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**Managing semantic interoperability – two distinct approaches**

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# WHY SEMANTICS?

- In practice
- In theory
- Context = practical and theoretical barrier
- Data is not information

# RELATED RESEARCH

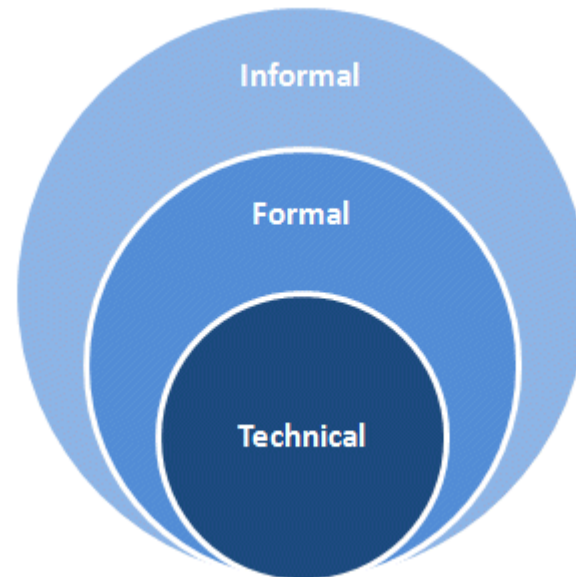
- Searches in research databases
- Subject highly contextualized
  - Semantic web
  - Geographic Information Systems
  - Database schema
  - eHealth

# ASPECTS OF SEMANTICS

- Semantics a subset of semiotics
- Semiotics
  - Empirics
  - Syntactics
  - Semantics
  - Pragmatics



# TFI-MODEL



TFI-model, adapted from Stamper, Liu, Hafkamp & Ades (2000).

# MANAGING INTEROPERABILITY

- Top-down
  - Subdivision of complex tasks
  - Designer specifies data structure
  - Abstraction – information hierarchy
- Bottom-up
  - Aggregation of independent tasks
  - Multiple designers
  - Data structure tailored to each task

# CASE STUDY

- Case Alpha
  - Branch office, financial sector
  - Centralized data management
  - Uniformity, data quality
- Case Beta
  - Company, industrial sector
  - Localized data management
  - Empowerment, data quality



# ANALYSIS

- Technical <-> Formal
  - Different approaches to management
  - Varying complexity in artefacts
  - Levels of inscription
- Formal <-> Informal
  - Varying complexity in syntax
  - Syntax enables economizing



# CONCLUSIONS

- Common theoretical – disparate cases
- Existing body of research prohibits such generality
- Further research based in informatics

**THANK YOU FOR YOUR ATTENTION!**

Questions?

