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CURRENT STATE OF OPERATIONAL BUSINESS-IT ALIGNMENT

Pascal André, Dalila Tamzalit, Ali Benjilany, Hugo Bruneliere

OUTLINE

1- Introduction - Context - Objective

2- Study methodology

3- Research questions

4- Study results

5- Conclusion

INTRODUCTION

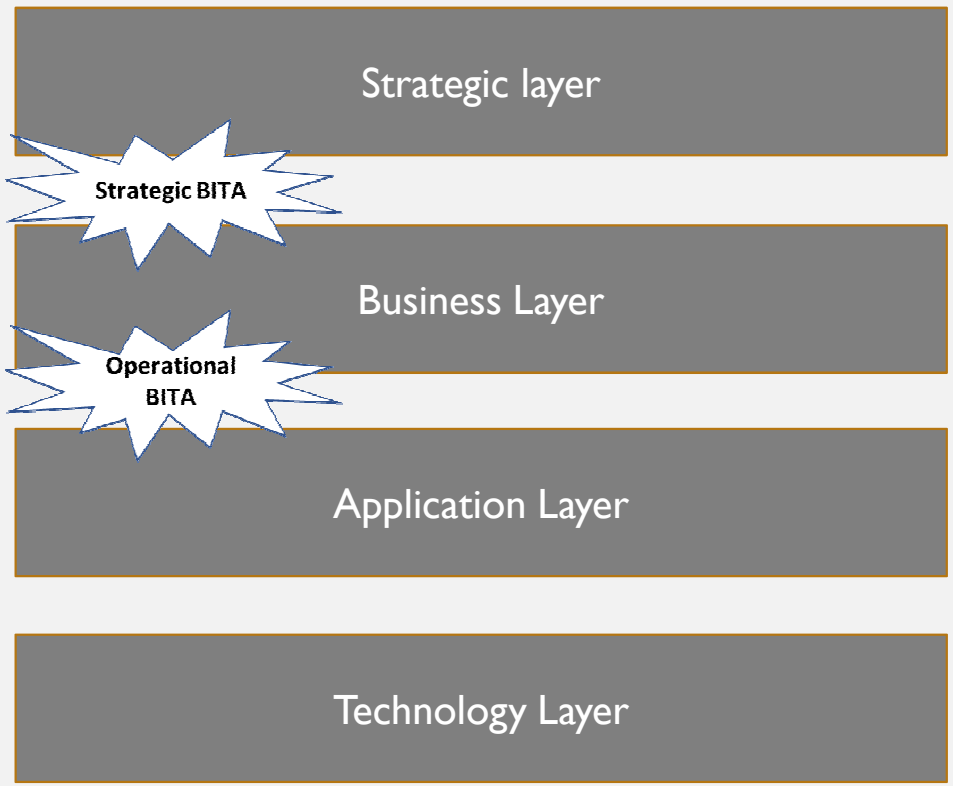
- Information Technologies are considered as a separate speciality in parallel to the business

=> 48% of the CIOs spend most of their time trying to align their IT strategies with the overall organisational objectives

=> 72% of budget spent on software maintenance. [1]

BUSINESS-IT ALIGNMENT (BITA) to tackle these issues.

CONTEXT - OBJECTIVE



Business strategy in terms of goals and objectives

Business activities – Business collaborators - Business Events

Software components - application services

Devices – Networks - Servers

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STUDY METHODOLOGY : 1- RESEARCH STAGE

1. Previous work and related references = 48 papers
2. Surveys, reviews and systematic studies = 63 papers
3. Keyword-based systematic study of recent researches = 362 papers

Total of 473 papers to be injected to selection stage.

STUDY METHODOLOGY : 2- SELECTION STAGE

Selection criteria :

- The reference includes (i) a business process layer, (ii) an application layer and (iii) a relation between them.
- To be comparable, the reference must be a single work not a discussion or a survey.

=> From 473 to 127 papers !

STUDY METHODOLOGY : 3-PREPARATION STAGE

1. Clean the references. Revove duplicates.
2. "Forward snowballing" to investigate missed references
3. Check again the selection criteria to filter -see slide 6.
4. 88 references that we grouped in 44 distinct selected works.

=> From 127 papers to 44 works !

RESEARCH QUESTIONS

- RQ1 : How are the business process and application layers represented?
- RQ2 : How is the relation between the business process and application layers represented?
- RQ3 : How can we exploit the relation to perform alignment?

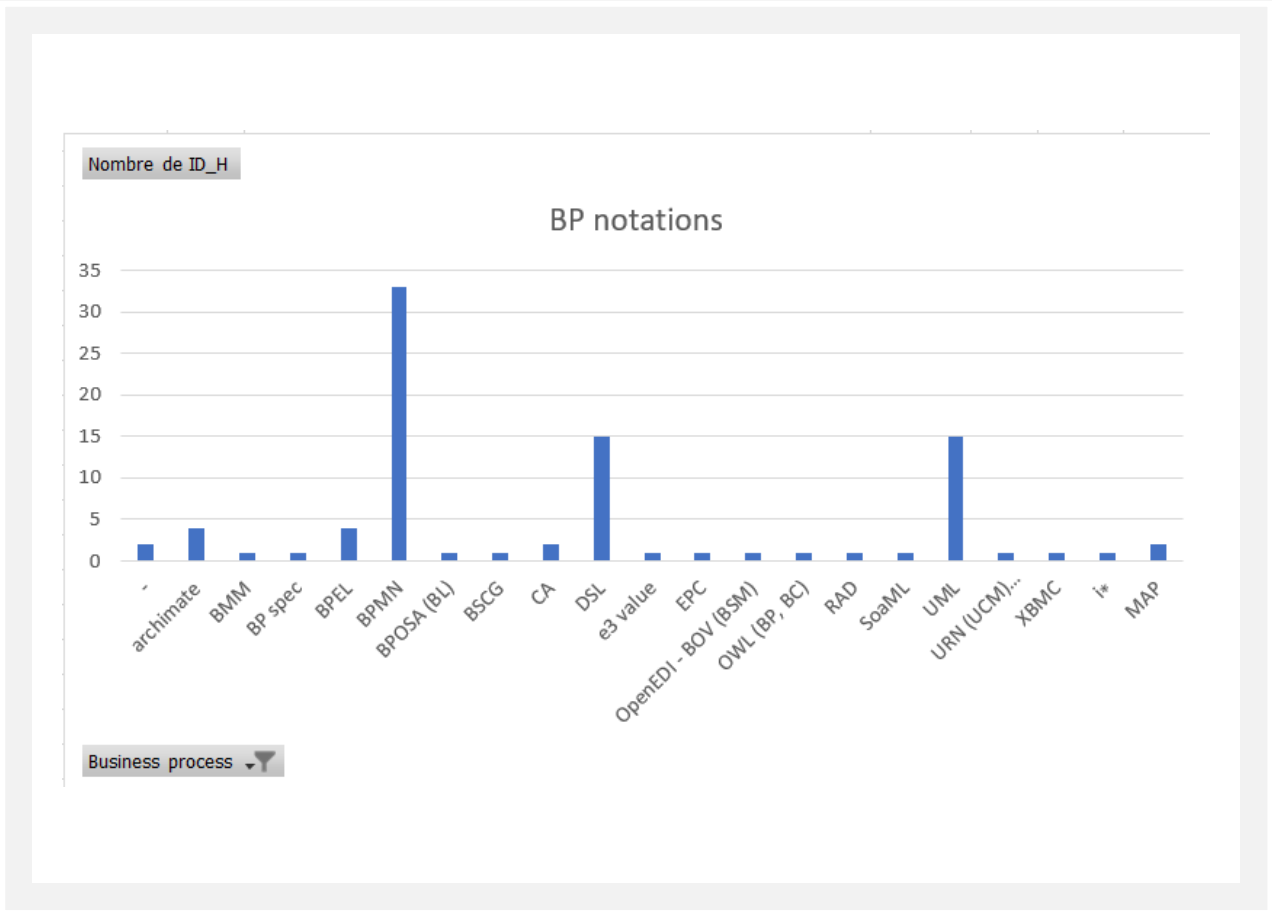
STUDY RESULTS: MODELLING (RQ1)

- Business Layer:

- The use of BPMN is dominant

- DSLs & UML are also used

- BPMN is necessary but not sufficient !



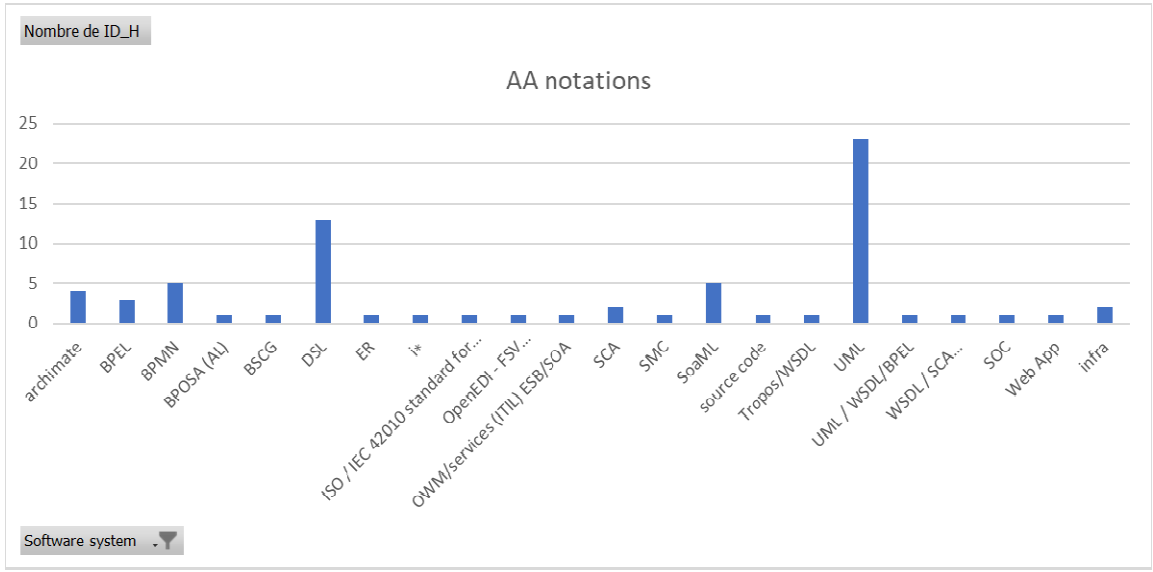
STUDY RESULTS: MODELLING (RQ1)

- Application Layer:

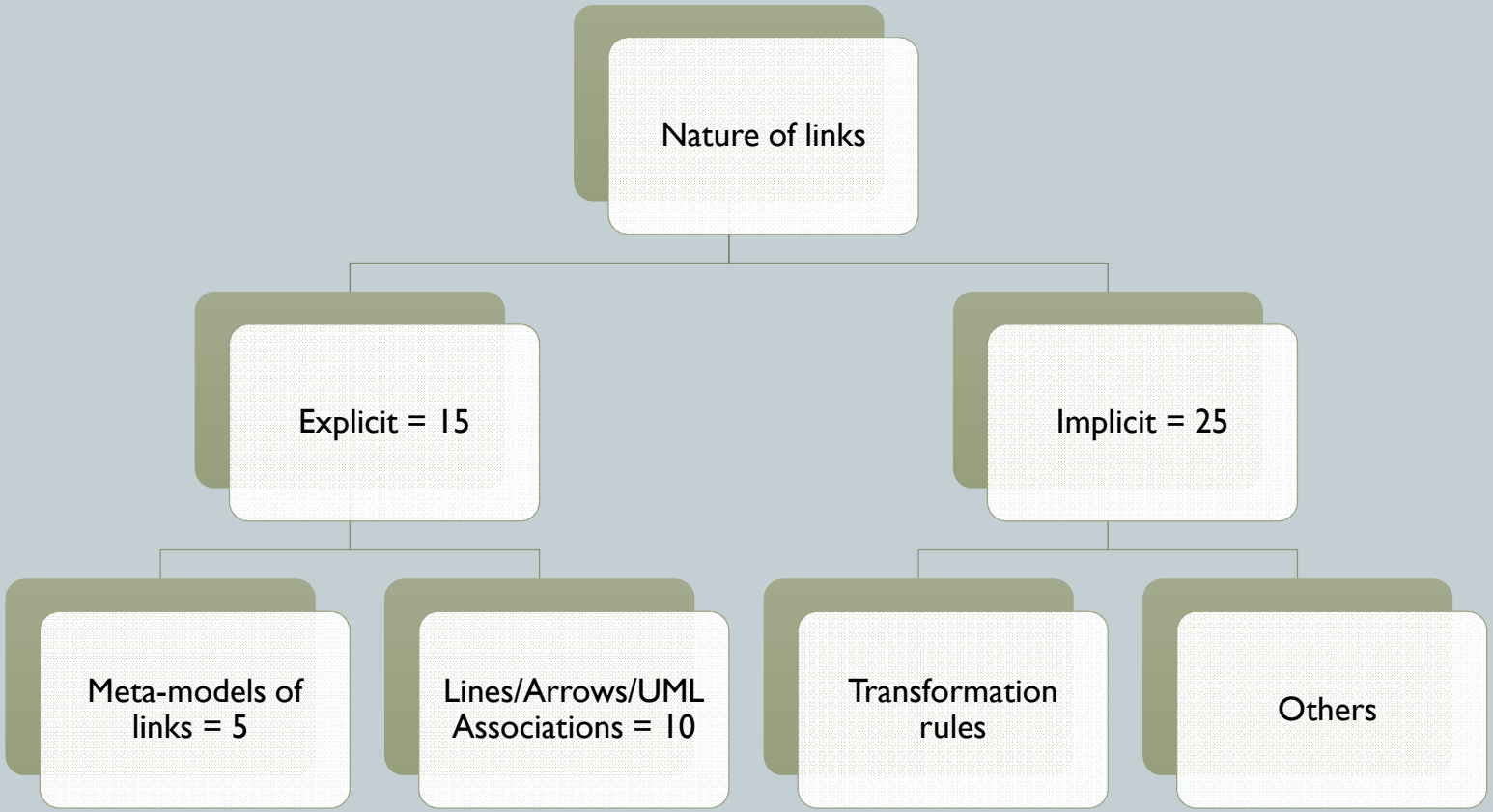
- Unsurprinsingly, UML is the most used language for this layer.

- DSLs are also sometimes used.

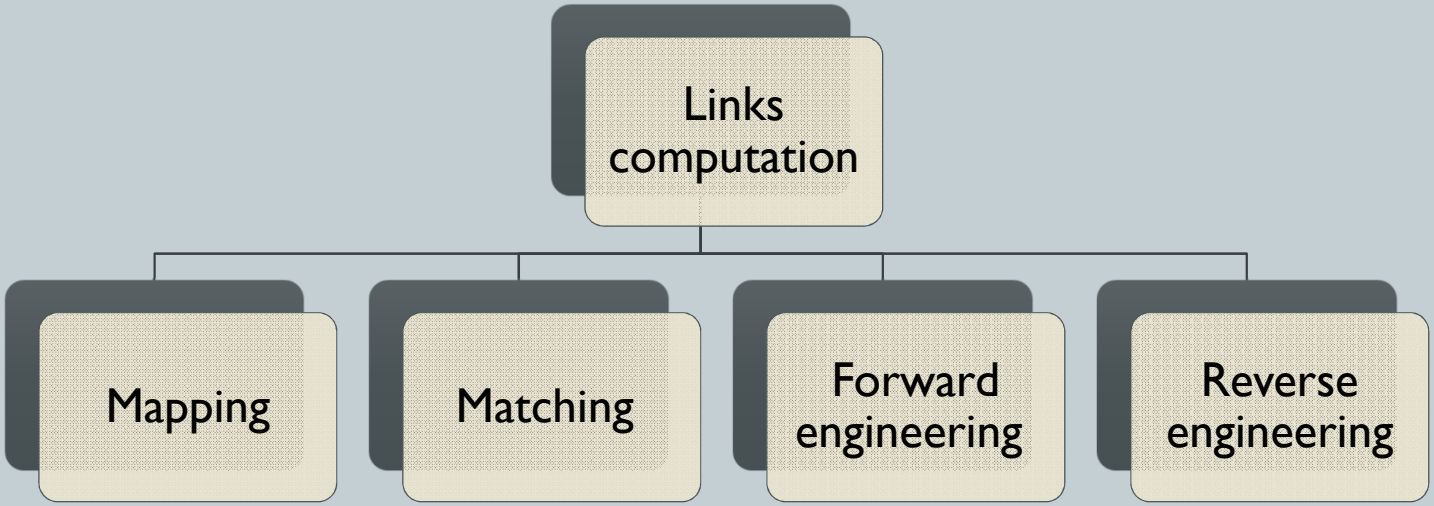
- UML is a family of languages, not a single language !



STUDY RESULTS : LINKING (RQ2)



STUDY RESULTS : LINKING(RQ2)



STUDY RESULTS : ALIGNMENT (RQ3)

- Consistency and completeness checking : 4 works
- Metrics and rating : 6 works
- Change impact for maintenance and evolution : 8 works
- Dimension coverage.

WHAT TO KEEP IN MIND ?

- Existing solutions are heterogeneous and not easy to deploy in practice.
- Most of the solutions are partial and not really applied nor applicable.
- A high level of human expertise is required and specific to a given company.
- Few existing solutions have a user-centred approach.

CONCLUSION

Summary : Study Methodology, Modelling of the layers, the relation between them, and how to exploit this relation.

Overall result : There is currently a lack of uniformity when addressing Operational BITA.

Our overall objective is to expose these results/challenges to the interested academics and practitioners from the domain.

BIBLIOGRAPHY

1. https://www.computerworld.com/article/2486278/how-to-balance-maintenance-and-it-innovation.html

2. https://uncloud.univ-nantes.fr/index.php/s/gtc2mZ7LcSZxJgb

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