Practitioner's concerns needing EE-research

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Martin Op 't Land
June 2nd, 2016

6th Enterprise Engineering Working Conference (EEWC 2016, Madeira)

CIAO!

Our goals as Enterprise Engineering institute (EEi)

- to promote the professional use and further development
- of Enterprise Engineering methodologies in general, and DEMO-methodology specifically
- as open standard for the methodological design and implementation of enterprises
- such that enterprises are built that operate as a unified and integrated whole

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We are here to confront needs of practitioners with your research power

Goal of this workshop

- share insight: match of current research areas with practitioner's needs?
- to find out
  - which of the practitioner's needs could be adopted as research subjects, or
  - which of these practical issues are already (partly) solved by existing theory – but might be needing valorization or industrialization

Expected benefits = stronger cooperation of research with industry
- simplifying finding internships for Master Students and practical case studies for their PhD's
- may be even find new ways for the funding of research

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After this workshop, we would like to have a "message" for EE-practitioners: what can they expect from EE-research?

Agenda

- Goal of the survey
- Responses
  - wordcloud
  - statistics
- Our EEWC-2016 research positioned
- Group reflection:
  - recognition?
  - possible next steps?

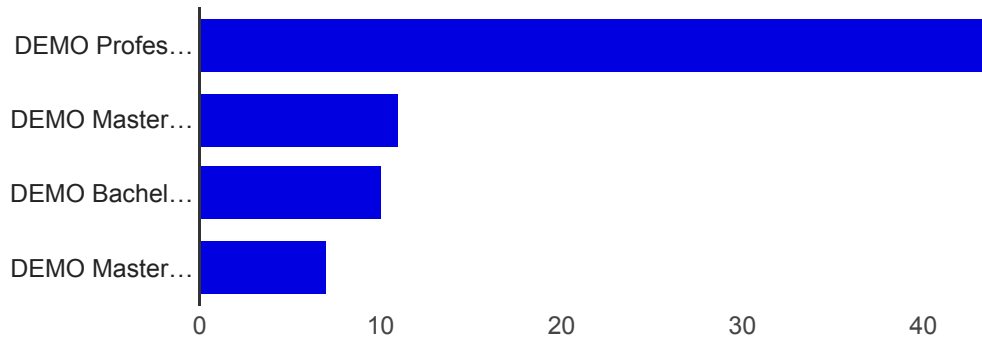ENTERPRISE ENGINEERING
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Goal of this survey

The goal of this survey is to collect issues (a) as experienced in practice when trying to apply Enterprise Engineering in general, and of DEMO in particular (b) for which it is assumed that additional theory is needed to solve these issues structurally.

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We got 70 (14%) responses out of some 500 addressees

Which DEMO certificates (if any) do you hold?

DEMO Professional (up to 2014, inclusive)	**44**	74.6%
DEMO Master (up to 2014, inclusive)	**11**	18.6%
DEMO Bachelor (from 2015)	**10**	16.9%
DEMO Master (from 2015)	**7**	11.9%

Years of working experience

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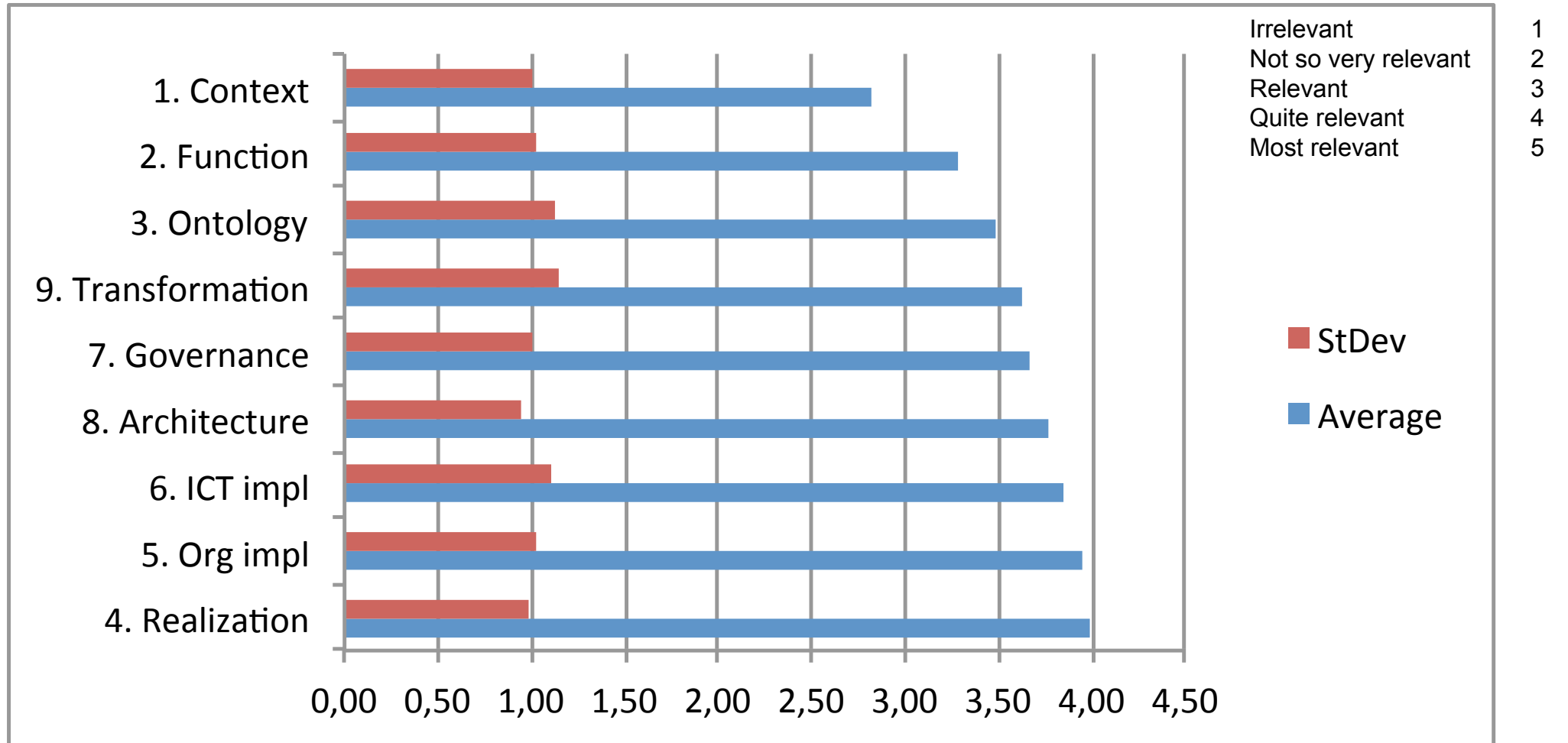# What is the relevance of further Enterprise Engineering research in the following areas for you as practitioner?

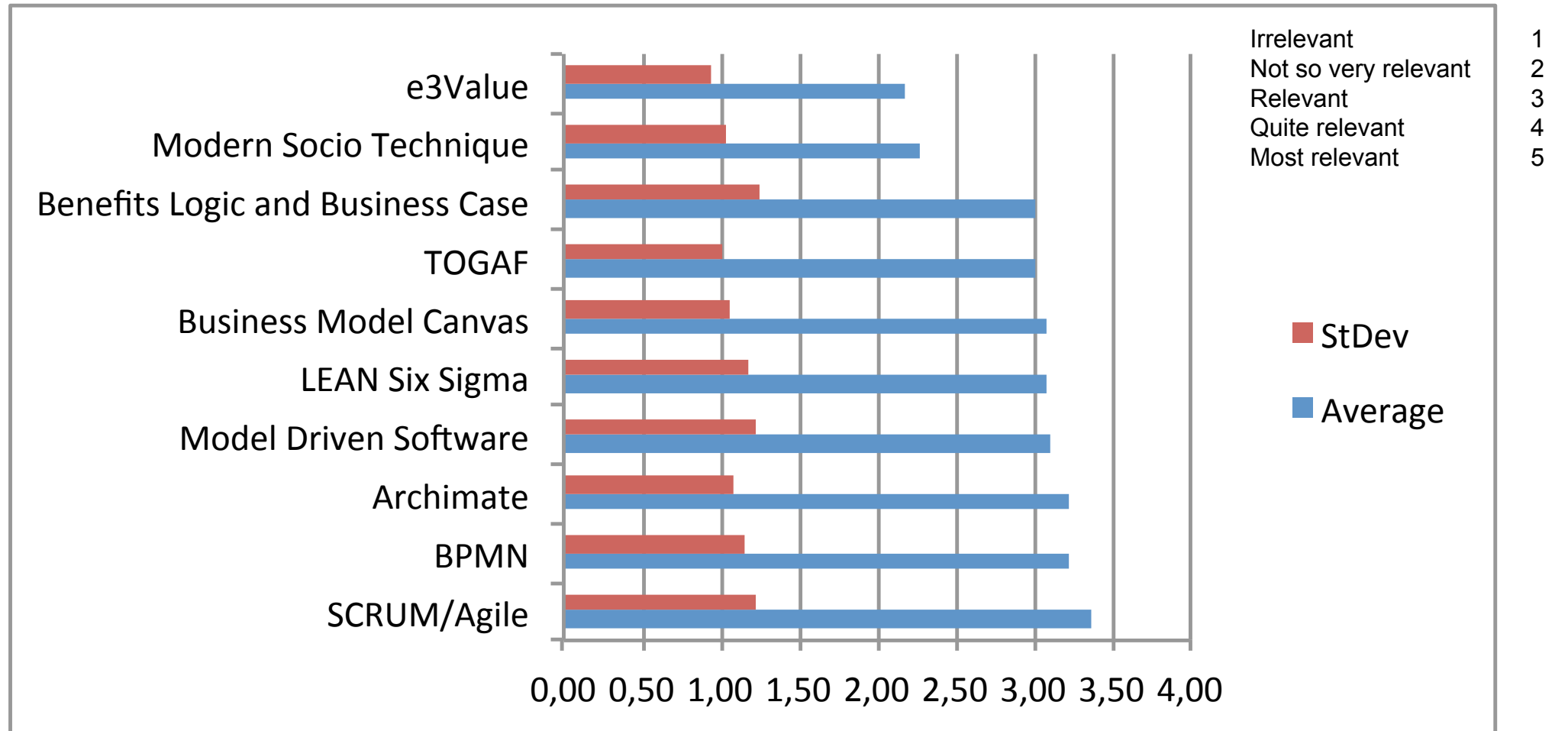| area	content
1. Context	laws & regulations; trends in (demand/supply) markets; products and competitors
2. Function	goals/objectives; BID (Business, Informational, Datalogical) needs, products, product structure, and services2. affordance and value; Quality of Service (QoS) / "non-functional" requirements (NFRs); House of Quality / Quality Function Deployment, etc.
3. Ontology	completeness / correctness of the universal transaction pattern?; how do ontological models depend on production technologies?
4. Realization	Connecting the Business, Information and Datalogical Organization, including the relationship of Information Products with Information Needs and information links; relationship of Data Products with Data Needs, ...
5. Organizational implementation	Assignment of people and parties to elements in the ontological model (including e.g. functionary types, departments), and the impact of organization philosophy on that (such as alternative distributions of responsibilities in an organization), ...
6. (ICT and other) means implementation	Assignment of (amongst other ICT-) means to elements in the ontological model, e.g. Normalized Systems, software (packages), databases, ICT-replication strategies and ICT-performance measures, ...
7. Governance	Enterprise, Information and Data Governance, Steering on Enterprise Transformation, …
8. Architecture	relating principles, requirements and implementation choices
9. Enterprise Transformation	waterfall or agile or DevOps or the "run-time organization"? elaborating Minimum Viable Products in a durable way, ...

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What is the relevance of further Enterprise Engineering research in the following areas for you as practitioner?

Irrelevant — 1
Not so very relevant — 2
Relevant — 3
Quite relevant — 4
Most relevant — 5

StDev
Average

What methodology (bridges) would contribute most to your success as Enterprise Engineer?

We received 121 suggestions for research-subjects, with 117 underpinnings and 110 indications of urgency

- What should be researched?
- Why should this be researched?
  - What is the relevance (what goes wrong if we don't do it) and why is that so urgent?
- Urgency: when should the results for this subject be available?

To be processed & ordered yet

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Ordering our EE-research demand & supply: to let enterprises operate as a unified and integrated whole

system type →

perspective ↓

		general	
context	business	informational	datalogical
function			
construction/ontology			
construction/ implementation — parties & people			
construction/ implementation — ICT & other means			

*The Enterprise Engineering Framework (EEF) was introduced in
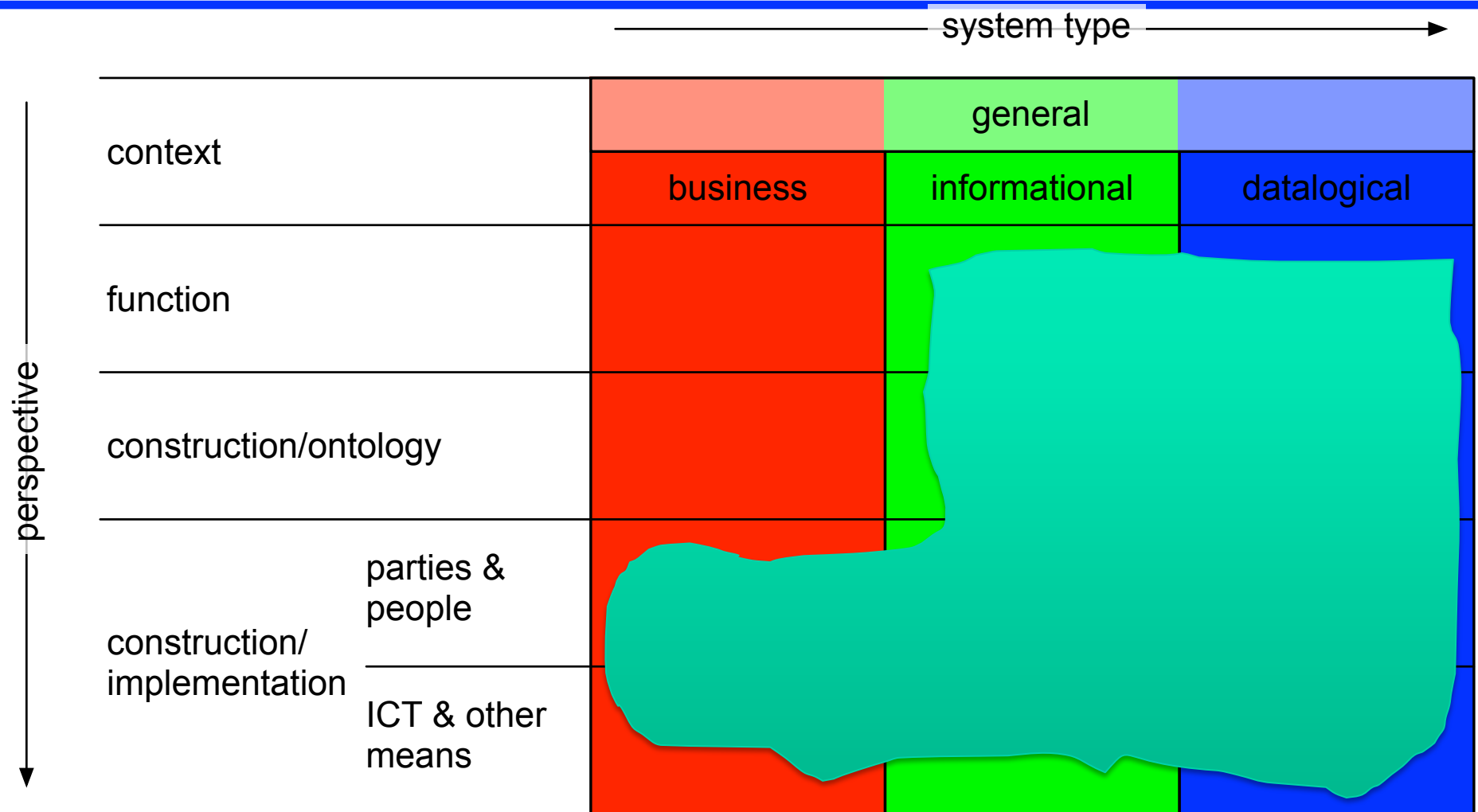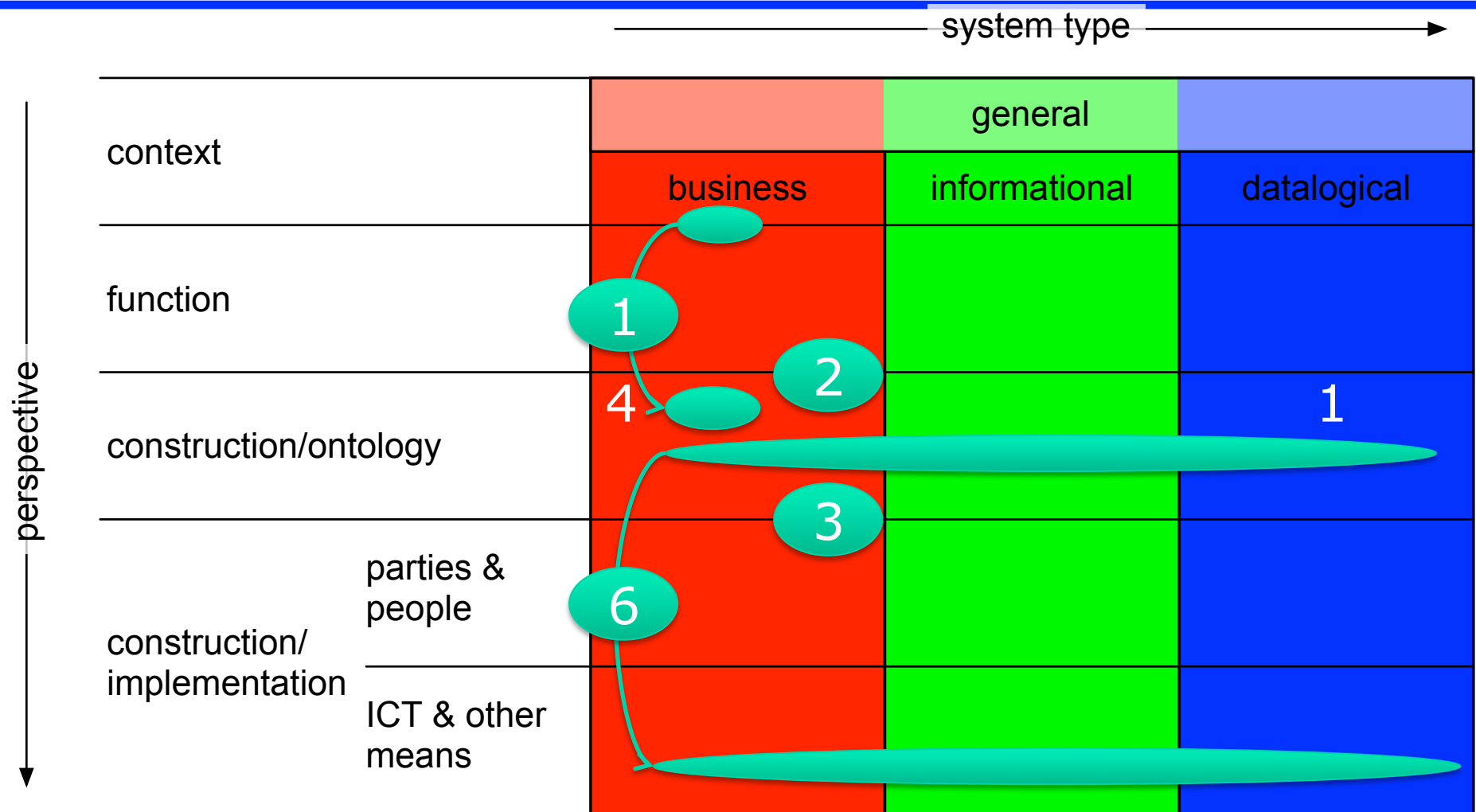Impact of Principles on Enterprise Engineering (Op 't Land & Proper, ECIS-2007)

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Emphasis in EE-research demand: impression

system type →

	business	informational	datalogical
context		general	
function			
construction/ontology			
construction/implementation — parties & people			
construction/implementation — ICT & other means			

perspective ↓

*The Enterprise Engineering Framework (EEF) was introduced in
Impact of Principles on Enterprise Engineering (Op 't Land & Proper, ECIS-2007)

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Our EEWC-2016 research, summarized in EEF

system type

	business	informational	datalogical
context		general	
function	1		
construction/ontology	4	2	1
		3	
construction/implementation — parties & people	6		
construction/implementation — ICT & other means			

perspective

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Group reflection

- recognition?

- possible next steps?

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Appendix

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DC1: Cross Channel Communication Design Research proposal (Mark Mulder)
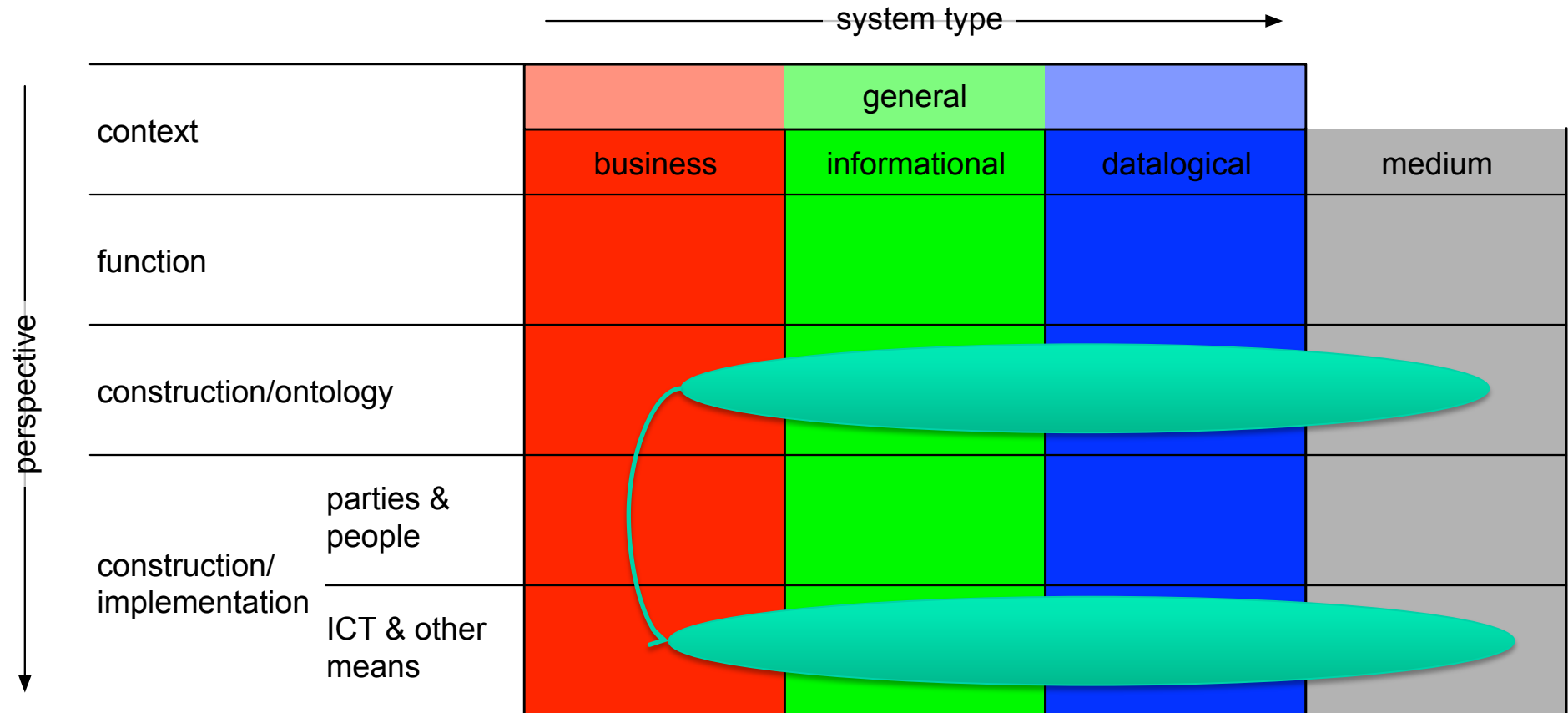
DC2: Enterprise Operating System (Alexey Sergeev)

system type →

	business	informational	datalogical
context	general		
function			
construction/ontology			
construction/implementation — parties & people			
construction/implementation — ICT & other means			

perspective ↓

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DC3: Towards an account for dealing with document act in DEMO Method (Kátia Coelho)

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DC4: From the Essence of an Enterprise towards Enterprise Supporting Information Systems (Tatiana Poletaeva)

system type →

perspective		business	informational	datalogical
context			general	
function				
construction/ontology				
construction/ implementation	parties & people			
	ICT & other means			

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DC5: Core Component of Communication (Duarte Gouveia)

system type →

perspective ↓

	business	informational	datalogical
context		general	
function			
construction/ontology			
construction/ implementation — parties & people			
construction/ implementation — ICT & other means			
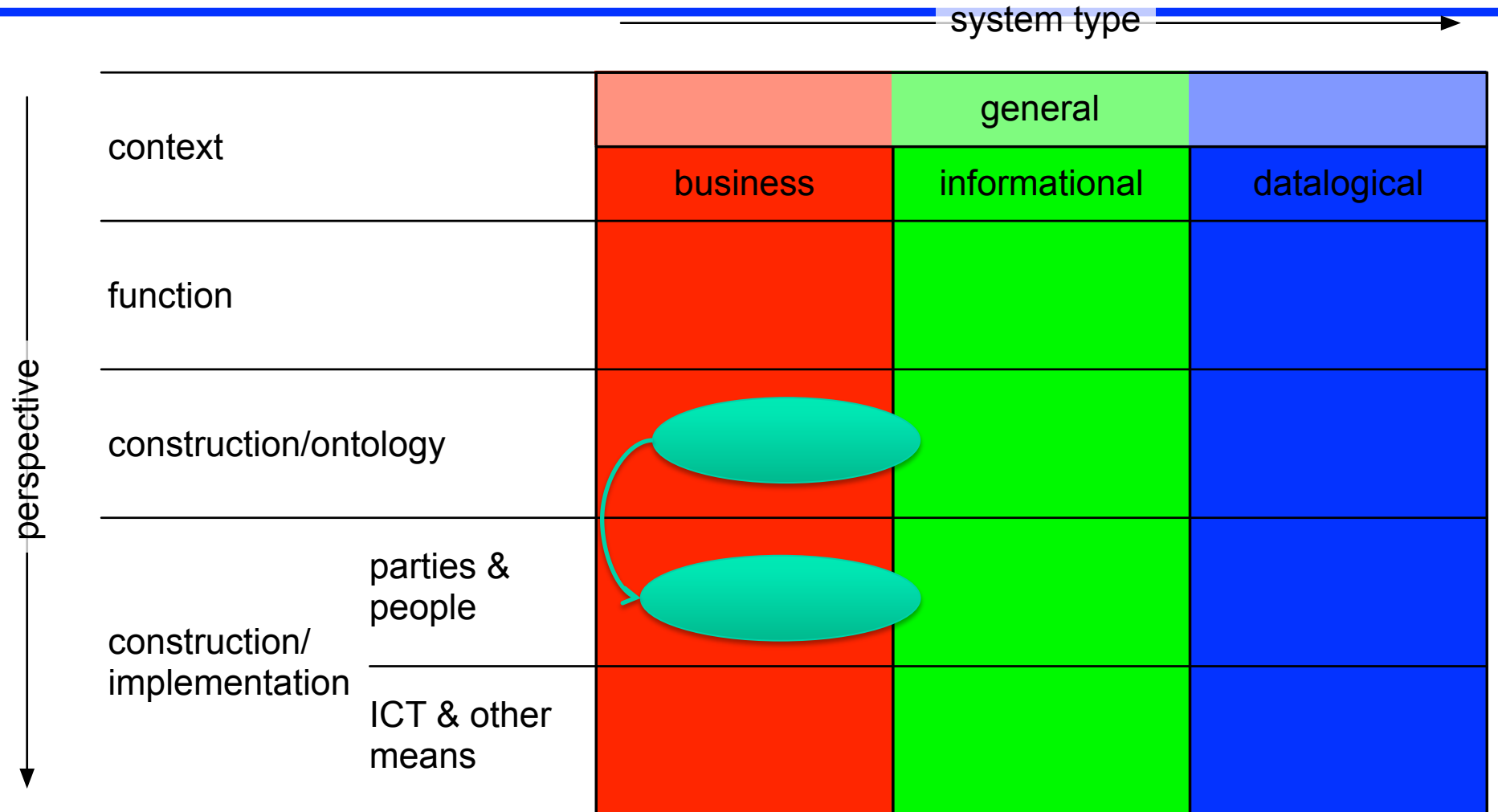
DC6: Theory of Algebraic Foundation for Manipulation of DEMO models – Towards Analysis and Synthesis of DEMO models (Tetsuya Suga)

system type →

	business	informational	datalogical
context		general	
function			
construction/ontology			
construction/implementation — parties & people			
construction/implementation — ICT & other means			

perspective ↓

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WC0, Keynote: What's in a Service?: An Ontological Perspective (Giancarlo Guizzardi)

system type →

perspective		business	informational	datalogical
context			general	
function				
construction/ontology				
construction/implementation	parties & people			
	ICT & other means			

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WC1.1: Towards the Ontological Foundations for the Software Executable DEMO Action and Fact Models (Marek Skotnica, Steven van Kervel and Robert Pergl)
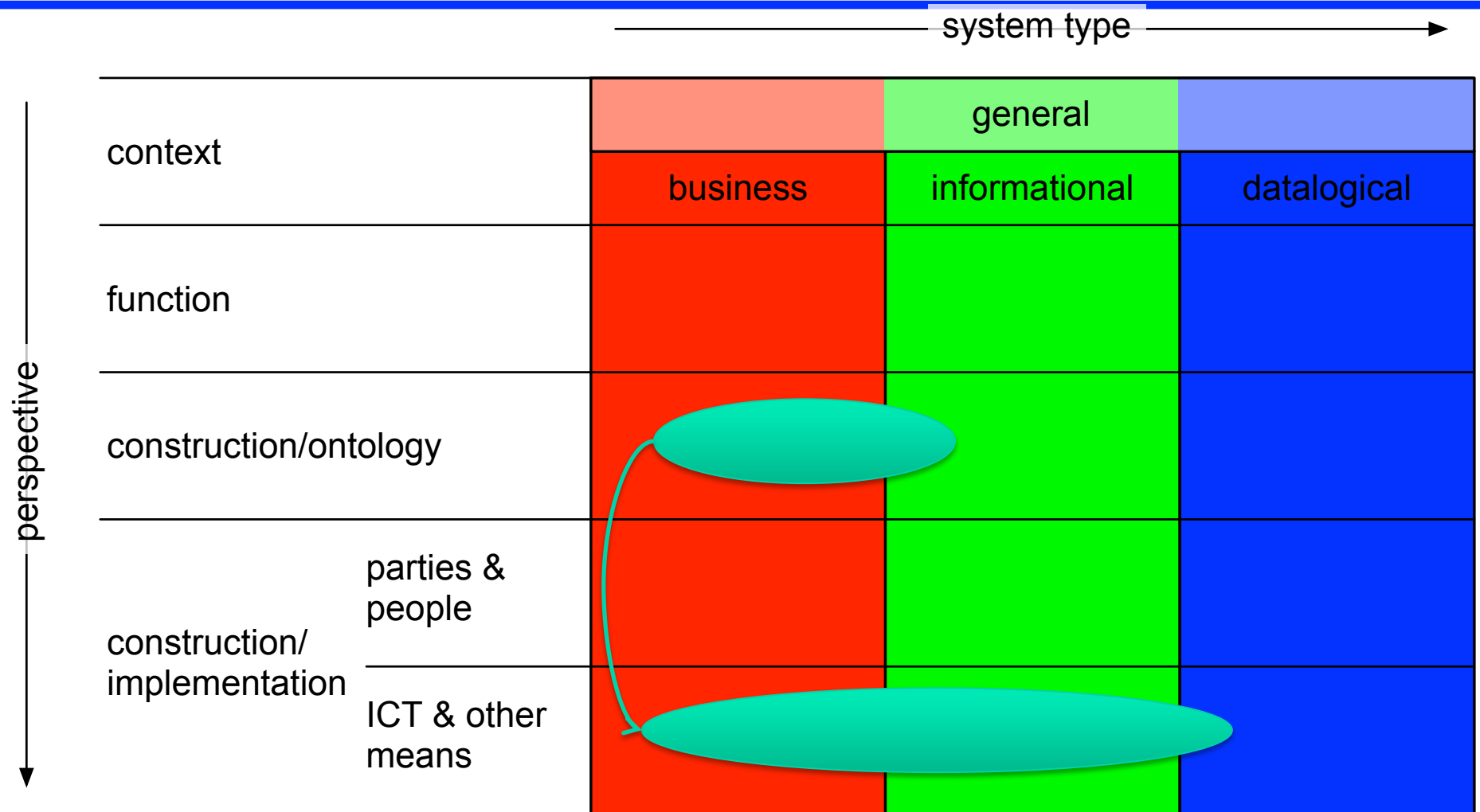
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WC1.2: Cross Channel Communication Design Critical Literature Review (Mark Mulder)

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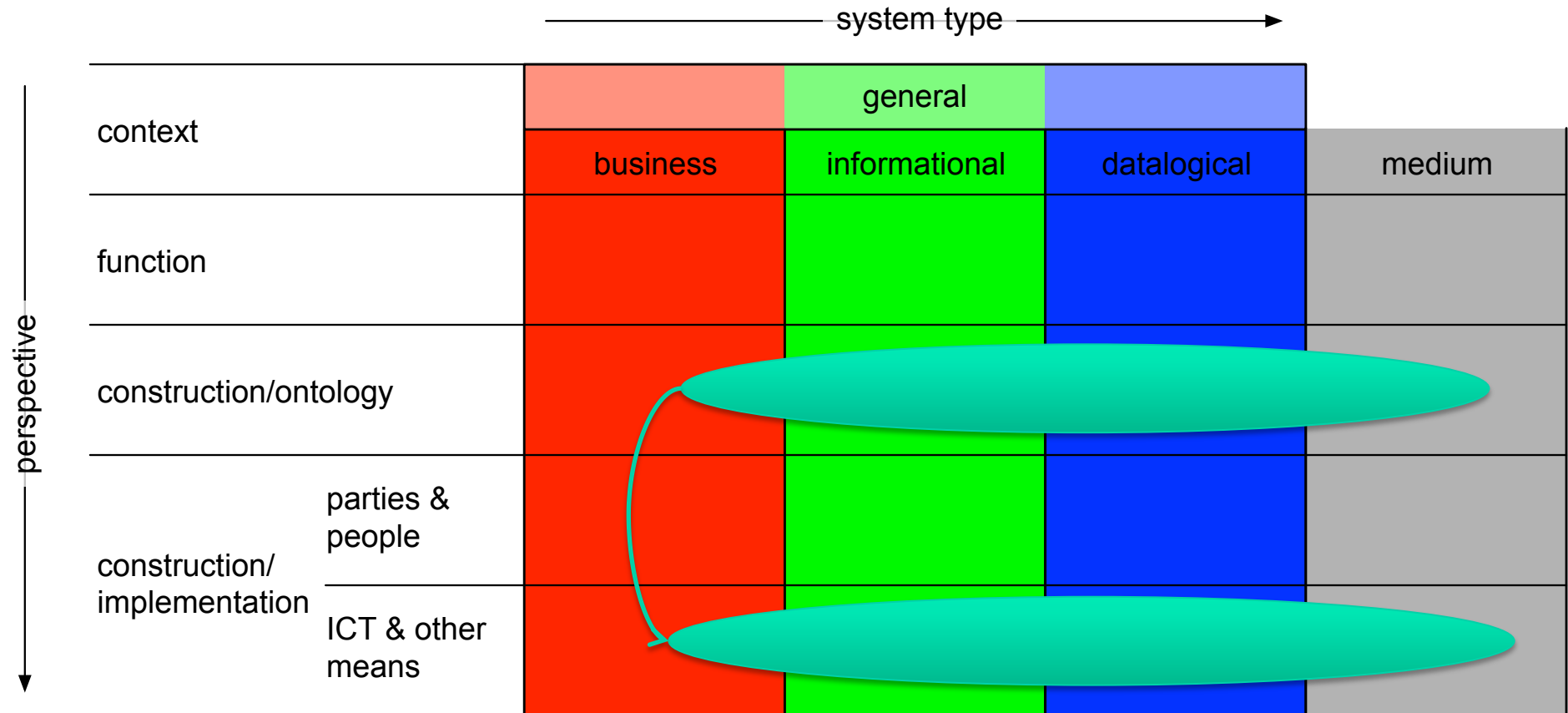
WC1.3: Things, References, Connectors, Types, Variables, Relations and Attributes – Contribution to FI and MU Theories (Duarte Gouveia and David Aveiro)

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WC2.1: Formalizing Organization Implementation (Marien Krouwel, Martin Op 't Land and Tyron Offerman)

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WC2.2: Supporting Organizational Implementation Decisions by DEMO and Process Simulation (Lotte de Laat, Martin Op 't Land and Marien Krouwel)
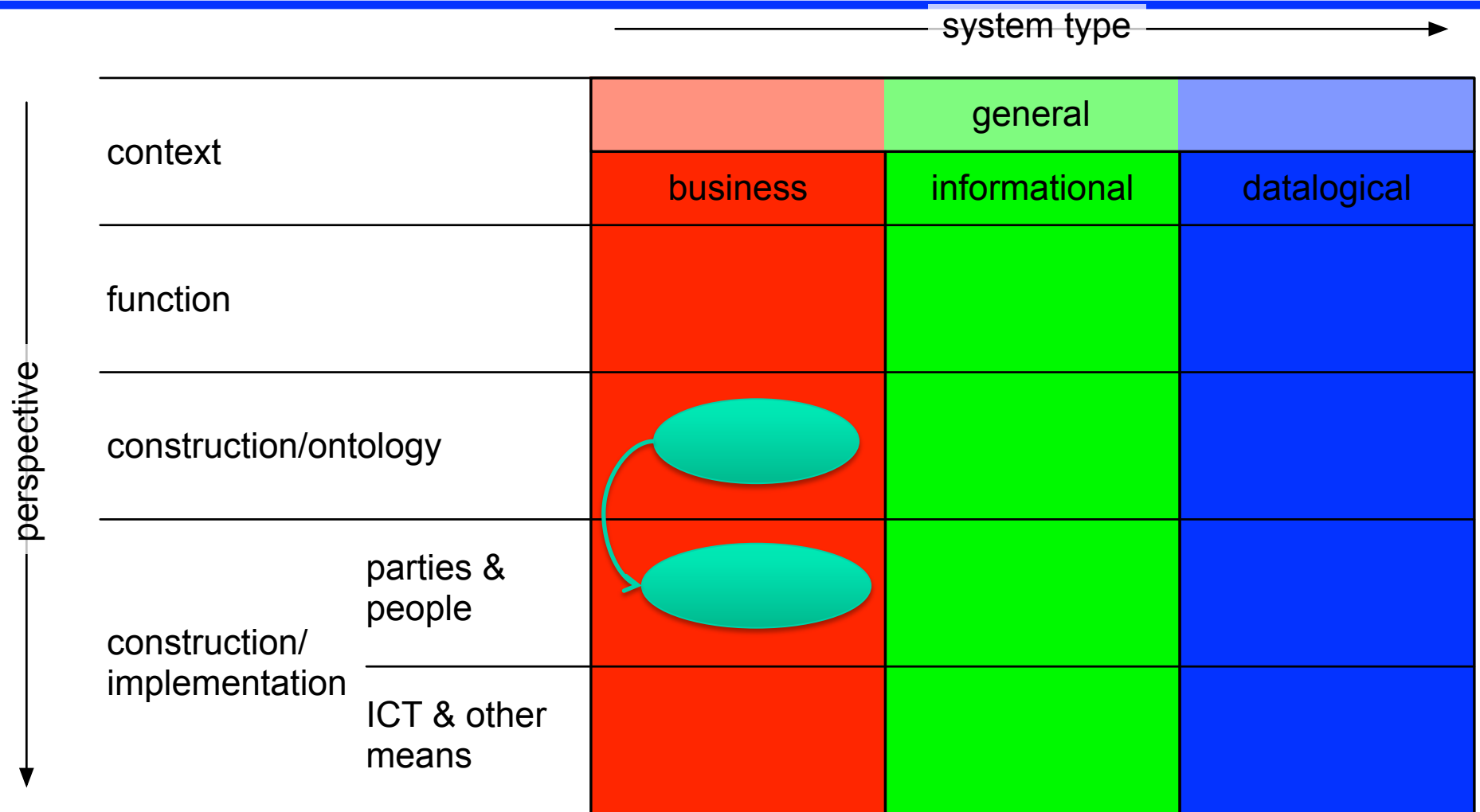
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WC3.1: Perceptual Discriminability in Conceptual Modeling (Jeannette Stark)

	business	informational	datalogical
context		general	
function			
construction/ontology			
construction/ implementation — parties & people			
construction/ implementation — ICT & other means			

perspective ↓

system type →

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WC3.2: From the Essence of an Enterprise towards Enterprise Ontology Patterns (Tatiana Poletaeva, Habib Abdulrab and Eduard Babkin)

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WC3.3: Extended Viable System Model (Alexey Sergeev and Jose Tribolet)

system type →

	business	informational	datalogical
context		general	
function			
construction/ontology			
construction/implementation — parties & people			
construction/implementation — ICT & other means			
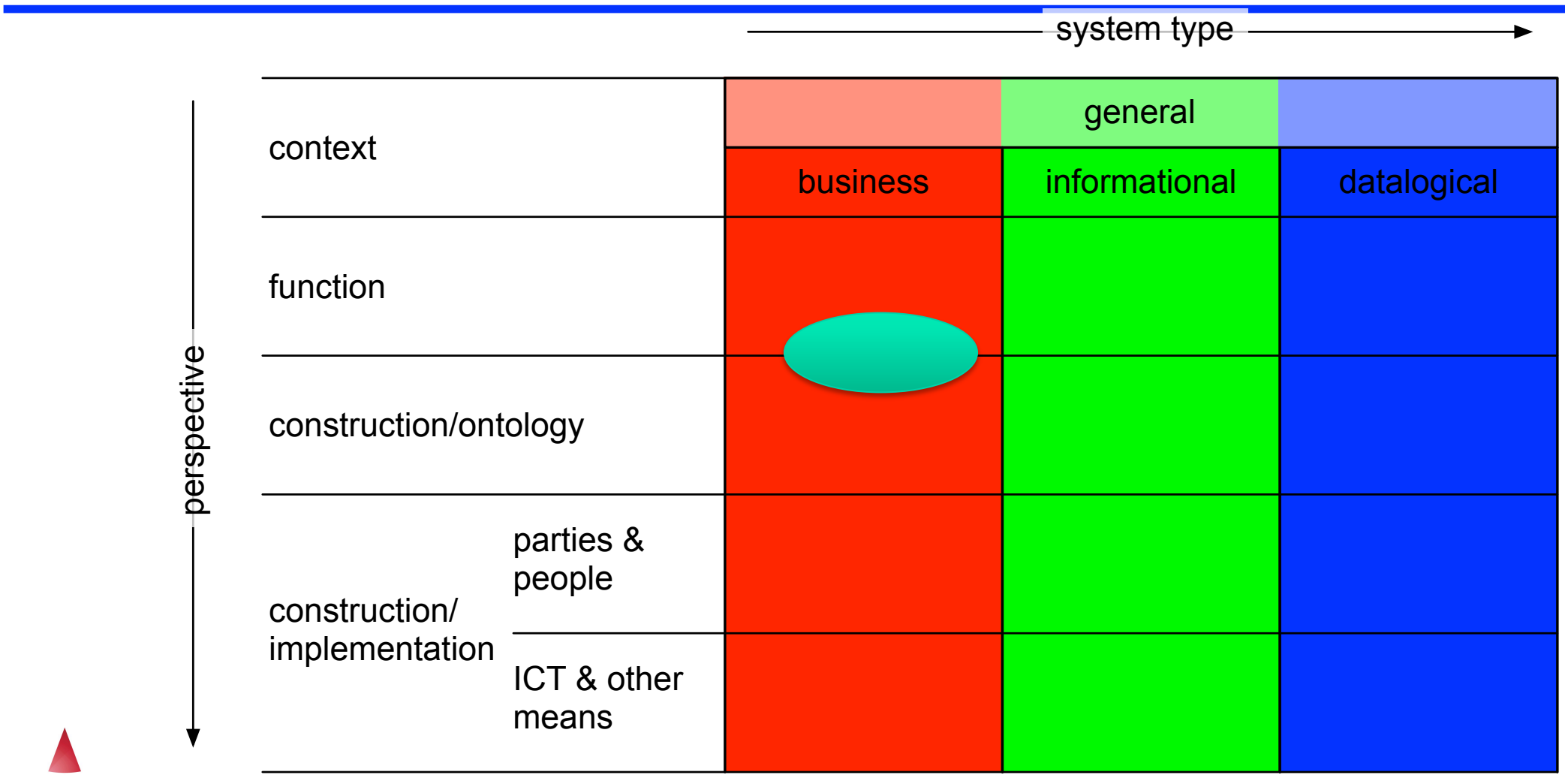
perspective ↓

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WC4.1: Objectifying Value Co-Creation – an exploratory study (João Pombinho, Carlos Mendes, Bruno Fragoso, Ricardo Santos, Nuno Silva, Elton Sixpence and Jose Tribolet)

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WC4.2: Towards Co-Creation and Co-Production Chains Modeled in DEMO with REA Support (Frantisek Hunka, Steven van Kervel and Jiri Matula)
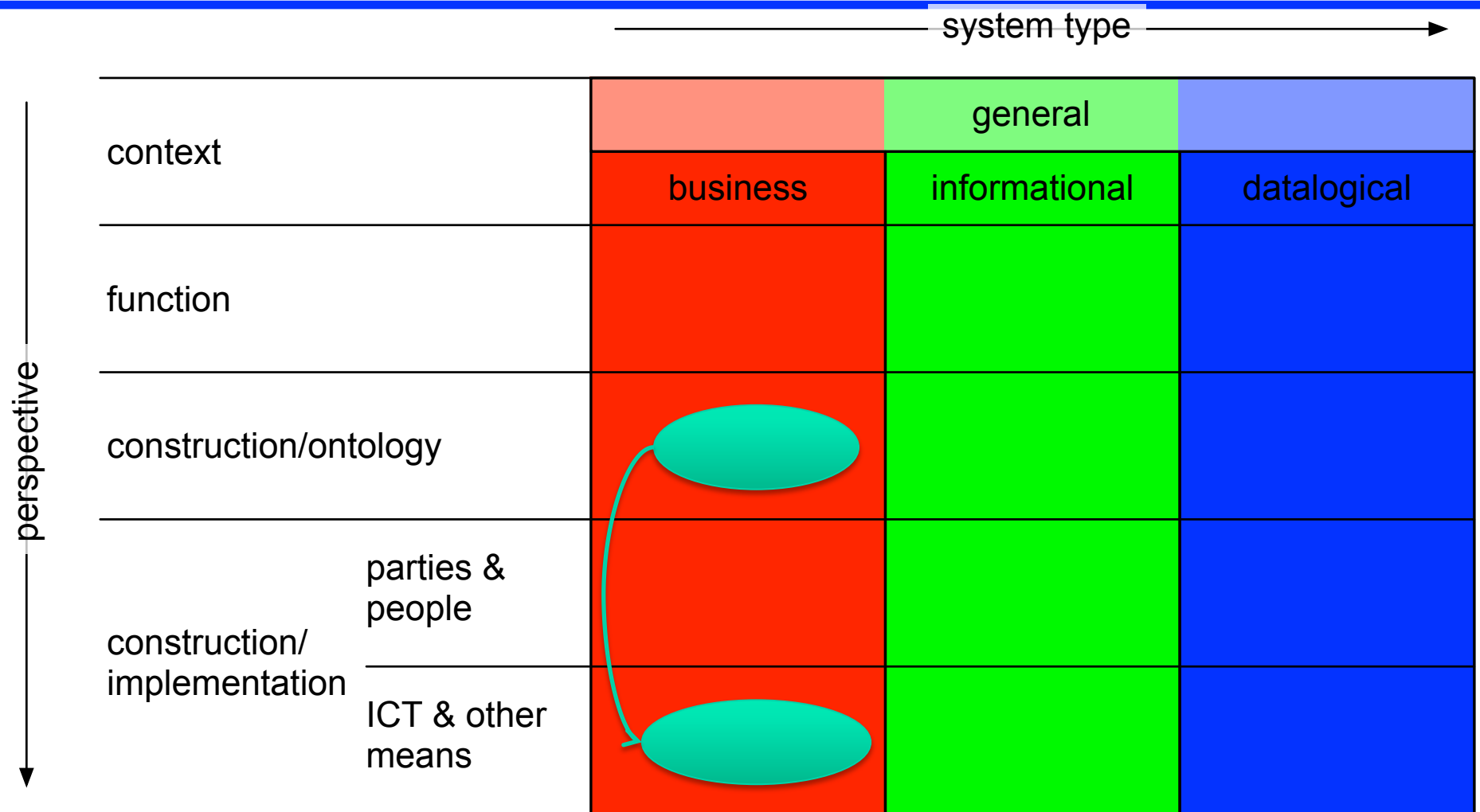
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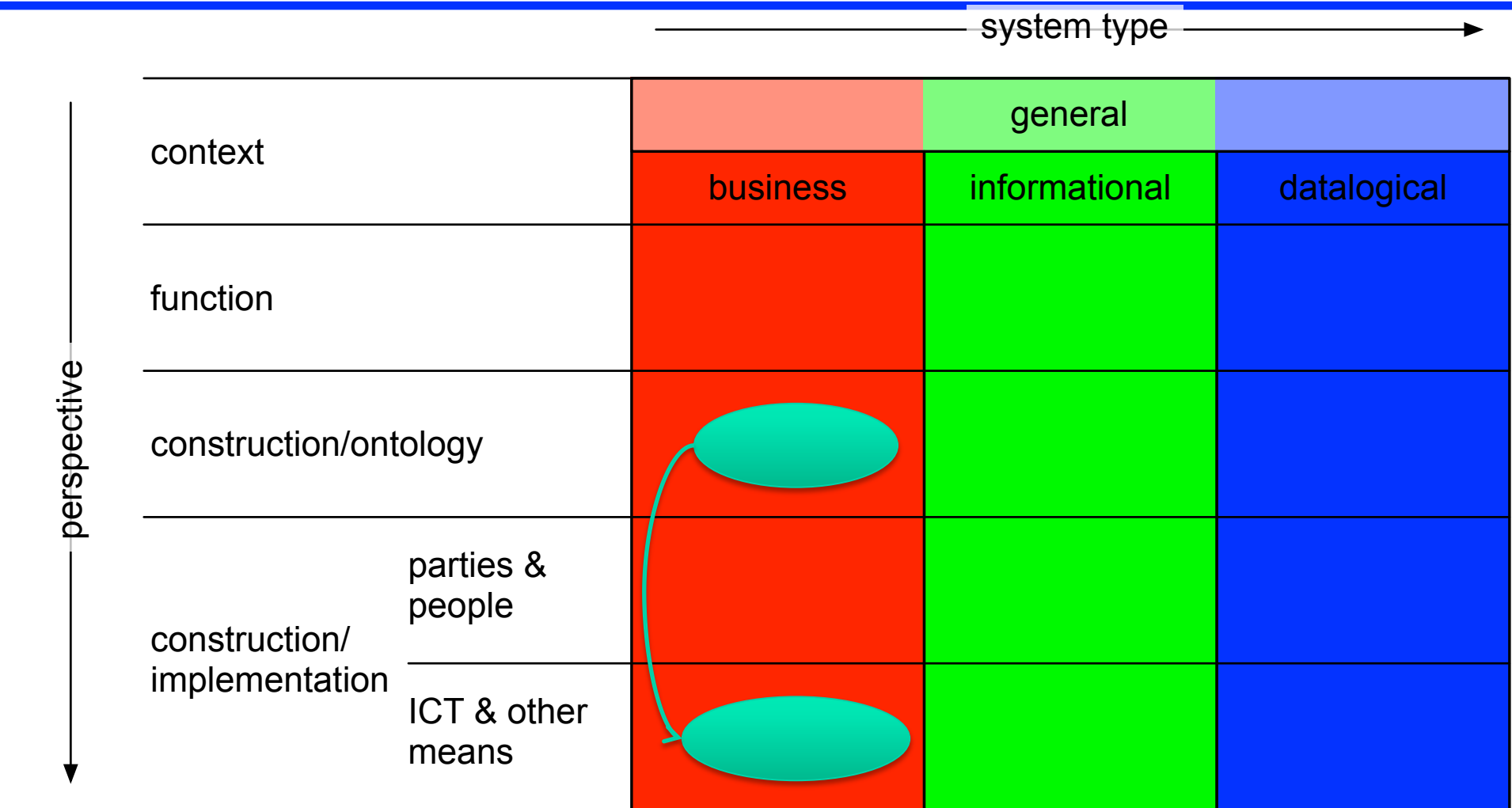
WC5.1: Building an Evolvable Prototype for a Multiple GAAP Accounting Information System (Els Vanhoof, Peter De Bruyn, Walter Aerts and Jan Verelst)
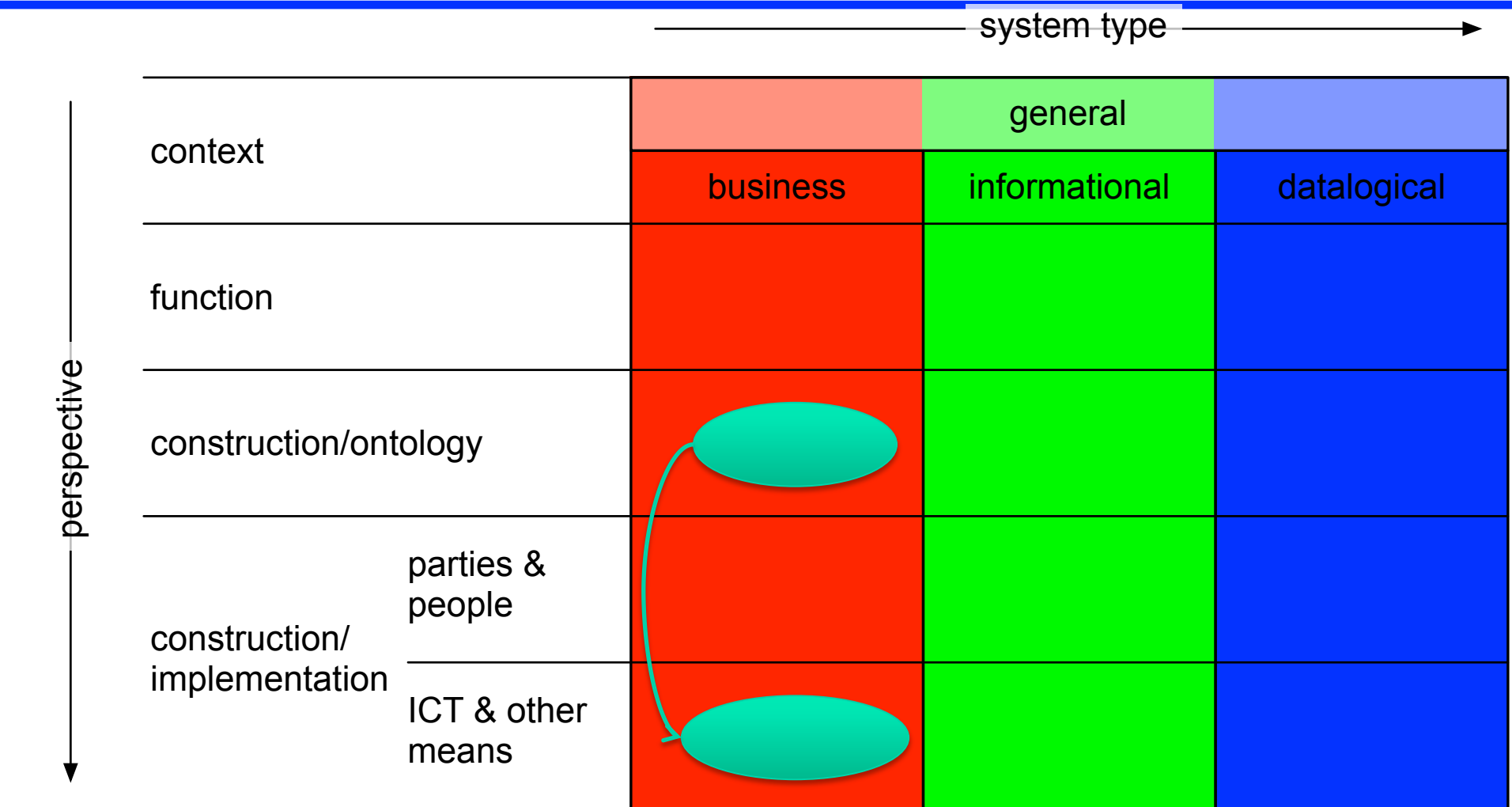
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WC5.2: On the Evolvable and Traceable Design of (Under)graduate Education Programs (Gilles Oorts, Herwig Mannaert, Peter De Bruyn and Ilke Franquet)