

# Conceptual dependencies between two connected IT domains: Business/IS alignment and IT governance

*Selmin Nurcan, Bruno Claudepierre & Islem Gmati*  
*Centre de Recherche en Informatique*



– PANTHÉON - SORBONNE –  
**UNIVERSITÉ PARIS 1**

**RCIS 2008**

June 3-6, 2008, Marrakech



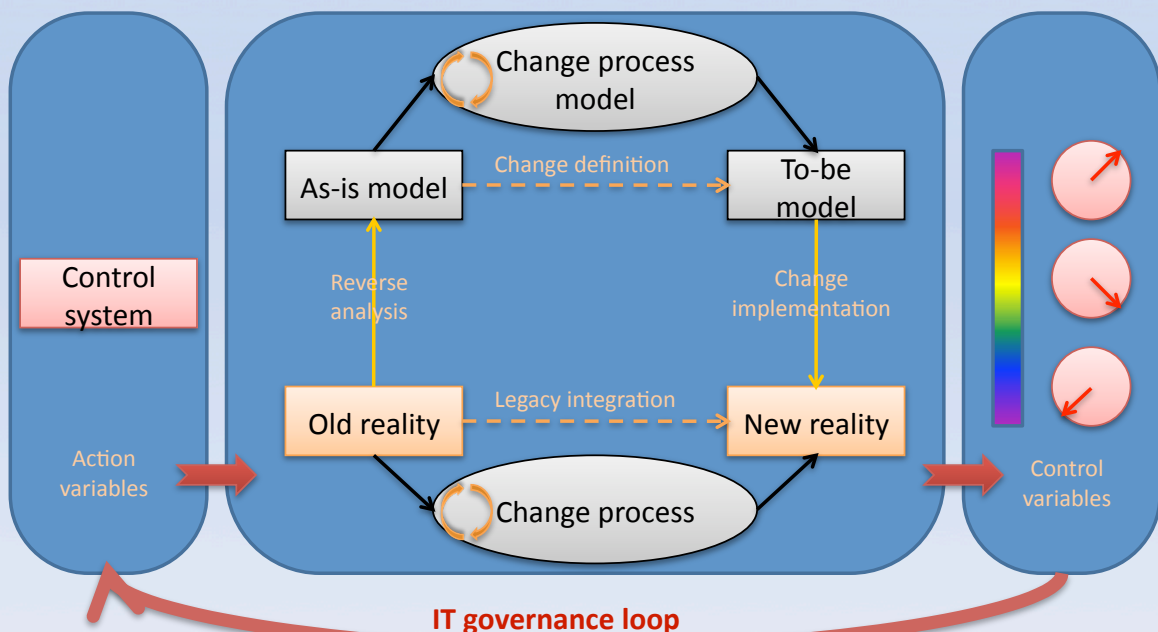
## Overview

- Research question and goals
- IT governance and Business/IT alignment
- Research approach
- Results and discussion
- Conclusion

# Research question and goals

- State-of-the-art
  - IS are seen as support tools for business
  - Business/IT alignment becomes a starting point in modeling IS
  - IT governance offers a new domain of research investigation for IS engineering
  - Relationships between IT governance and Business/IT alignment have not been explicitly identified
- Research question
  - How to characterise the relationships between IT governance and Business/IT alignment?
- Goals
  - To provide a framework for benchmarking IS engineering approaches dealing with alignment and IT governance purposes.
  - To understand and characterise Business/IS alignment and IT governance related requirements.

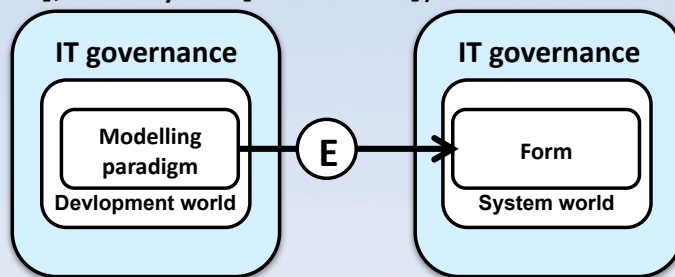
## Context of change





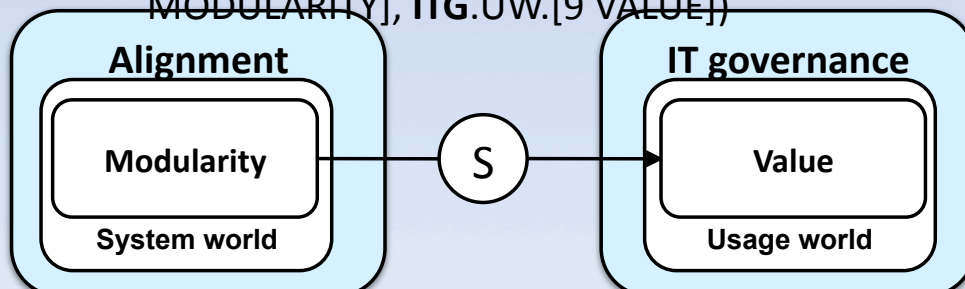
# Typology of relationships

- Existence **(E)**
  - the validity of a given attribute -with a known value or not-, implies the validity of target attributes.
  - `EXIST (Attribute_src, Attribute_tgt)`
  - Sample : `EXIST(ITG.DevW.[18 MODELING PARADIGM], ITG.SysW.[23 FORM])`



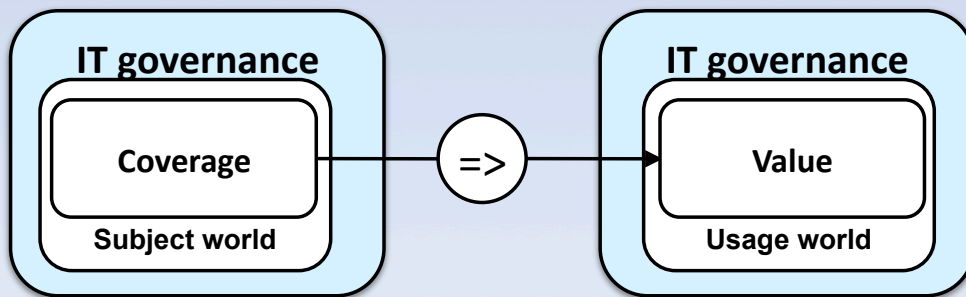
# Typology of relationships

- Support **(S)**
  - a source attribute, when defined, promotes the satisfaction of the target attribute.
  - `SUPPORT (Attribute_src, Attribute_tgt)`
  - Sample : `SUPPORT(ALI.SysW.[30 MODULARITY], ITG.UW.[9 VALUE])`



# Typology of relationships

- Implication =>
  - the value of a source attribute defines values for target attribute.
  - Attribute\_src=value\_src => Attribute\_tgt=value\_tgt
  - Sample : IT governance coverage = 'Internal' => Value = 'Organisation'



# Frameworks overview

	Subject World	Usage World	Development world	System World
Target				
1 Organisation of the governance				
2 Decision				
3 Coverage				
4 Nature of the alignment				
5 Type of this change				
6 Change cycle				
7 Risk management				
8 Quality				
9 Value				
10 Level				
11 Objective				
12 Perspective of alignment				
13 Architecture approach				
14 Quality Approach				
15 Level				
16 Nature				
17 Modelling paradigm				
18 Learning capacity				
19 Topography				
20 Content				
21 Form				
22 Notation				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				

Business/IT alignment

	Subject World	Usage World	Development world	System World
1 Organisation of the governance				
2 Decision				
3 Coverage				
4 Nature of the alignment				
5 Type of this change				
6 Change cycle				
7 Risk management				
8 Quality				
9 Value				
10 Level				
11 Objective				
12 Perspective of alignment				
13 Architecture approach				
14 Quality Approach				
15 Level				
16 Nature				
17 Modelling paradigm				
18 Learning capacity				
19 Topography				
20 Content				
21 Form				
22 Notation				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				

IT governance

# General comments on the Business/IT alignment framework

		Development world																		System World					
		Target	Nature of the development process	Modeling paradigm	Knowledge capitalisation	Re-use of knowledge	Capture of the need of change	Software support	Existence	Granularity	Cover	EA level representation	Re-usable components	Form	Notation	Abstract level	Intentional ali. Measures	Functional ali. Measures	Informational ali. Measures	Tracability	Modularity	IS flexibility degree	Software support	Technical infrastructure	
Subject world	Nature																								
	Nature of the change																								
	Life cycle																								
	Requirement for organization adaptability																								
Usage world	Source	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34		
	Requirement for IS adaptability	8	E	E	E	E							E			E	E	E		E					
	Perspective of alignment	9												E	E										
	Communication between actors	10		S																					

# General comments on the IT

		Usage World						Development world						System World						
		Target	Risk management	Quality	Value	Level	Objective	Perspective of alignment	Architecture approach	Quality Approach	Level	Objective	Nature	Modelling paradigm	Learning capacity	Topography	Abstract level	Content	Form	Notation
Subject world	Source	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
	Organisation of the	1																		
	Decision	2	E	E			E											E	E	
	Coverage	3			=>															
	Nature of the alignment	4					=>													
	Type of the change	5	E																	
	Change cycle	6	E																	

d  
to

g

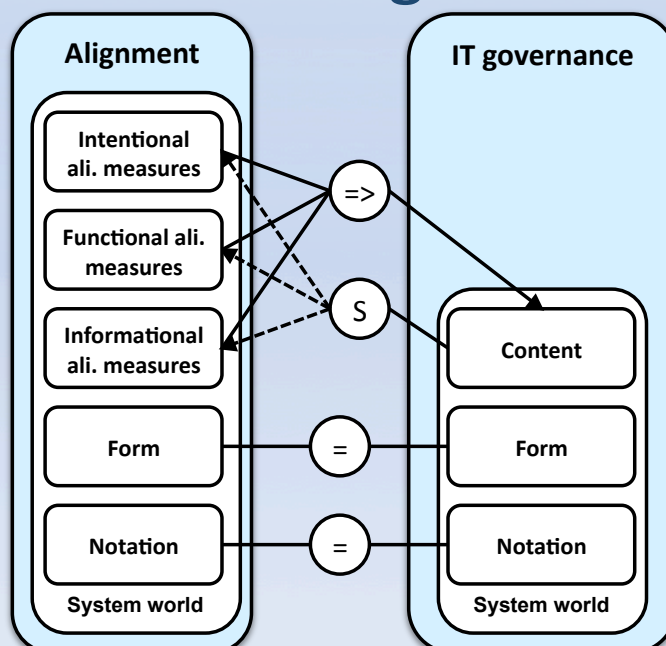
the

Y by  
ed of

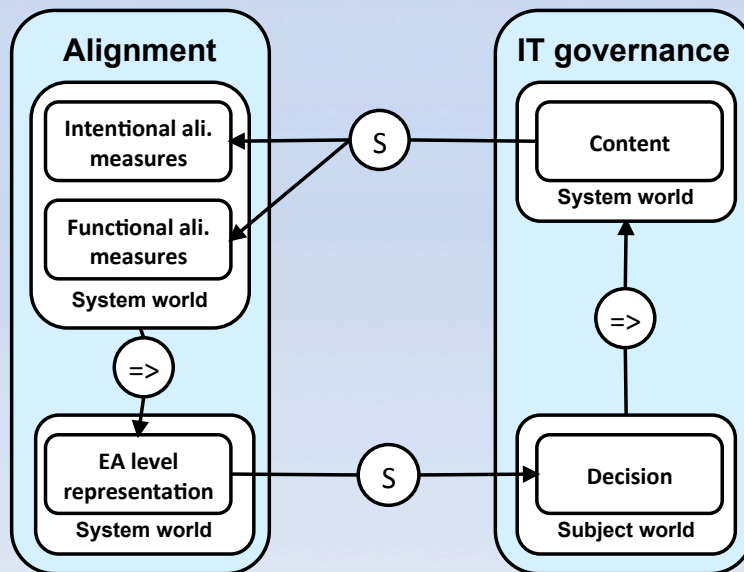
# Research approach

- Research goals
  - To provide a framework for benchmarking IS engineering approaches dealing with alignment and IT governance purposes.
  - To understand and characterise Business/IS alignment and IT governance requirements.
- How
  - By reusing the typology of relations previously identified
  - By focusing on the attributes and their values

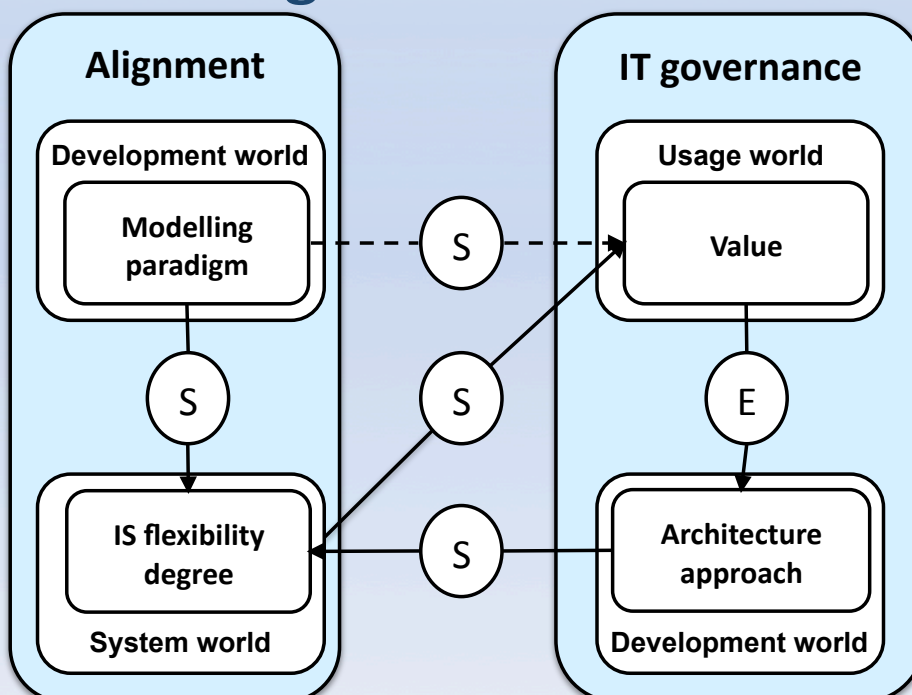
## Alignment measures and decision making



# Alignment measures and decision making

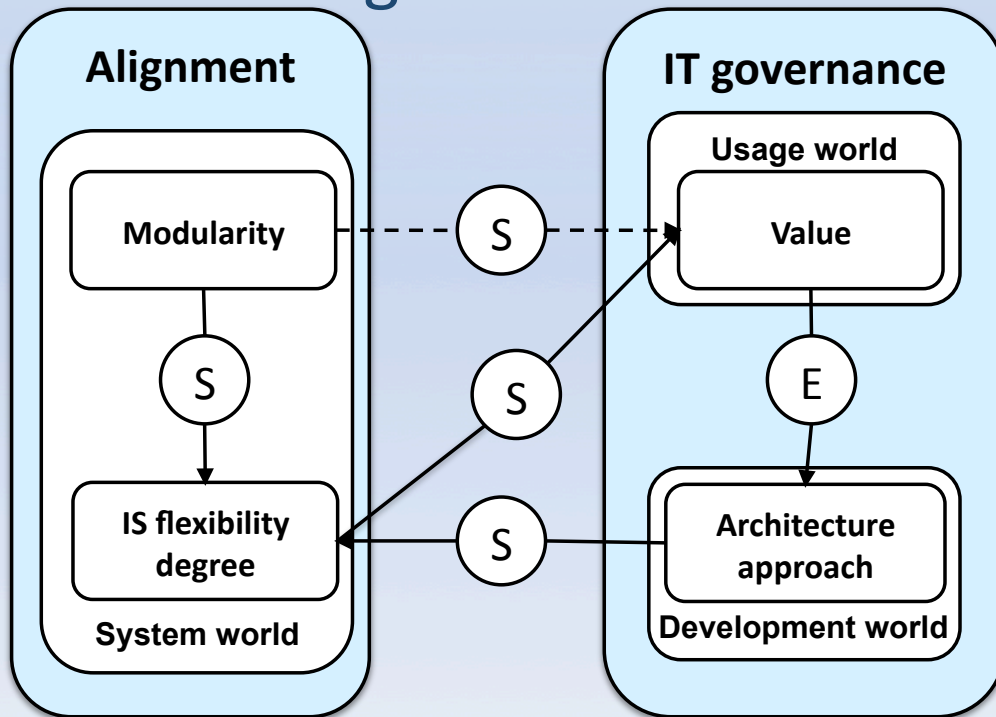


# Alignment: a source of value generation

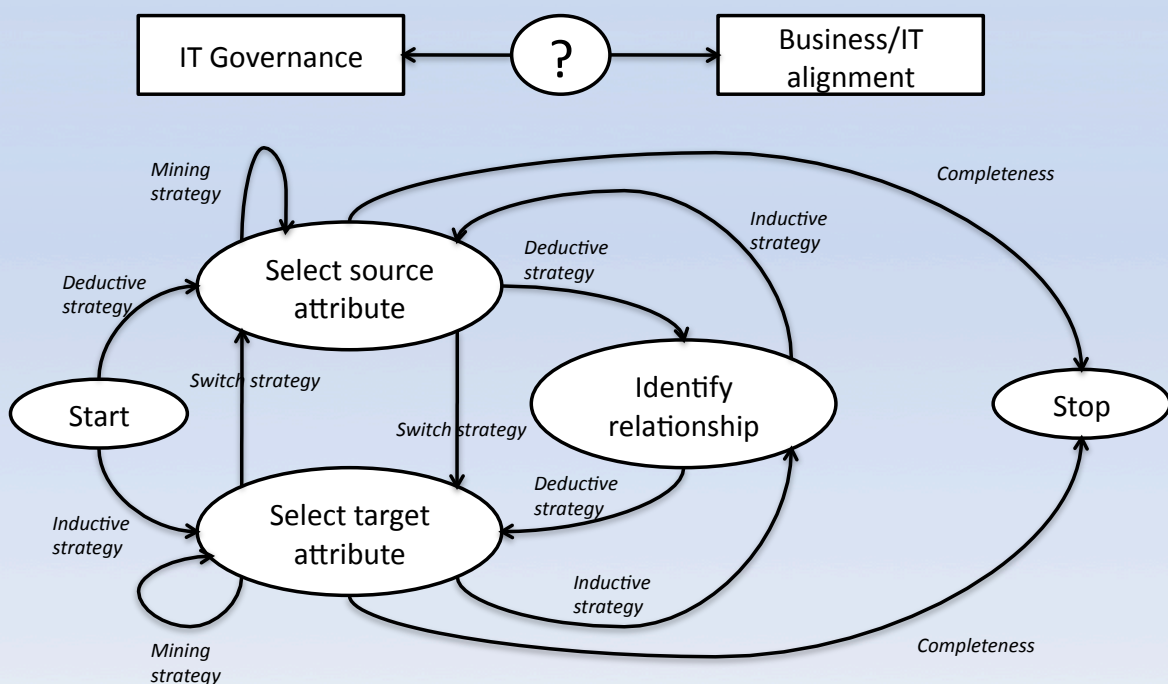




# Alignment: a source of value generation



# Research process extraction



# Conclusion

- Results
  - IT governance and Business/IS alignment are performed in the context of change and are focused on the value creation
  - IT governance as a set of control processes is a way to support the measurement of the degree of alignment between business and IT support
  - The modeling paradigm and the enterprise modeling, as characteristics of the IS development processes, are enablers and facilitators for Business/IS alignment and ITG
- Future works
  - Evaluate the feasibility of the suggested approach within several industrial case studies
  - Identify the impact of alignment and ITG requirements on IS engineering methods
  - Improve system engineering methods



S. Nurcan : [Selmin.Nurcan@univ-paris1.fr](mailto:Selmin.Nurcan@univ-paris1.fr)

B. Claudepierre : [Bruno.Claudepierre@univ-paris1.fr](mailto:Bruno.Claudepierre@univ-paris1.fr)

I. Gmati : [Islem.Gmati@malix.univ-paris1.fr](mailto:Islem.Gmati@malix.univ-paris1.fr)

## QUESTIONS