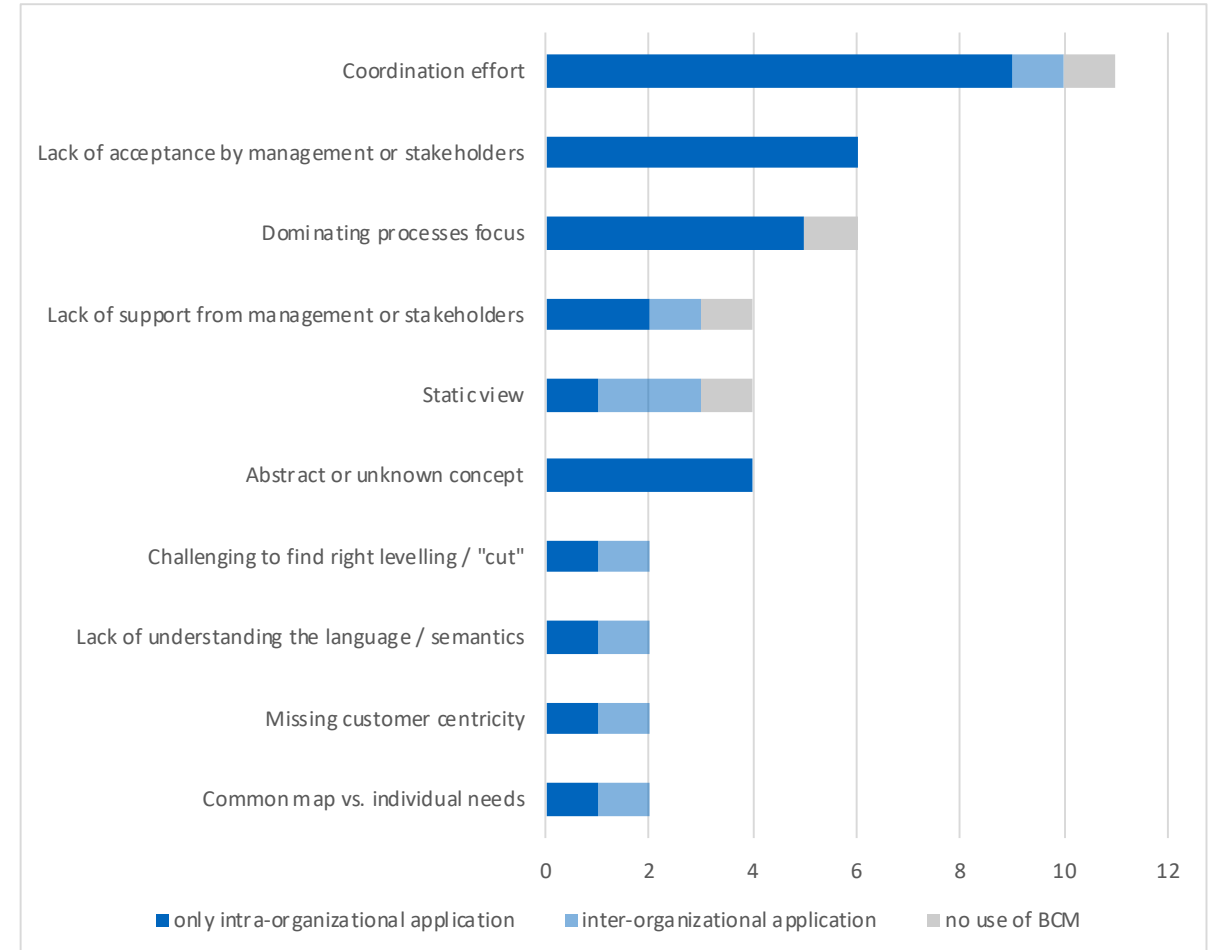
The challenges are mainly associated with the introduction phase of the BCM.

### Key findings:

- Efforts related to the agreement process and stakeholder coordination is the main obstacle.
- Stakeholder need to accept and support the use of BCM more.
- Processes are still dominating the coordination.

### Approach:

- Data collection through survey & interviews
- 43 free text answers clustered into 10 main challenges

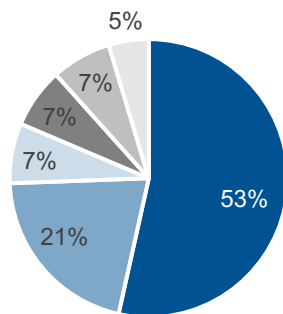


# RQ3: Influencing Factors

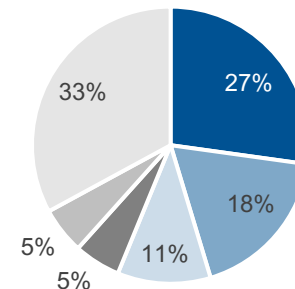
Mainly organizations in technology, financial and utilities focused industries are using a BCM.

Industry	Count	Percentage
IT, Technology	12	27 %
Finance, Insurance, Property	9	21 %
Communication, Utility	8	18 %
Consulting	3	7 %
Retail / Wholesale	3	7 %
Government	2	5 %

Business capability maps are a tool for larger companies. No significant regional characteristics could be identified.

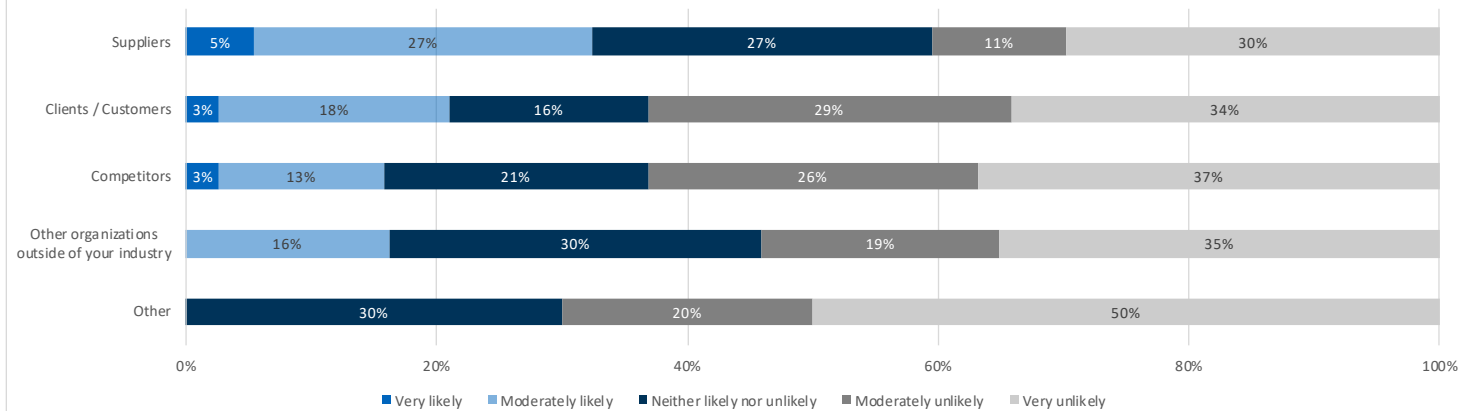
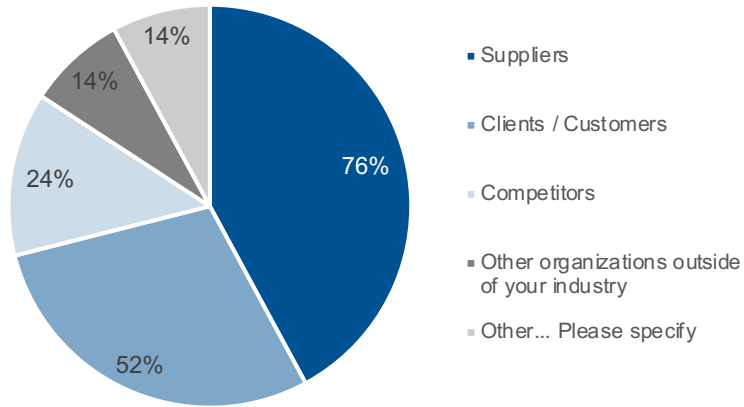


- > 1000 employees
- 501 – 1000 employees
- < 11 employees
- 51 – 100 employees
- 101 – 500 employees
- 11 – 50 employees



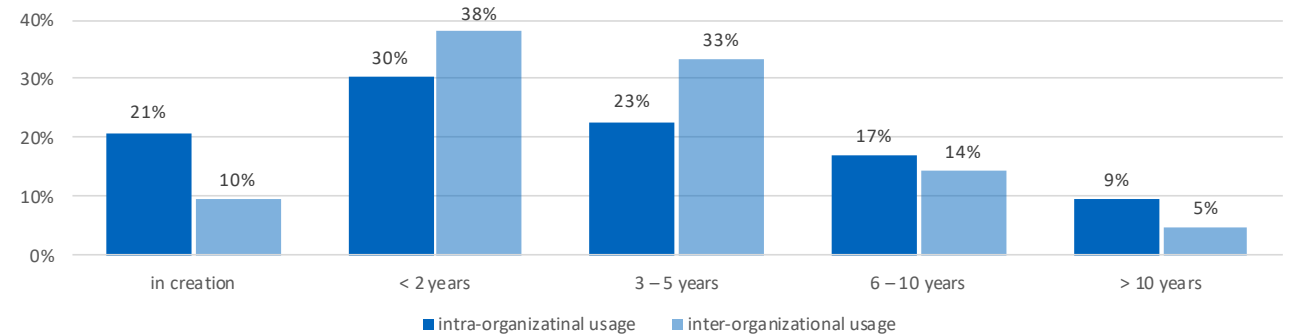
- Germany
- United States
- United Kingdom
- France
- India
- Other

Vertical cooperations seem more likely to use inter-organizational BCMs.



A positive link between intra- and inter-organizational BCMs is apparent.

76% of organizations using an inter-organizational BCM  
→ use intra-org. BCM



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## Conclusion



**Upward trend** in BCM usage



More relevance in **vertical cooperation** than horizontal



BCM **supports** inter-enterprise architecture



Improve perceived **benefit / effort ratio**



## Outlook



**Case studies** on new cases of inter-organizational BCM in detail (4 contacts incl. I2)



**Interviews** with involve people from business departments / top management to see the other side



Supplier & customer seems important → develop **use cases** for vertical cooperation

- Aier, S., Riege, C., & Winter, R. (2008). Unternehmensarchitektur–literaturüberblick und stand der praxis. *Wirtschaftsinformatik*, 50(4), 292-304.
- Aleatrati Khosroshahi, P., Hauder, M., Volkert, S., Matthes, F., & Gernegroß, M. (2018, January). Business capability maps: Current practices and use cases for enterprise architecture management. In *Proceedings of the 51st Hawaii International Conference on System Sciences*.
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Diirr, B., & Cappelli, C. (2018, January). A systematic literature review to understand cross-organizational relationship management and collaboration. In *Proceedings of the 51st Hawaii International Conference on System Sciences*.
- Fowler Jr, F. J. (2013). *Survey research methods*. Sage publications.
- Freitag, A., Matthes, F., Schulz, C., & Nowobilska, A. (2011, July). A method for business capability dependency analysis. In *International Conference on IT-enabled Innovation in Enterprise (ICITIE2011)*, Sofia.
- van Fenema, P. C., Keers, B., & Zijm, H. (2014). *Interorganizational shared services: creating value across organizational boundaries*. In *Shared services as a new organizational form*. Emerald Group Publishing Limited.
- Harris, L. R., & Brown, G. T. (2010). Mixing interview and questionnaire methods: Practical problems in aligning data. *Practical Assessment, Research, and Evaluation*, 15(1), 1.
- Runeson, P., & Höst, M. (2009). Guidelines for conducting and reporting case study research in software engineering. *Empirical software engineering*, 14(2), 131.
- *Series Guide: Business Capabilities*. Guide. The Open Group, June 2008.
- Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *MIS quarterly*, xiii-xxiii.





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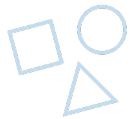




## **Reliability**

Dependency on individual researcher (interviews)

Small sample size for interviews



## **Methodological differences**

Individual limitations and biases of questionnaires and interviews



## **Maturity level inter-organizational BCM**

Current use mainly in intra-organizational context

Lack of cases across company borders

# Survey – General Structure

<b>Duration</b>	3 months (August – October 2020)
<b>Participants</b>	115 started / 55 completed / 18 with personal details (incl. 4 using inter-org. BCM)
<b>Channels</b>	4 Xing groups, >15 LinkedIn forums, direct messages, tool provider

## 1. Intra-organizational BCM (Q1 – Q6)

<ul style="list-style-type: none"> <li>• Use of intra-org. BCM</li> <li>• Years of usage</li> <li>• Purpose</li> <li>• Part of inter-org. networks / strategic collaboration</li> </ul>	<p>Yes/no</p> <p>Single choice</p> <p>Multiple choice</p> <p>Yes/no – which ones</p>
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## 3. Company Details (Q16 – Q19)

<ul style="list-style-type: none"> <li>• Industry</li> <li>• Headquarter location</li> <li>• Headcount</li> <li>• Participant's role in company</li> </ul>	<p>Drop down</p> <p>Drop down</p> <p>Single choice (range)</p> <p>Single choice</p>
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## 2. Inter-organizational BCM (Q7 – Q15)

<ul style="list-style-type: none"> <li>• Use of inter-org. BCM</li> <li>• Organization types involved</li> <li>• #organizations involved</li> <li>• Years of usage</li> <li>• Purpose</li> <li>• Modeling team</li> <li>• Challenges / obstacles</li> </ul>	<p>Yes/no</p> <p>Multiple choice</p> <p>Free text</p> <p>Single Choice</p> <p>Multiple choice</p> <p>Multiple choice</p> <p>Free text</p>
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## 4. Contact Details (optional Q20 – Q22)

<ul style="list-style-type: none"> <li>• Organization's name</li> <li>• Contact details</li> <li>• Feedback</li> </ul>	<p>Free text</p> <p>Free text</p> <p>Free text</p>
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